Similarities and Differences in Export Performance of EU New Member States: A Constant Market Share Analysis

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All views are our own and do not necessarily represent the views of the Bulgarian National Bank

Structure

- Constant Market Shares Analysis
- Data and Implementation
- The Product Effect
- The Competitiveness Effect
- Conclusions

Constant Market Shares Analysis - Overview

Constant Market Shares Analysis

□ CMS decomposes the difference between the growth of exports on the **intensive margin** of a country and world exports growth into two main effects: structural effect and competitiveness effect.

The structural effect can be additionally decomposed into

■ Product effect

■ Market effect

■ Structural mixed effect

□ The structural and competitiveness effects can be further decomposed into their components.

Constant Market Shares Analysis

$$gx^p - gx^* = \underbrace{\sum_k \sum_j (a_{kj}^p - a_{kj}^*) gx_{kj}^*}_{\text{Structural Effect}} + \underbrace{\sum_k \sum_j a_{kj}^p (gx_{kj}^p - gx_{kj}^*)}_{\text{Competitiveness Effect}}$$

$$\underbrace{\sum_k (a_k^p - a_k^*) gx_k^*}_{\text{Product Effect}} + \underbrace{\sum_j (a_j^p - a_j^*) gx_j^*}_{\text{Market Effect}} + \underbrace{\sum_k \sum_j [(a_{kj}^p - a_{kj}^*) - (a_k^p - a_k^*)\frac{a_{kj}^*}{a_k^*} - (a_j^p - a_j^*)\frac{a_{kj}^*}{a_j^*}] gx_{kj}^*}_{\text{Structural Mixed Effect}}$$

gx – exports growth; α – share of product/market in country's export;
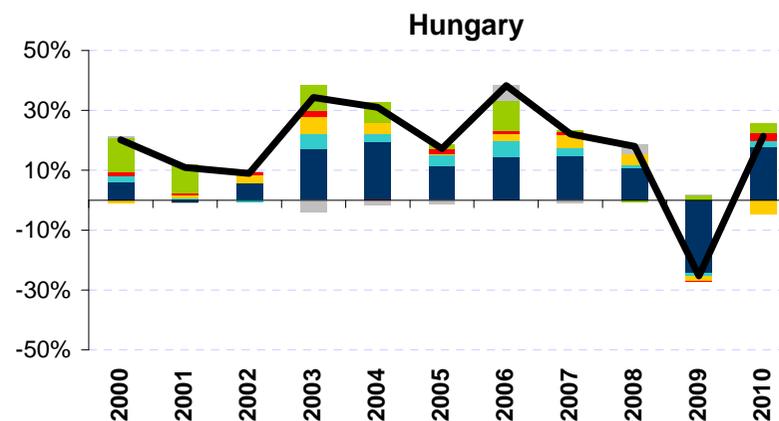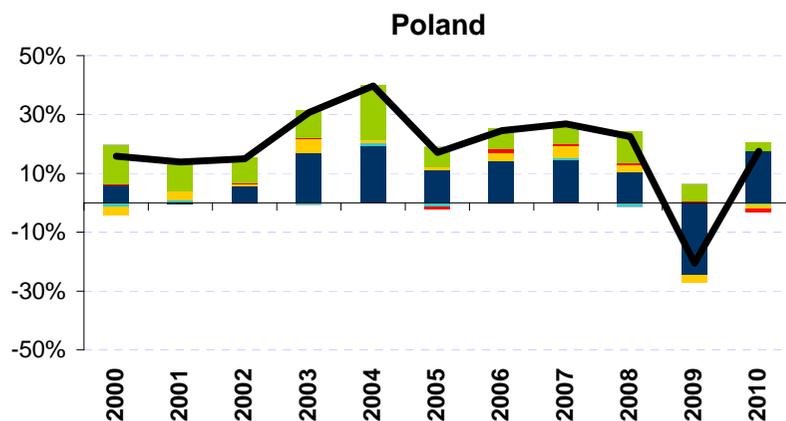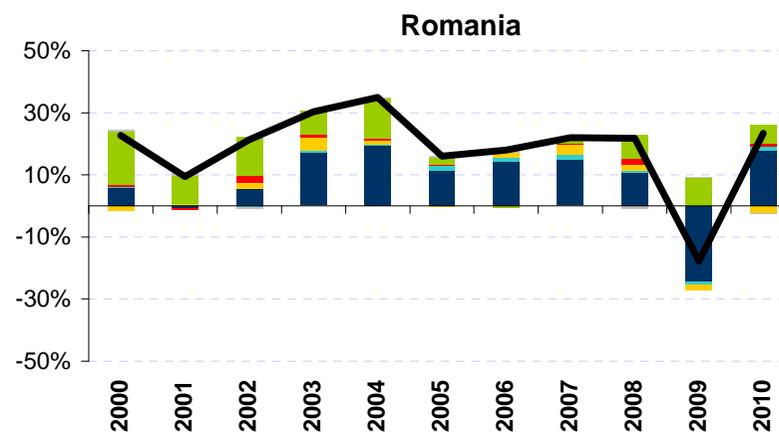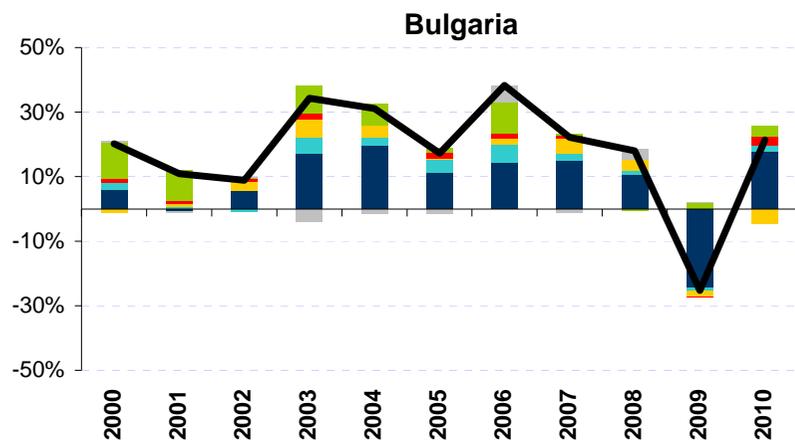
p – country of interest; * (asteriks) – world;

k – product group; j – destination market;

Data and Implementation
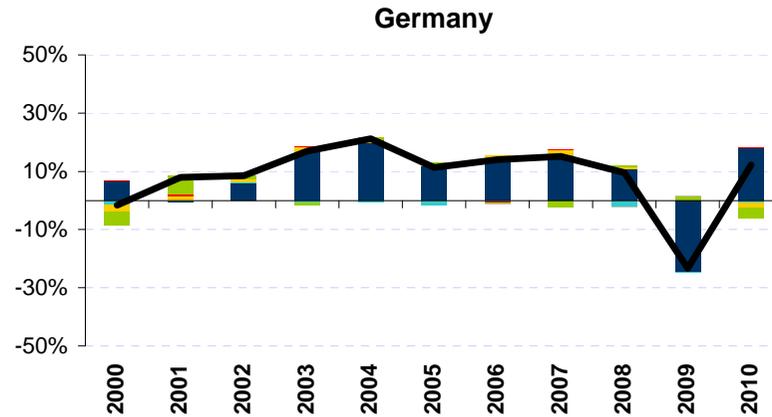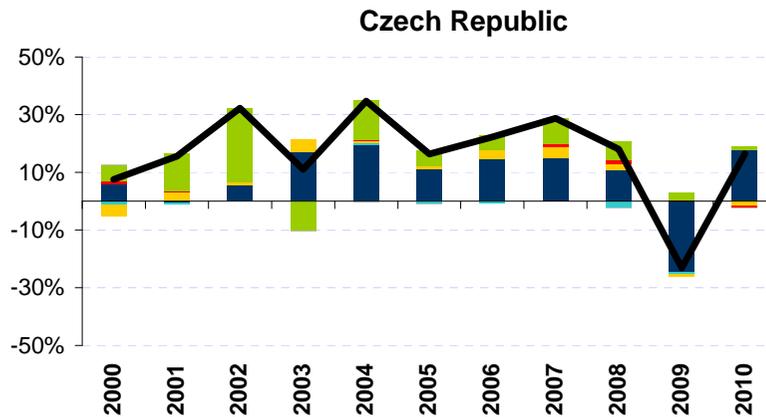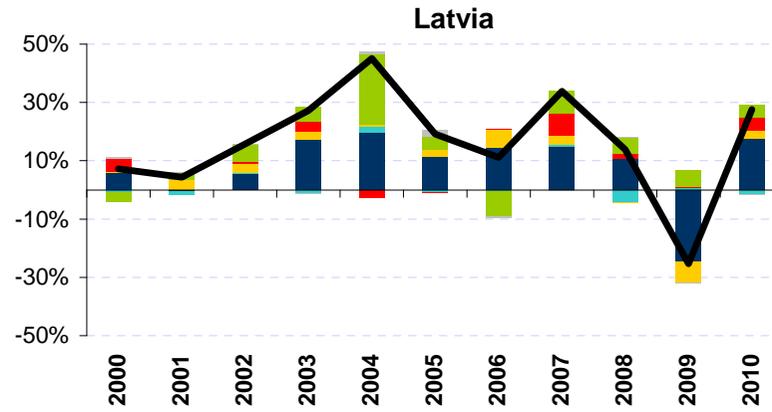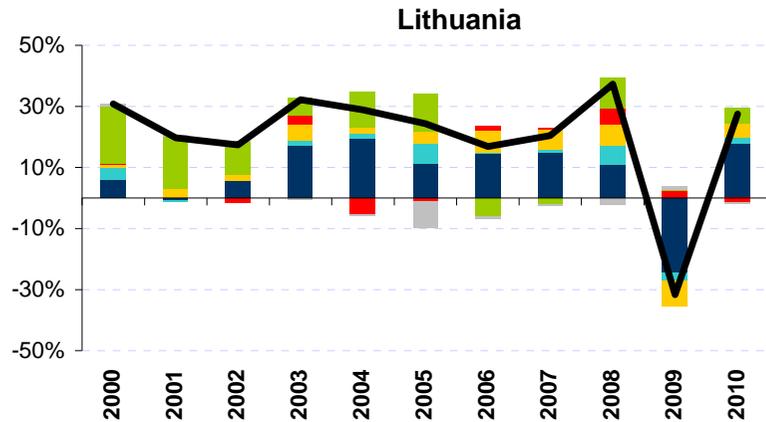
Data and Implementation

- Source: UNCOMTRADE

- Data: SITC 2-digit trade data in **nominal** USD

- Period: 1999 – 2010

- Frequency: Annual

- Coverage: **43** countries

- CMS decomposition calculated for: Bulgaria, Romania, Poland, Hungary, Lithuania, Latvia, Czech Republic

Data and Implementation

Bulgaria

Romania

Poland

Hungary

Legend:
- World Trade Effect
- Product Effect
- Market Effect
- Product/Market Effect
- Competitiveness Effect
- Residual
- Export Growth

Data and Implementation

Lithuania — **Latvia** — **Czech Republic** — **Germany**

Legend: World Trade Effect, Product Effect, Market Effect, Product/Market Effect, Competitiveness Effect, Residual, Export Growth

The Product Effect

The Product Effect

$$\sum_{k}(a_k^p - a_k^*)gx_k^*$$

$a_k^p - a_k^*$ measures specialization/non - specialization

in product k relative to rest of world

gx_k^* is growth of demand for product k (growth of world exports of k)

The contribution of product k to the product effect is positive, if:
1. *The exporter is 'relatively specialized' in k and the growth of the demand for k (total world export of k) is positive*
2. *The exporter is 'relatively non-specialized' in k and the growth of the demand for k (total world export of k) is negative*

Vice versa is true for a negative contribution to growth.

The Product Effect

Product groups which contribute most to the growth of exports by country through the structural product channel in the period 2000 – 2010*.

	Bulgaria	Romania	Poland	Hungary	Latvia	Lithuania	Czech Rep.
Apparel, Footwear and Furniture (82, 84, 85)	**17.4 p.p**	**26.3 p.p**	**5.7 p.p**	0.6 p.p	**7.2 p.p**	**8.7 p.p**	1.0 p.p
Metals and Ores (28, 67 - 69)	**23.3 p.p**	**7.8 p.p**	**4.8 p.p**		4.7 p.p		**4.7 p.p**
Food (01 - 05, 08, 11)	1.0 p.p		0.8 p.p	1.4 p.p	3.3 p.p	4.4 p.p	
Machines and Electrical Equipment (71, 74 - 79)		2.0 p.p	2.9 p.p	**21.6 p.p**		1.0 p.p	**8.7 p.p**
Energy (32, 33, 35)	7.3 p.p	3.1 p.p	4.1 p.p		2.0 p.p	**32.7 p.p**	2.5 p.p
Others (62, 63, 65, 22, 24, 56, 81)	2.9 p.p	3.1 p.p	2.2 p.p	0.3 p.p	**16.5 p.p**	8.3 p.p	1.3 p.p

*added-up annual contributions to growth of the top ten highest contributors for each country are included in the table

The Product Effect
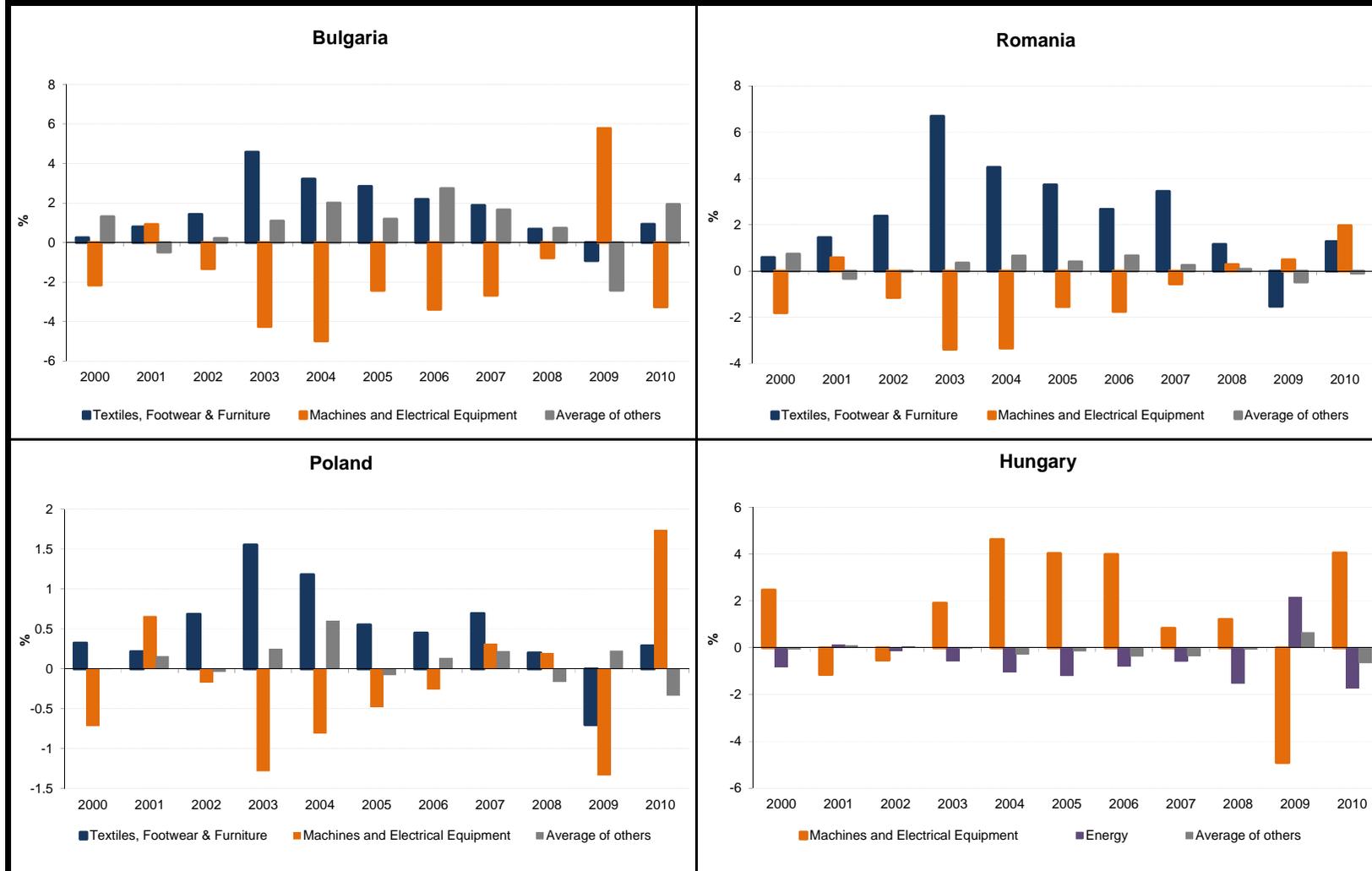
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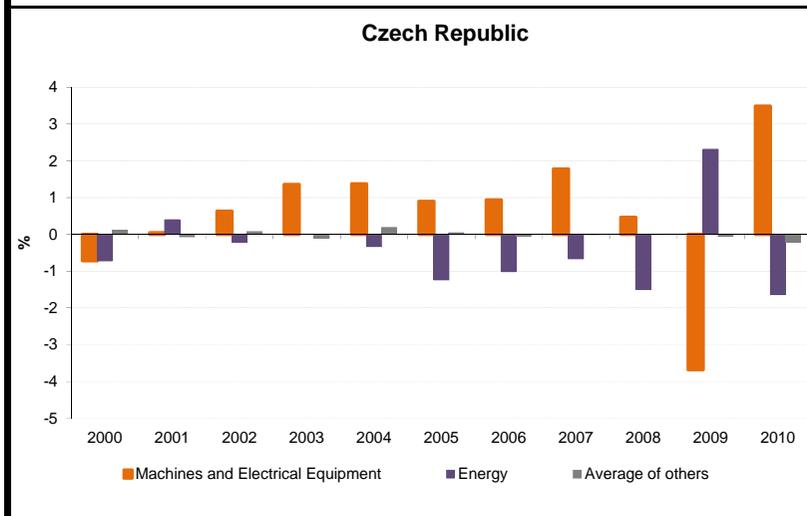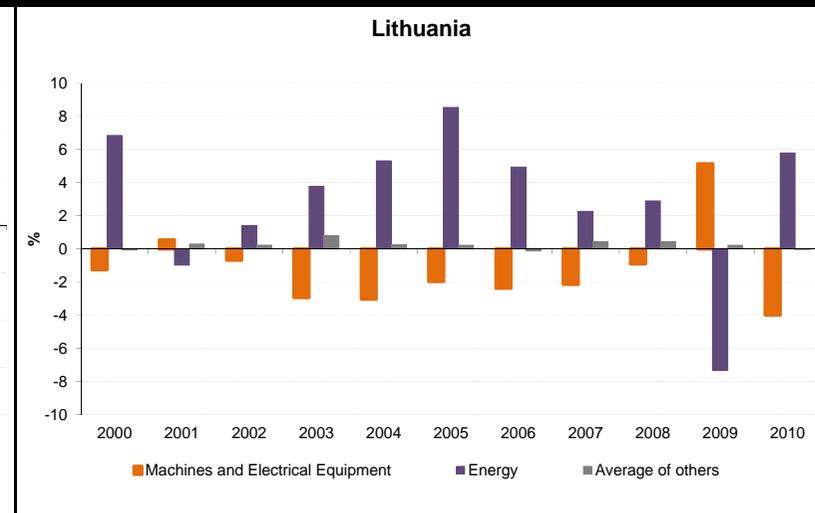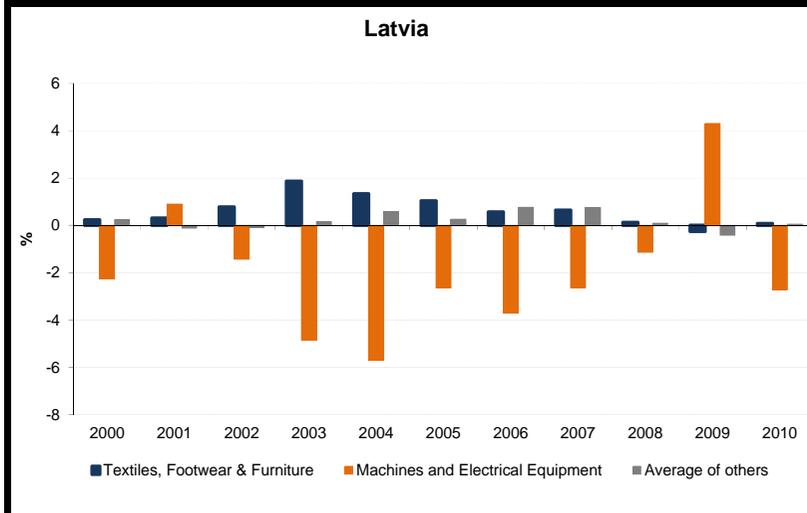
The Competitiveness Effect

The Competitiveness Effect

$$\sum_k \sum_j a_{kj}^p (gX_{kj}^p - gX_{kj}^*)$$

a_{kj}^p is the share of product k exported to market j in total exports of country p

$gX_{kj}^p - gX_{kj}^*$ is the difference in the growth rate of the exports of country p's

product k to market j relative to the 'average' exporting country

The competitiveness effect in the CMS analysis is a residual effect
for the growth of the intensive margin.
It represents 'stealing' market shares from competitors
(drive competitors out of the market).

The Competitiveness Effect

Product groups which contribute most to the growth of exports by country through the competitiveness channel in the period 2000 – 2010*.

	Bulgaria	Romania	Poland	Hungary	Latvia	Lithuania	Czech Rep.
Machines and Electrical Equipment (71 – 79, 87)	**11.3 p.p**	**52.0 p.p**	**53.6 p.p**	**42.0 p.p**	**15.7 p.p**	**7.6 p.p**	**60.3 p.p**
Metals and Ores (66 – 69)	**15.1 p.p**	2.9 p.p	3.9 p.p		**8.1 p.p**	2.4 p.p	2.9 p.p
Apparel, Furniture and Other Manufactures (65, 82, 84, 89)	11.5 p.p	**6.8 p.p**	9.3 p.p		1.5 p.p	**10.7 p.p**	**4.0 p.p**
Food (04, 05, 11)	2.4 p.p			0.9 p.p	**8.2 p.p**	6.5 p.p	
Energy (33)						**27.1 p.p**	
Others (54, 57, 62 – 64)		6.5 p.p	2.9 p.p	2.4 p.p	5.1 p.p	4.6 p.p	1.7 p.p

added-up annual contributions to growth of the top ten highest contributors for each country are included in the table

The Competitiveness Effect
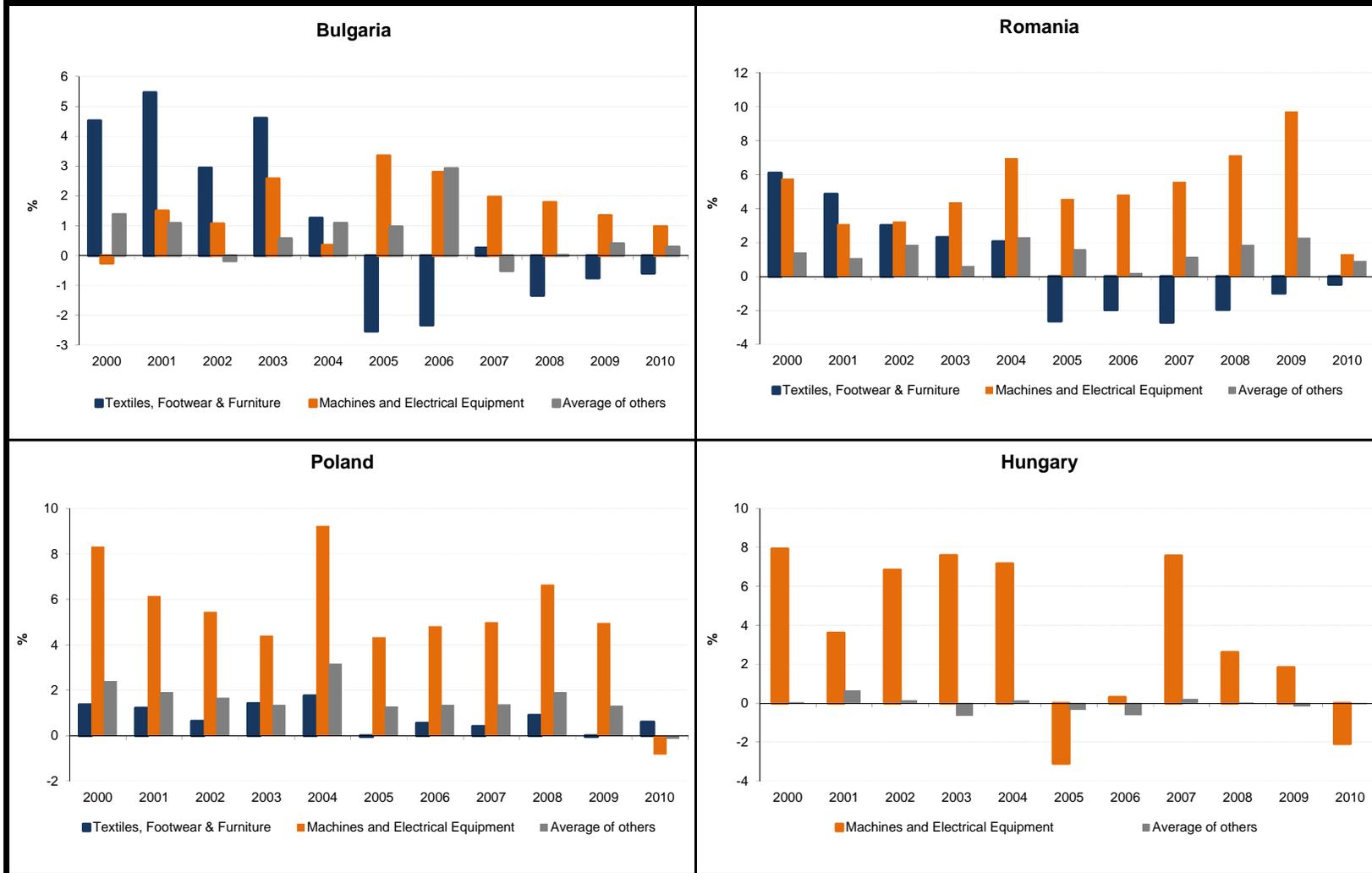
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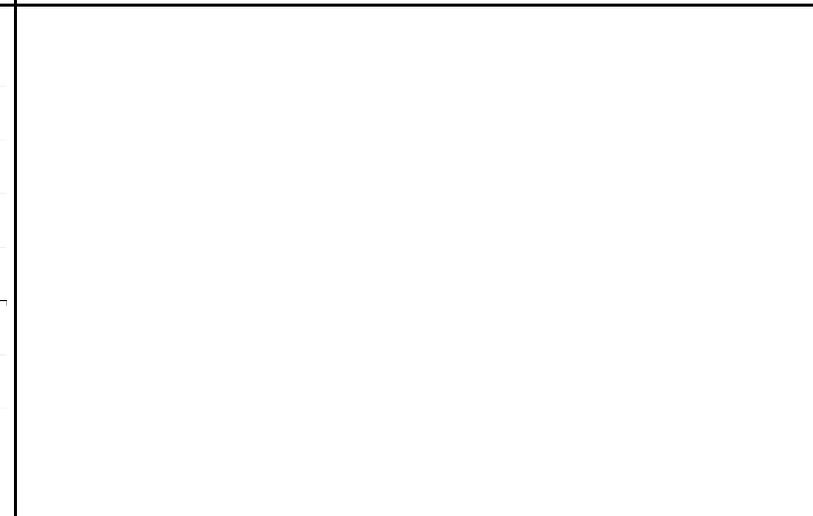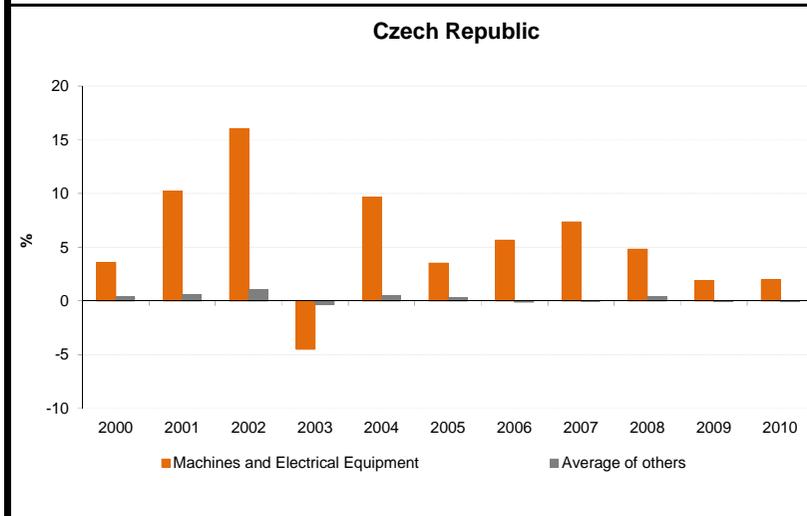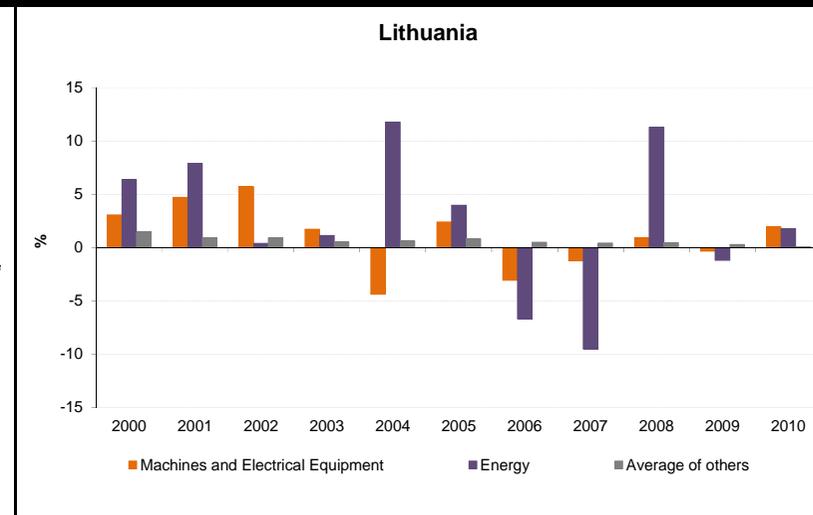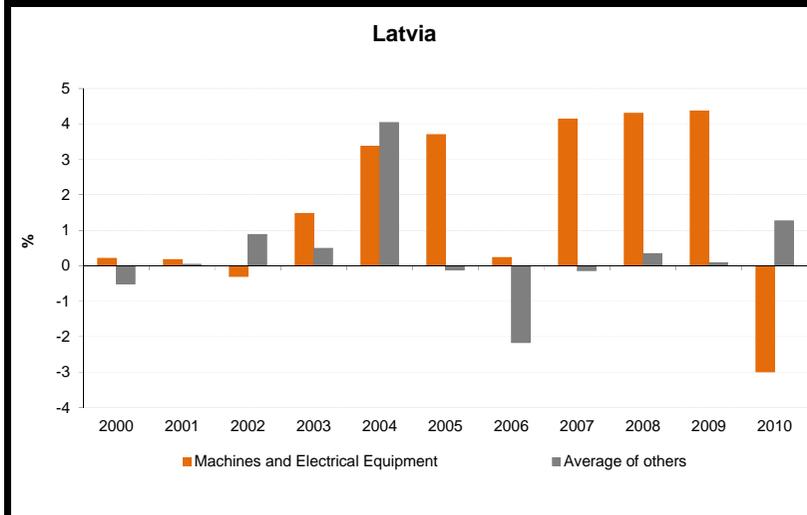
Conclusions

- The competitiveness factors contribute positively to the growth of exports for all NMS between 2000 and 2010.

- In general low-tech products still have the highest contribution to the structural effect of growth

- A slight shift towards more value-added goods is observed – mainly machines and electrical equipment

- Traditional export products like foods, apparel, footwear and furniture are losing focus

- However, heterogeneity among countries in terms of product specialization is clearly visible

THANK YOU!