

Do we need to cure the Baumol's disease on regional level?

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Introduction

Classical question of the economic researches, if still the manufacturing productivity is the driving force of the growth ?

- According Thirlwall (2002) there is a strong correlation between the manufacturing output and the economic growth.
According to our calculation examined 27 European countries.
($R^2 = 0,835$)

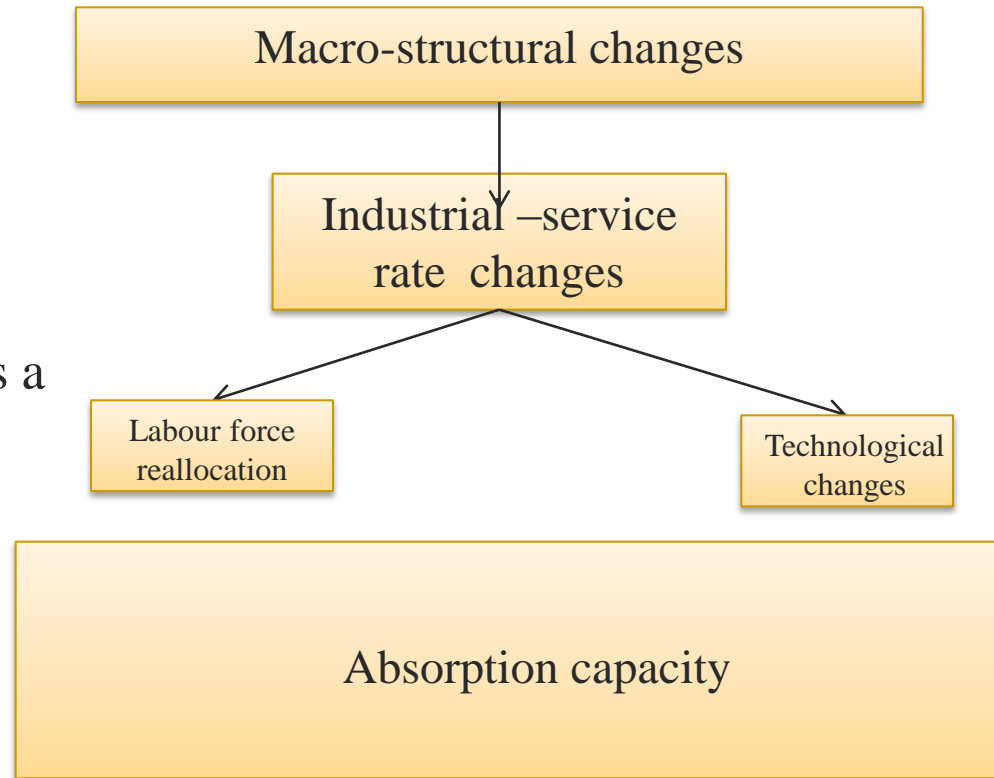


Figure 1.:Modell of Hegyi
Source: own compilation

Changing of the manufacturing productivity

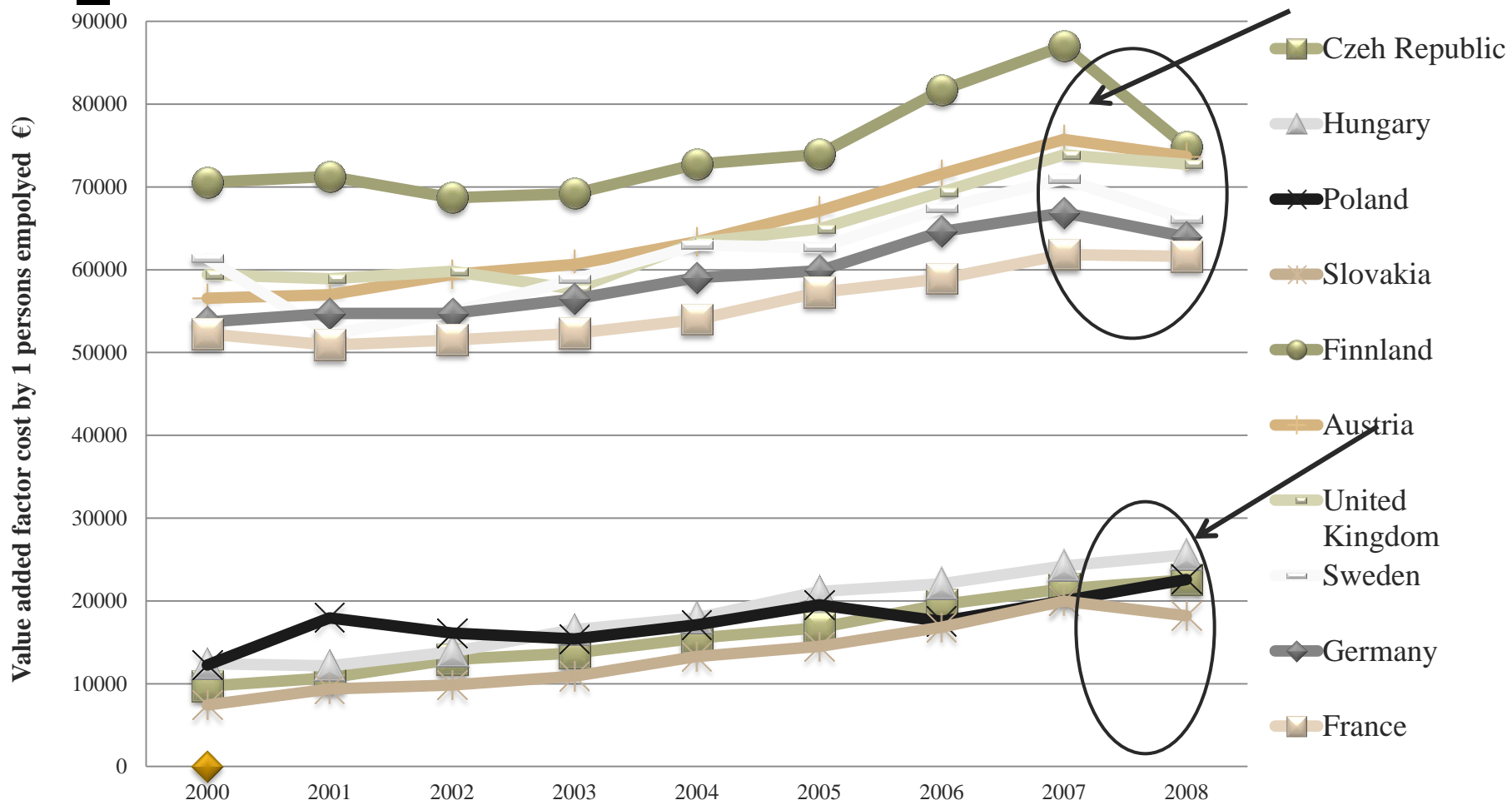


Figure2.:Value added value costs
Source: own compilation

Theoretical background

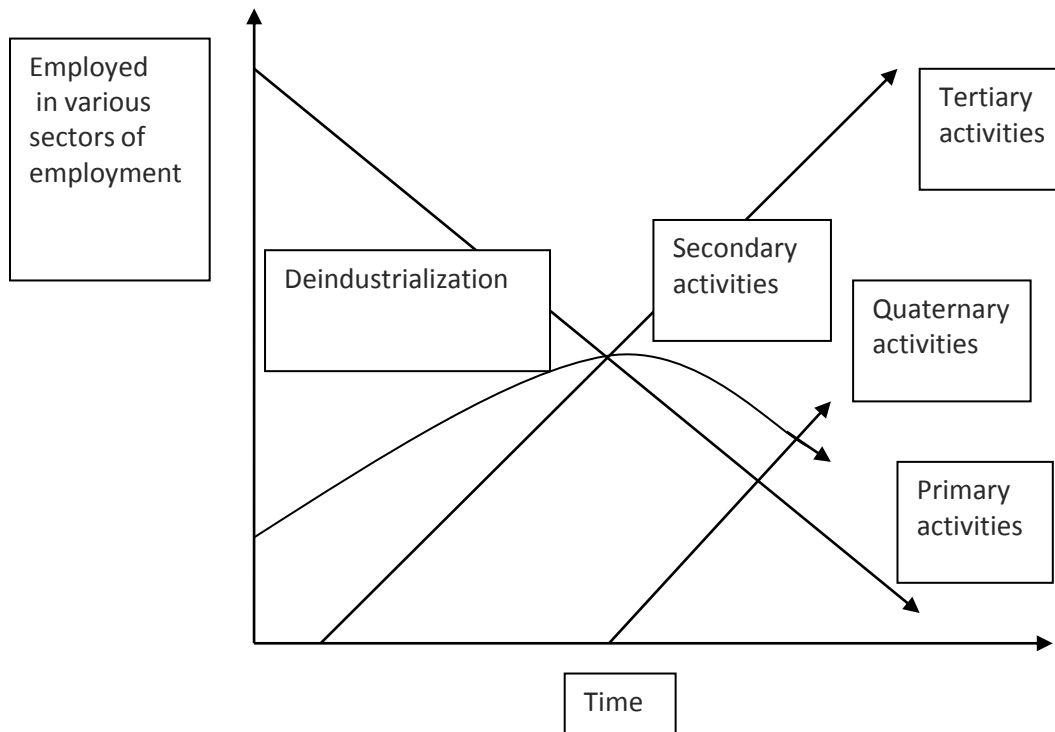


Figure 3.:Modell of Fisher and Clark
 Source: According to Fischer and Clark (1940) own edition

Though for Fisher and Clark (1941) economic development is clearly connected to tertiarization.

The macrostructure of developed countries are connected to the increase of the total value added of the manufacturing industry (Szalavetz, 2008).

According to Engels rule → the real income increases indicated demand for higher order. This demand is shifting towards of goods, which in principle dispensable.

Adam Smith and later by Marx empahsize is that in the service sector supply for luxury consumption, but basically that means useless and dispensable goods.



The Baumol's cost disease

- The Baumol's cost disease, → in the service sector, because of its peculiarities, it is less possible to reach significant productivity growth, than in the production sectors. (Baumol 1967).
- Baumol-effect: The two sectors have experienced very different rates of productivity growth and these are unbalanced. The consequences are great: many people who work in the progressive sector lose their jobs due to the productivity growth. Those remaining can be paid more because the automation has saved their organization enough money to raise salaries. But the service sector is not able to employ these labor force.
- Oulton (2001) examined the validity of Baumol's claim and set up an other model: as the manufacturing sectors increasing, the workforce flow to the service sector will not adversely affect growth.

[Hypothesis:]

- 1.:The productivity growth rate in the manufacturing sector was higher than in the service sectors during the Golden Ages, and it was due to the technical development and the human re-allocation.
- 2.: Did the employment rate increase in that regions.

Productivity growth

| Time (2000-2007) | Agriculture | Manufacturing | Construction | Wholesale and retail trade | Financial intermediation | Public administration and defense, compulsory social security |
|---------------------------|-------------|---------------|--------------|----------------------------|--------------------------|---|
| PL34: Podlaskie | 2.7992 | 2.3135 | 1.8206 | 1.9912 | 1.2127 | 2.2367 |
| HU32: Eszak-Alfold | 3.2361 | 2.2645 | 2.0862 | 1.8152 | 1.3908 | 2.3690 |
| PL41: Wielkopolskie | 3.4098 | 2.2430 | 2.0366 | 1.7368 | 1.4413 | 1.7491 |
| PL52: Opolskie | 3.3359 | 2.0163 | 1.6240 | 1.6557 | 1.6332 | 1.6111 |
| PL43: Lubuskie | 3.5206 | 2.0144 | 2.4555 | 2.6402 | 2.3795 | 2.5976 |
| PL63: Pomorskie | 1.3649 | 1.9561 | 1.1731 | 1.8023 | 1.2732 | 1.6380 |
| HU31: Eszak-Magyarország | 1.1554 | 1.8796 | 1.5607 | 1.6005 | 1.1273 | 1.4635 |
| HU22: Nyugat-Dunantul | 1.6725 | 1.8002 | 1.5034 | 1.2559 | 1.2253 | 1.7355 |
| HU23: Del-Dunantul | 1.3062 | 1.7505 | 1.1489 | 1.4813 | 1.3536 | 1.2788 |
| SK02: Zapadne Slovensko | 1.4420 | 1.7307 | 1.1562 | 1.2345 | 1.0615 | 1.5605 |
| SK03: Stredne Slovensko | 1.7923 | 1.7108 | 1.7102 | 1.3193 | 1.2807 | 1.6801 |
| CZ03: Jihozapad | 1.9646 | 1.7085 | 1.5705 | 1.5791 | 1.0619 | 1.7102 |
| CZ05: Severovýchod | 1.4861 | 1.6223 | 1.2611 | 1.3408 | 1.3004 | 1.5383 |
| PL61: Kujawsko-Pomorskie | 1.4759 | 1.6116 | 1.3560 | 1.4305 | 1.4840 | 1.4377 |
| PL31: Lubelskie | 1.1781 | 1.6098 | 1.1218 | 1.4652 | 1.2361 | 1.4307 |
| PL51: Dolnoslaskie | 1.4410 | 1.6060 | 1.5434 | 1.5888 | 1.3139 | 1.8659 |
| PL32: Podkarpackie | 1.7866 | 1.5759 | 1.2016 | 1.3430 | 1.2092 | 1.4149 |
| PL21: Malopolskie | 1.5125 | 1.5658 | 1.6416 | 1.4474 | 1.3018 | 1.5405 |
| HU33: Del-Alfold | 1.0197 | 1.5571 | 1.2211 | 1.0389 | 1.3862 | 1.1741 |
| CZ01: Praha | 1.1433 | 1.5321 | 1.1415 | 0.9186 | 0.6902 | 1.1427 |
| CZ04: Severozapad | 1.3967 | 1.5113 | 1.5714 | 1.3135 | 1.1293 | 1.5514 |
| PL33: Swietokrzyskie | 2.1499 | 1.5024 | 1.6303 | 1.2585 | 1.5651 | 1.4951 |
| HU21: Kosep-Dunantul | 1.3249 | 1.4886 | 1.6984 | 1.6710 | 1.3198 | 1.6753 |
| PL12: Mazowieckie | 1.2851 | 1.4830 | 1.5215 | 1.6828 | 1.3980 | 1.4181 |
| SK04: Vychodne Slovensko | 1.6070 | 1.4752 | 1.4658 | 1.1096 | 1.0186 | 1.5012 |
| PL62: Warminsko-Mazurskie | 1.1599 | 1.4551 | 1.1547 | 1.2301 | 1.1581 | 1.6408 |
| SK01: Bratislav Kraj | 1.5429 | 1.4136 | 1.7572 | 1.4829 | 1.4293 | 1.4352 |
| CZ07: Stredni Morava | 1.1234 | 1.4015 | 1.3817 | 1.2708 | 0.8665 | 1.5707 |
| CZ06: Jihovyched | 1.8210 | 1.3922 | 1.1763 | 1.4282 | 1.3103 | 1.2898 |
| HU10: Kosep-Magyarország | 1.6127 | 1.3854 | 1.5145 | 1.3875 | 1.3060 | 1.5273 |
| PL11: Lodzkie | 1.5029 | 1.3764 | 2.1095 | 1.3946 | 1.3518 | 1.5630 |
| PL22: Slaskie | 1.5911 | 1.3642 | 1.5381 | 1.4508 | 1.2089 | 1.7068 |
| CZ02: Stredni Cechy | 1.4955 | 1.3262 | 1.2416 | 1.4286 | 1.4286 | 1.4974 |
| CZ08: Moravskoslezsko | 1.6712 | 1.3046 | 1.2299 | 1.1074 | 1.6953 | 1.4948 |
| PL42: Zachodniopomorskie | 2.6181 | 1.2732 | 1.3015 | 1.3864 | 1.2911 | 1.2964 |

Hypothesis Hungary

| Time (2000-2007) Centra | Agriculture | Manufacturing | Construction | Wholesale and retail trade | Financial intermediation | Public administration and defense, compulsory social security |
|--|--------------------|----------------------|---------------------|---------------------------------------|-------------------------------------|--|
| Northern Great Plan | 3.2361 | 2.2645 | 2.0862 | 1.8152 | 1.3908 | 2.3690 |
| Northern Hungary | 1.1554 | 1.8796 | 1.5607 | 1.6005 | 1.1273 | 1.4635 |
| Western - Transdanubia | 1.6725 | 1.8002 | 1.5034 | 1.2559 | 1.2253 | 1.7355 |
| Southern Transdanuiba | 1.3062 | 1.7505 | 1.1489 | 1.4813 | 1.3536 | 1.2788 |
| Southern Great Plan | 1.0197 | 1.5571 | 1.2211 | 1.0389 | 1.3862 | 1.1741 |
| Central- Transdanubia | 1.3249 | 1.4886 | 1.6984 | 1.6710 | 1.3198 | 1.6753 |
| Central Hungary | 1.6127 | 1.3854 | 1.5145 | 1.3875 | 1.3060 | 1.5273 |

2. Hypothesis Hungary

| TimeWes | Manufacturing | Wholesale and retail trade | Financial intermediation | Public administration and defence, compulsory social security |
|-----------------------|---------------|----------------------------|--------------------------|---|
| Central Hungary | 1.3854 | FALSE | TRUE | FALSE |
| Central Transdanubia | 1.4886 | FALSE | TRUE | FALSE |
| Western-Transdanubia | 1.8002 | TRUE | TRUE | TRUE |
| Southern Transdanuiba | 1.7505 | TRUE | TRUE | TRUE |
| Northern Hungary | 1.8796 | TRUE | TRUE | TRUE |
| Northern Great Plan | 2.2645 | TRUE | TRUE | FALSE |
| Southern Great Plan | 1.5571 | TRUE | TRUE | TRUE |

Table 3. : Verification of Baumol hypothesis

Hypothesis Czech Republic

| Time | Agriculture | Manufacturing | Construction | Wholesale and retail trade | Financial intermediation | Public administration and defense, compulsory social security |
|------------------------|---------------|---------------|---------------|----------------------------|--------------------------|---|
| Stredni Cechy | 1.4955 | 1.3262 | 1.2416 | 1.5436 | 1.4286 | 1.4974 |
| Moravskoslezsko | 1.6712 | 1.3046 | 1.2299 | 1.1074 | 1.6953 | 1.4948 |
| Stredni Morava | 1.1234 | 1.4015 | 1.3817 | 1.2708 | 0.8665 | 1.5707 |
| Jihovyched | 1.8210 | 1.3922 | 1.1763 | 1.4282 | 1.3103 | 1.2898 |
| Praha | 1.1433 | 1.5321 | 1.1415 | 0.9186 | 0.6902 | 1.1427 |
| Severozapad | 1.3967 | 1.5113 | 1.5714 | 1.3135 | 1.1293 | 1.5514 |
| Jihozapad | 1.9646 | 1.7085 | 1.5705 | 1.5791 | 1.0619 | 1.7102 |
| Severovychod | 1.4861 | 1.6223 | 1.2611 | 1.3408 | 1.3004 | 1.5383 |

2. Hypothesis Czeh Republic

| Time (2000-2007) | Manufacturing | Wholesale and retail trade | Financial intermediation | Public administration and defense, compulsory social security |
|------------------|---------------|----------------------------|--------------------------|---|
| Praha | 1.5321 | TRUE | TRUE | TRUE |
| Stredni Cechy | 1.3262 | FALSE | FALSE | FALSE |
| Jihozapad | 1.7085 | TRUE | TRUE | FALSE |
| Severozapad | 1.5113 | TRUE | TRUE | FALSE |
| Severovychod | 1.6223 | TRUE | TRUE | TRUE |
| Jihovyched | 1.3922 | FALSE | TRUE | TRUE |
| Stredni Morava | 1.4015 | TRUE | TRUE | FALSE |
| Moravskoslezsko | 1.3046 | TRUE | FALSE | FALSE |

Table 2. : Verfication of Baumol hypothesis

Hypothesis Poland

| Time | Agriculture | Manufacturing | Construction | Wholesale and retail trade | Financial intermediation | Public administration and defense, compulsory social security |
|---------------------|-------------|---------------|--------------|----------------------------|--------------------------|---|
| Podlaskie | 2.7992 | 2.3135 | 1.8206 | 1.9912 | 1.2127 | 2.2367 |
| Wielkopolskie | 3.4098 | 2.2430 | 2.0366 | 1.7368 | 1.4413 | 1.7491 |
| Opolskie | 3.3359 | 2.0163 | 1.6240 | 1.6557 | 1.6332 | 1.6111 |
| Lubuskie | 3.5206 | 2.0144 | 2.4555 | 2.6402 | 2.3795 | 2.5976 |
| Pomorskie | 1.3649 | 1.9561 | 1.1731 | 1.8023 | 1.2732 | 1.6380 |
| Kujawsko-Pomorskie | 1.4759 | 1.6116 | 1.3560 | 1.4305 | 1.4840 | 1.4377 |
| Lubelskie | 1.1781 | 1.6098 | 1.1218 | 1.4652 | 1.2361 | 1.4307 |
| Dolnoslaskie | 1.4410 | 1.6060 | 1.5434 | 1.5888 | 1.3139 | 1.8659 |
| Podkarpackie | 1.7866 | 1.5759 | 1.2016 | 1.3430 | 1.2092 | 1.4149 |
| Malopolskie | 1.5125 | 1.5658 | 1.6416 | 1.4474 | 1.3018 | 1.5405 |
| Swietokrzyskie | 2.1499 | 1.5024 | 1.6303 | 1.2585 | 1.5651 | 1.4951 |
| Mazowieckie | 1.2851 | 1.4830 | 1.5215 | 1.6828 | 1.3980 | 1.4181 |
| Warminsko-Mazurskie | 1.1599 | 1.4551 | 1.1547 | 1.2301 | 1.1581 | 1.6408 |
| Lodzkie | 1.5029 | 1.3764 | 2.1095 | 1.3946 | 1.3518 | 1.5630 |
| Slaskie | 1.5911 | 1.3642 | 1.5381 | 1.4508 | 1.2089 | 1.7068 |
| Zachodniopomorskie | 2.6181 | 1.2732 | 1.3015 | 1.3864 | 1.2911 | 1.2964 |

2. Hypothesis Poland

| Time | Manufacturing | Wholesale and retail trade | Financial intermediation | Public administration and defence, compulsory social security |
|---------------------|---------------|----------------------------|--------------------------|---|
| Lodzkie | 1.3764 | FALSE | TRUE | FALSE |
| Mazowieckie | 1.4830 | FALSE | TRUE | TRUE |
| Malopolskie | 1.5658 | TRUE | TRUE | TRUE |
| Slaskie | 1.3642 | FALSE | TRUE | FALSE |
| Lubelskie | 1.6098 | TRUE | TRUE | TRUE |
| Podkarpackie | 1.5759 | TRUE | TRUE | TRUE |
| Swietokrzyskie | 1.5024 | TRUE | FALSE | TRUE |
| Wielkopolskie | 2.2430 | TRUE | TRUE | TRUE |
| Zachodniopomorskie | 1.2732 | FALSE | FALSE | FALSE |
| Lubuskie | 2.0144 | FALSE | FALSE | FALSE |
| Dolnoslaskie | 1.6060 | TRUE | TRUE | FALSE |
| Opolskie | 2.0163 | TRUE | TRUE | TRUE |
| Kujawsko-Pomorskie | 1.6116 | TRUE | TRUE | TRUE |
| Warminsko-Mazurskie | 1.4551 | TRUE | TRUE | FALSE |
| Podlaskie | 2.3135 | TRUE | TRUE | TRUE |
| Pomorskie | 1.9561 | TRUE | TRUE | TRUE |

Table 4. : Verification of Baumol hypothesis

Hypothesis Slovakia

| Time (2000-2007) | Agriculture | Manufacturing | Construction | Wholesale and retail trade | Financial intermediation | Public administration and defense, compulsory social security |
|-------------------------------|---------------|---------------|---------------|-------------------------------|--------------------------|--|
| Zapadne Slovensko | 1.4420 | 1.7307 | 1.1562 | 1.2345 | 1.0615 | 1.5605 |
| Stredne Slovensko | 1.7923 | 1.7108 | 1.7102 | 1.3193 | 1.2807 | 1.6801 |
| Vychodne Slovensko | 1.6070 | 1.4752 | 1.4658 | 1.1096 | 1.0186 | 1.5012 |
| Bratislav Kraj | 1.5429 | 1.4136 | 1.7572 | 1.4829 | 1.4293 | 1.4352 |

2. Hypothesis Slovakia

| Time (2000-2007) | Manufacturing | Wholesale and retail trade | Financial intermediation | Public administration and defence, compulsory social security |
|---------------------------|----------------------|-----------------------------------|---------------------------------|--|
| Bratislav Kraj | 1.4136 | FALSE | FALSE | FALSE |
| Zapadne Slovensko | 1.7307 | TRUE | TRUE | TRUE |
| Stredne Slovensko | 1.7108 | TRUE | TRUE | TRUE |
| Vychodne Slovensko | 1.4752 | TRUE | TRUE | FALSE |

Table 5. : Verification of Baumol hypothesis

Regional processes, methodology

- Is the local economy growing or declining?
- What are the main factors of this process?
- For each Visegrad country was calculated that employment changes, which could be faster or slower than the average (Si).
- Si was broken into two factors local (Sr) and structural (Sa).
- All three factors can adopt positive or negative values, these can be grouped according to the countries studied (highlighting that local or structural factors dominated the expansion in employment).

| SR \ SA | + | - |
|---------|----------------------------------|-----------|
| + | | (+)Poland |
| - | (+)Czech Republic (+)Slovakia | |
| | (-)Hungary | |

Source: According to the EUROSTAT, own construction

Table 10. : Result of the shift share analysis

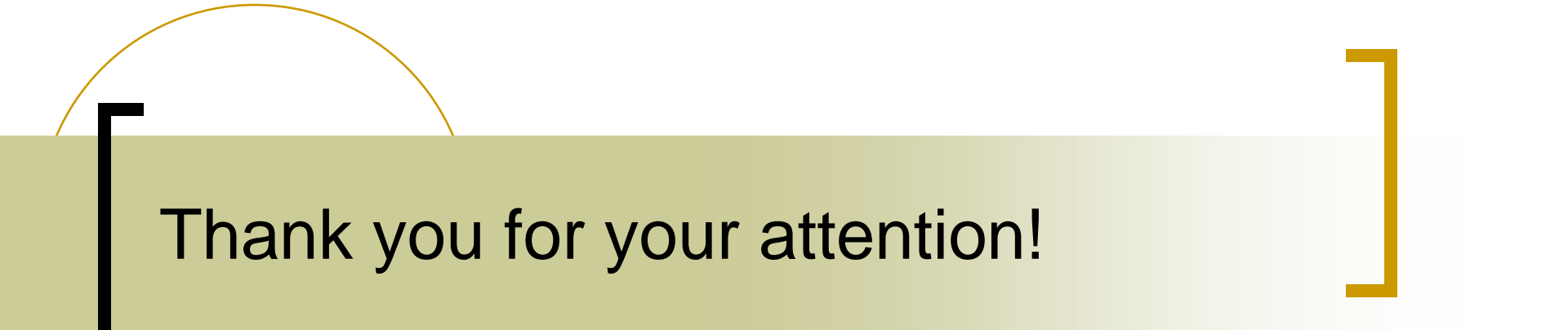


Regional labour market processes

| | SA + | SA - |
|------|--|--|
| SR + | (1) (+)Moravskoslezsko (CZ) TFF (+)Pomorskie (PL) TTT (+)Warminsko-Mazurskie (PL) TTF (+)Dolnoslaskie (PL) TTF (+)Slaskie (PL) FTF (+)Mazowieckie (PL) FTT | (3) (+)Közép-Magyarország (HU) FTF (+)Lódzkie (PL) FTF (5) (-)Praha (CZ) TTT (-)Severozápad (CZ) TTT (-)Bratislavský kraj (SK) FFF (-)Východné Slovensko (SK) TTF (-)Zachodniopomorskie (PL) FFF |
| | (2) (+)Severozápad (CZ) TTT (+)Strední Čechy (CZ) FFF (+)Strední Morava (CZ) TTF (+)Közép-Dunántúl (HU) TTT (+)Észak-Alföld (HU) TTF (+)Západné Slovensko (SK) TTT (+)Podkarpackie (PL) TTT (+)Swietokrzyskie (PL) TFT | (6) (-)Jihozápad (CZ) TTF (-)Severovýchod (CZ) TTT (-)Jihovýchod (CZ) FTT (-)Dél-Dunántúl (HU) TTT (-)Észak-Magyarország (HU) TTT (-)Dél-Alföld (HU) TTTT (-)Stredné Slovensko(SK) TTT (-)Malopolskie (PL) TTT (-)Podlaskie (PL) TTT (-)Wielkopolskie (PL) TTT (-)Opolskie (PL) TTT (-)Kujawsko-Pomorskie (PL) TTT |
| SR - | (4) (-)Nyugat-Dunántúl (HU) TTT (-)Lubelskie (PL) TTT | |

Table 11. :Regional labour market processes





Thank you for your attention!

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