

# Upgrading in the Global Value Chains: the CEE case

Agnė Paliokaitė

Visionary Analytics, Lithuania

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VISIONARY  
ANALYTICS

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# GVCs

**Challenge: Low-costs vs. productivity-based growth +  
Regional innovation paradox □ middle income trap**

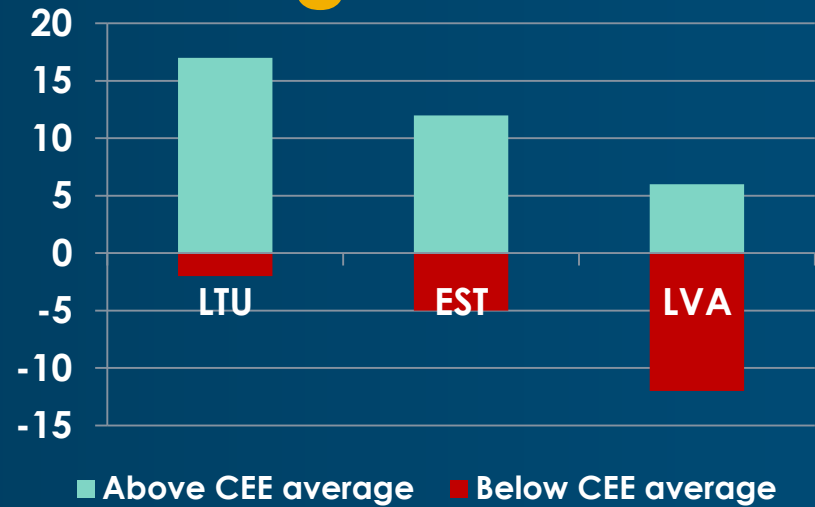
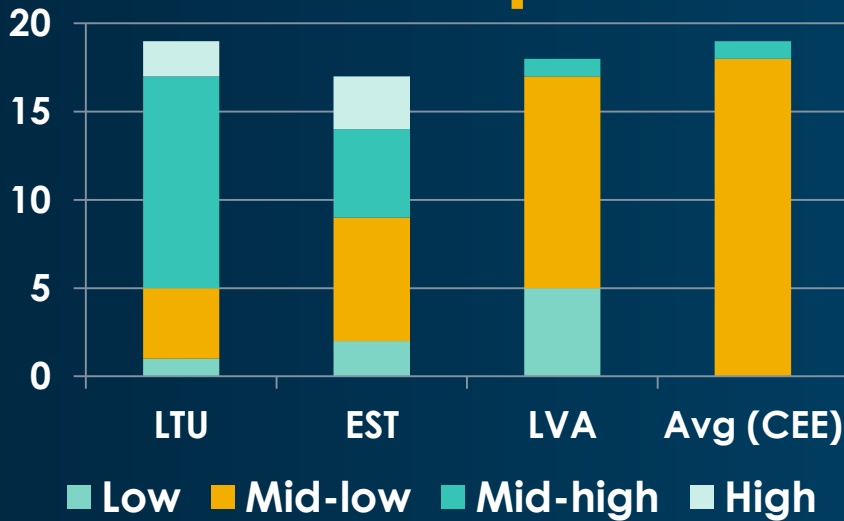
**Solution: Participation and upgrading in the GVCs to  
enable leverage and learning mechanisms for growth**

- ... due to enabled knowledge and technology transfers
  - ... due to the potential for upgrading and increased value added
  - ... due to need for better skilled employees
- Increased competition, demand for higher quality inputs, foreign assistance to local firms

# Purpose

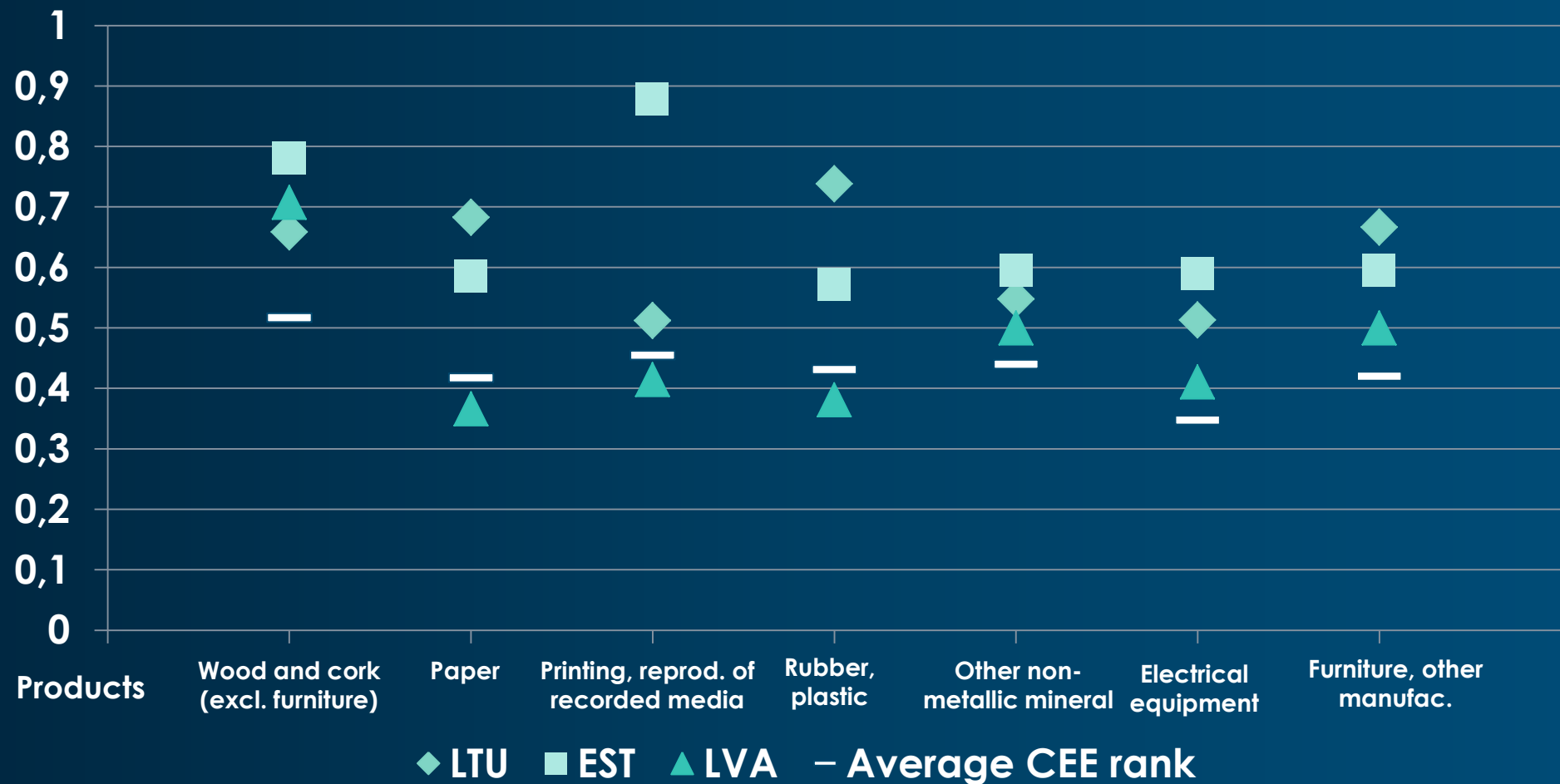
- **Question:** How can policies facilitate GVC as levers for upgrading and knowledge-based growth?
- **Findings:**
  - Manufacturing sector's participation in the GVCs
  - Relationships between GVC participation, skills and innovations
  - Policy toolbox for GVC upgrading
  - Scope: CEE region (esp. Baltics), in 2000 – 2014
  - Data: WIOD database / UIBE GVC index, CIS, Eurostat data, case studies of successful upgrading (Lithuania)

# GVC productivity ranking 2014

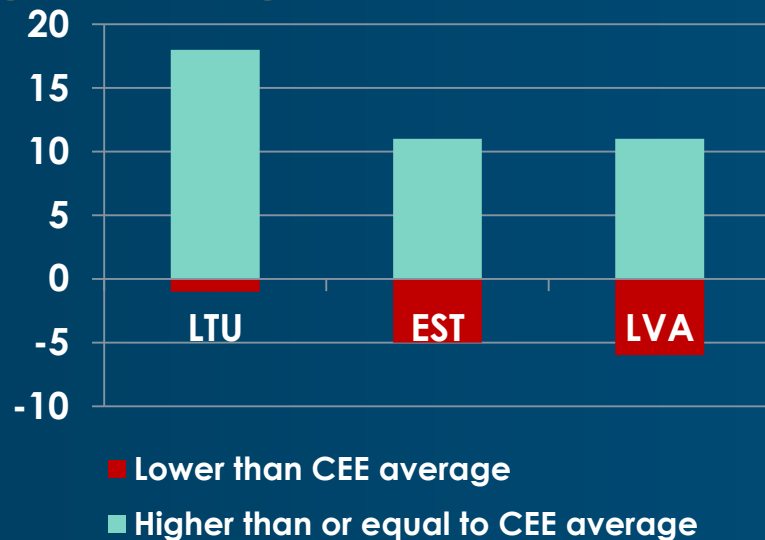
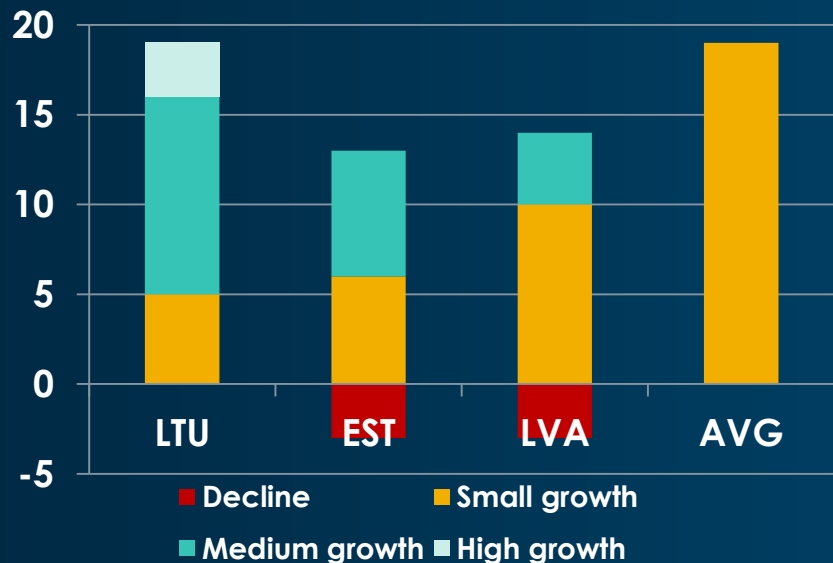


- GVCs participation productivity ranking indicates how efficient is GVC participation of the manufacturing sector in terms of global context.
- Productivity = VA in intermediary products per person employed in sector.
- **Key message:** Baltic countries, especially LT and EE, have specific sectors, where high value added per capita comes from GVCs.

# Global ranking 2014 (strongest sectors)

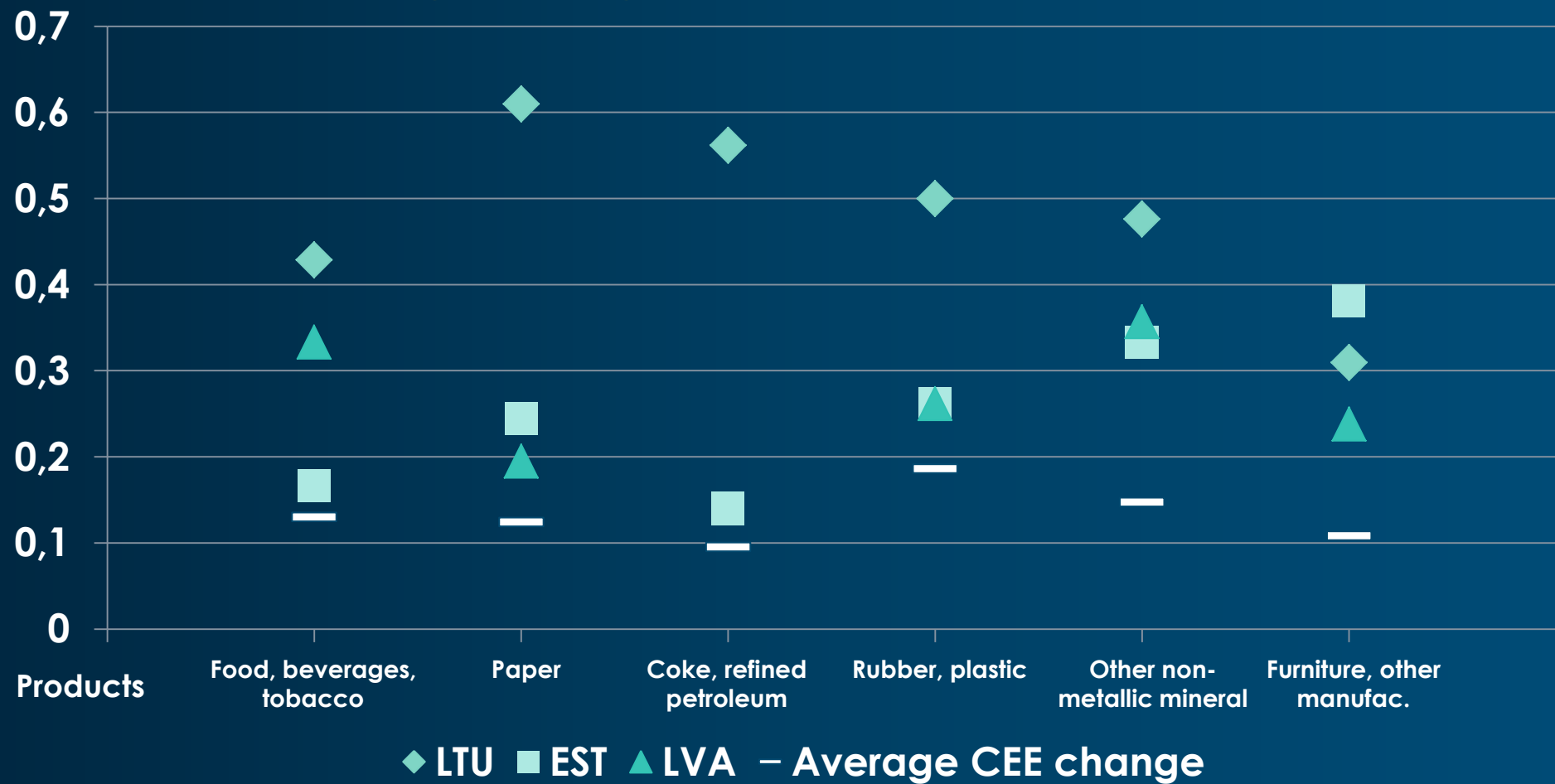


# GVC productivity ranking change 2000-2014

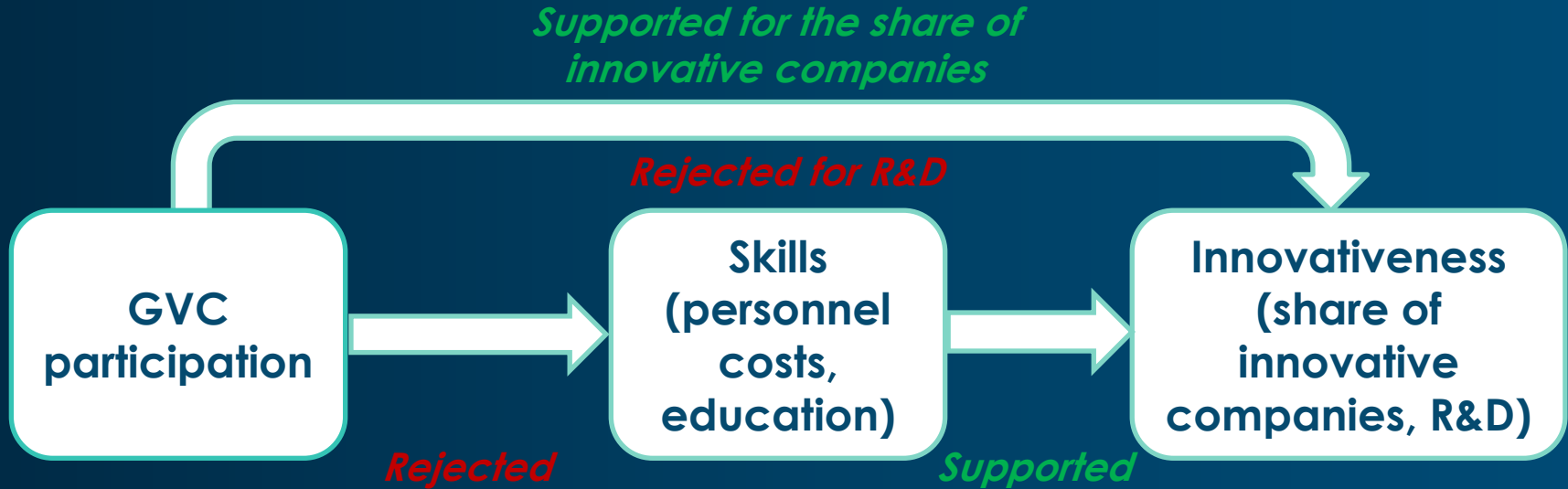


- GVCs participation productivity change (shown by indexed productivity rank position values) indicate the ranking of country-sectors changed from 2000 to 2014.
- **Key message:**
  - The majority of the Baltic manufacturing sectors increased their ranking and many (esp. LT) outperformed average change in CEE.

# Change in global rank 2000-2014



# GVCs, skills, and innovation



**Key hypothesis: Participation in GVCs positively affects skills and innovation at the sector level.**



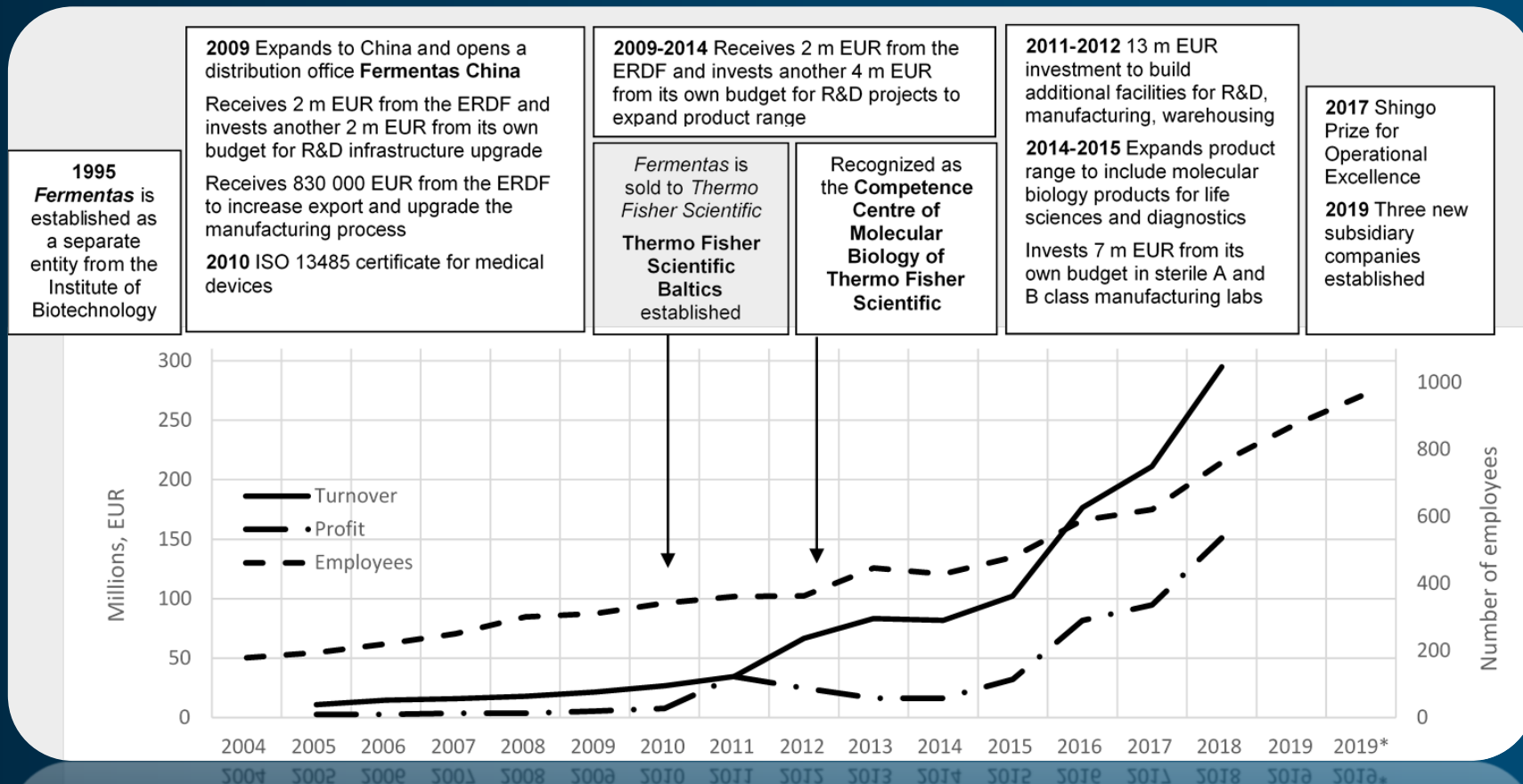
# Implications

- Results indicate that enterprises are likely to enter GVCs in mid-section of chains, where neither R&D activities, nor highly skilled employees are required.
- The relationship between GVCs and the *share of innovative companies* - higher participation in GVCs helps sectors to adopt more (process) innovations.
- Higher *skills* are positively related to innovation at the sector level.
  - Furthermore, participation in GVCs also seems to have a negative link with innovation cooperation, but *the relationship can become positive with a higher level of skills.*

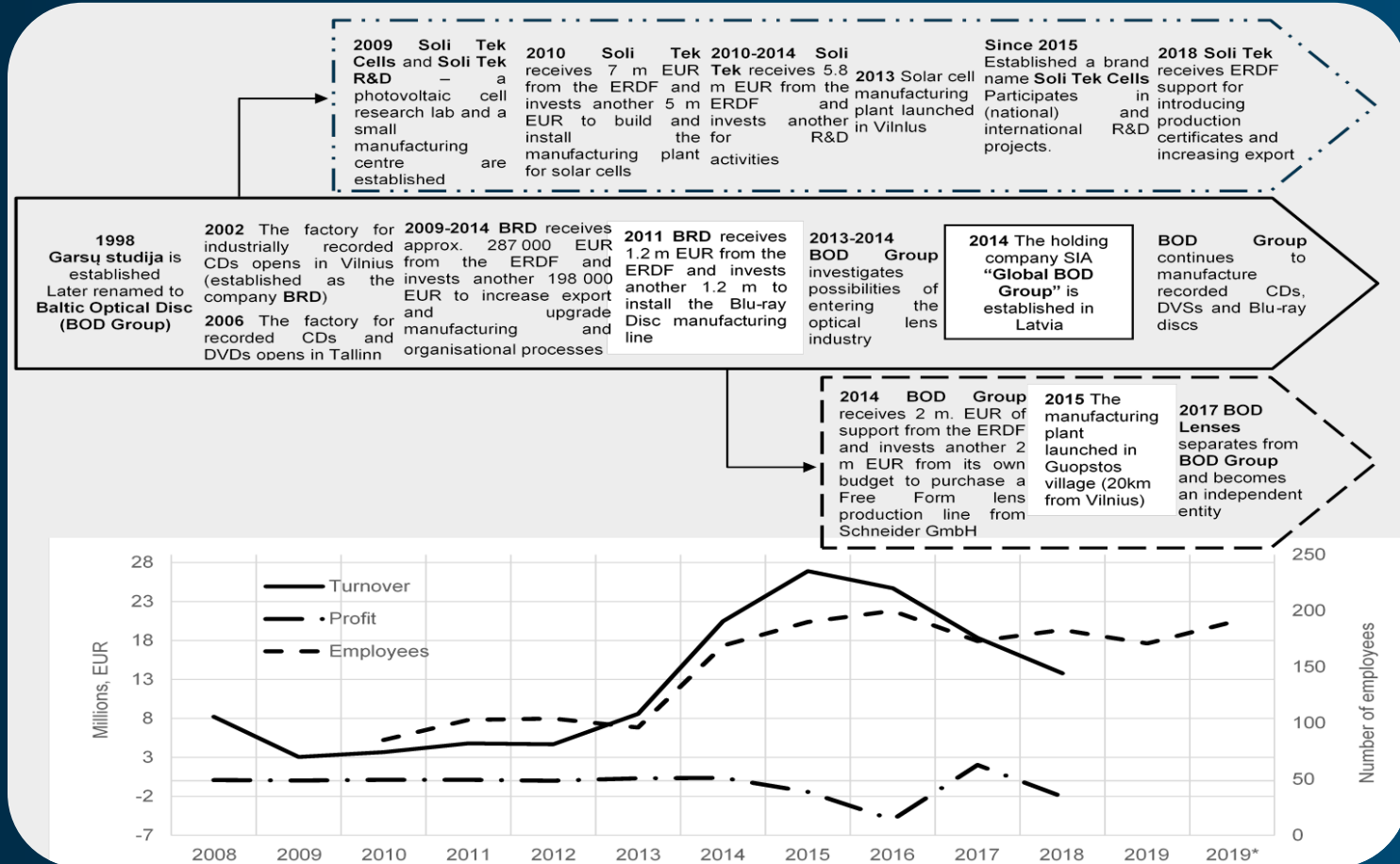
# Policy toolbox for GVC upgrading

| Routes  | Strategies   | MNEs motivations  | Policy options  |
|---|--|---|---|
| 1. FDI based:<br>Entering existing GVCs<br><br>2. Upgrading existing GVC participation to higher-value activities<br><br>3. Build own value chains and own MNEs | Facilitating domestic firm's entry into GVCs                           | Market and cost-seeking   | Creating world-class climate for foreign tangible and intangible assets: improving drivers of investment, infrastructure, etc   |
|   | Attracting high-value FDI  | Knowledge and technology-seeking:   | Creating world-class GVC linkages: <ul style="list-style-type: none"> <li>• Attracting the 'right' FDI</li> <li>• Strengthening GVC-local economy linkages</li> <li>• Improving connectivity to international markets</li> </ul>  |
|   | Promoting (functional and intersectoral) upgrading and diversification | Access to large pool of SET talents, strong RIs and clusters, availability of public incentives | Strengthening absorptive capacity and building world-class RIS: <ul style="list-style-type: none"> <li>• World-class talent production</li> <li>• Industrial and innovation (SS) policies</li> <li>• Clusterisation policies</li> <li>• Access to markets (technology bridges)</li> <li>• Developing workforce skills and incentives for lifelong learning</li> </ul> |
|   | Strategic 'decoupling and re耦pling'                                    | Efficiency and productivity seeking:  |   |
|   | Facilitate innovation and born globals                                 | Streamlining the supply base/'cascade effect', regulatory SS support                            |   |

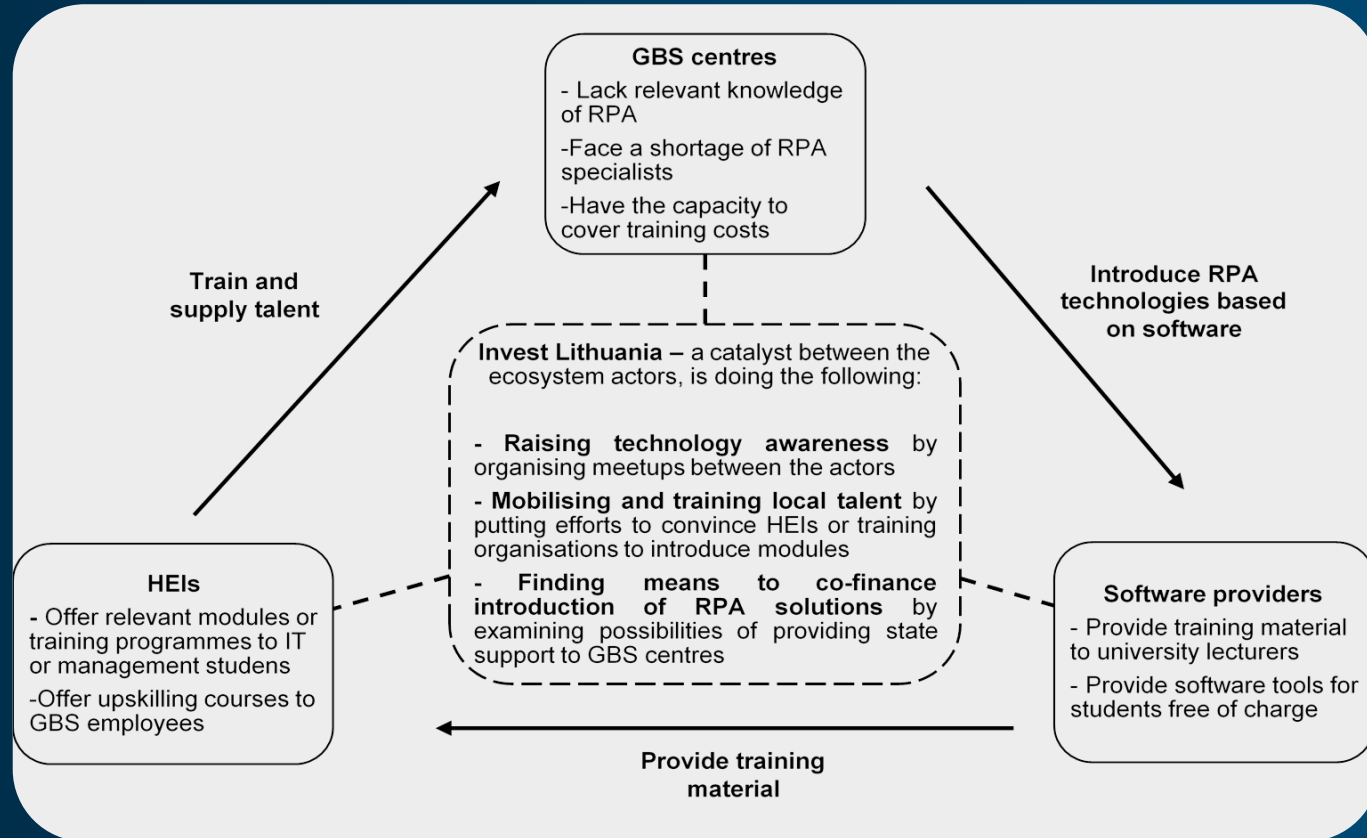
# FDI-based: Thermofisher Scientific



# Intersectoral upgrading: BOD Group



# Functional upgrading: RPA initiative



# Key take-aways

1. Tailored policies able to support and promote the co-evolution of RIS and GVCs strongly needed:
  - ❑ FDI-based growth – targeting specialised higher-value niches
  - ❑ Facilitate intersectoral and functional GVC upgrading
  - ❑ Build own value chains / MNEs (incl born globals), facilitate global linkages!
2. Building endogenous technological capability - investments into clusters, R&D and DEMPE capabilities (design, engineering, management and production) - needed before linking up. 'Intelligent piggybacking'?
  - ❑ upstream vs downstream policies
3. Human capital is the most critical asset to trigger upgrading. Efforts for linking up combined with cross-cutting policies and systemic measures in the field of education and labour-force training.
4. Experimentation and public entrepreneurs, acting in enabling way.

# VISIONARY ANALYTICS



Dr. Agnė Paliokaitė,  
Visionary Analytics

[Agne@visionary.lt](mailto:Agne@visionary.lt)  
[www.visionary.lt](http://www.visionary.lt)

Thank You!

# Variables (SEM model)

- **RCA:** An indicator measuring country-sector's revealed comparative advantage in terms of domestic VA in intermediate products' export.
- **GVC participation (PART):** the ratio between domestic VA in intermediary products and total domestic VA for a country-sector (UIBE GVC, WIOD)
- **Innovation/INNO:** share of innovative enterprises
- **Innovation/INHOUSE:** in-house R&D as share in total turnover
- **Innovation/EXTERNAL:** external R&D as share in total turnover of a country-sector
- **Innovation/Cooperation:** % of enterprises in any type of innovation co-operation with a partner in EU, EFTA or EU candidates (including national partners) out of product/process innovative enterprises
- **Skills/PERSCOST:** Average personnel cost per employee at country-sector
- **Skills/EDUC:** Enterprises with more than 75% of employees with university education out of innovative enterprises in a country-sector



# Global GVC productivity ranking

- **Forward GVCs participation productivity indicator:**
  - The ratio between domestic VA in intermediary products in a country-sector and the number of persons engaged in the sector, giving VA in intermediary products per person engaged
- **Scope:**
  - Analysis based on WIOD data, which covers 43 countries (for global ranking) and 56 sectors (19 manufacturing sectors were included)
- **Measuring global position:**
  - Country-sectors are ranked based on the VA in intermediary products per person engaged in the sector, assigning them a number
  - Based on country-sector ranking, position index bounded between 0 (lowest VA in intermediary products per person engaged) and 1 (highest VA in intermediary products per person engaged) for each studied country, obtaining their relative global positions