



# Strengthening Spatial Dimension in Manufacturing Sector Strategies

**31 January 2017**  
Belgrade, Serbia

**OECD South East Europe** Regional Programme



# 1. Introduction

## Interrelations between Industrial Policy & Regional Development

- **Manufacturing sector strategies** could be a first step in promoting a more targeted analysis of competitiveness of specific sectors and the launch of sector specific initiatives. (Source: Screening report Serbia, Chapter 20, EU Commission)
- **Enhanced regional dimension in sector strategies** could support the efforts of regions in smart specialisation, hence resulting in more efficient and effective development policies.

**OECD work on regional development** has been increasingly stressing the need to promote competitiveness of all regions, with special emphasis on identification and mobilisation of regions' endogenous assets.



## 2. Relevance for Serbia

- Serbia puts **sector policies high on the agenda** of its industrial policy.
  - Under «The Industrial policy of Serbia 2011-2020», there are two pillars
    - i. **Sector-specific approach:** Strengthening of competitiveness of some selected sectors e.g. Food industry, automotive, metal industry
    - ii. **Increased attention on regional industrial development:** Establishment of regional industrial centres and regional business infrastructure (role of NARD)
  - Rolling out new strategies for prioritised sectors is highlighted under the **draft ERP 2017-19 for Serbia.**
- Industrial activities in Serbia show regional variations. Even though **Belgrade** is the economic center of the country, the other regional centers, namely **Nis**, **Novi Sad** and **Kragujevac** are vibrant cities with strong industrial legacies. For instance, **Kragujevac** stands out with its automotive cluster formed around Fiat factory whereas **Nis** has specialised in tobacco and textile industries.



### 3. The 10-step methodology

- Based on the analyses undertaken on the chosen pilot manufacturing sectors under the BRC Turkey Project, a 10-step methodology was developed to strengthen national manufacturing sector strategies by giving a special attention on spatial/regional dimension.

<b>A. Intensify analyses</b>  	1	Identification of the sector-specific factors behind firm location choices
	2	Increased use of regional data
	3	Introduction of analyses of product groups and value chains
	4	Consideration of foreign direct investment and foreign enterprises
	5	Examination of clusters
	6	Mapping of R&D activities and regional availability of skills
<b>B. Improve coherence</b>	7	Alignment with other national policies
	8	Alignment with regional plans and/or sector reports
<b>C. Clarify direction</b>	9	Validation by regional private sector stakeholders
	10	Breaking down overall targets and objectives
Monitoring and evaluation		

Source: OECD (2016), Strengthening the Spatial Dimension in the Sector Strategies of Turkey



### 3. The 10-step methodology

#### Step 1: Identification of the sector-specific Factors behind Firm Location Choices

##### Challenge

Understanding **the sector-specific reasons for the selection of manufacturing location** will help strategy documents in develop more precise policy measures that would address the unique constraints and challenges in regions/countries.

##### Suggested Options

- i) Qualitative Methods: Interviews, focus groups and open-ended questionnaires can help uncover location choice considerations that are most frequently quoted by businesses and investors.
- ii) Quantitative Methods:
  - ☐ *Cross-region regressions* can help explain the variables that are casually associated with the size of manufacturing industries in each region.
  - ☐ *Input-output analysis* can help to take the sectoral interdependence into account.



### 3. The 10-step methodology

#### Step 1: Identification of the Sector-specific Factors behind Firm Location Choices (cont'd)

**Multivariate linear equation** regresses the *size and/or growth of the manufacturing sector* (measured either by employment, total turnover or number of firms) for a sample of all NUTS II/III regions on a vector of explanatory factors.

$$\text{Size of the Sector} = \alpha_0 + \beta_1 \text{Factor}_1 + \beta_2 \text{Factor}_2 + \dots + \beta_n \text{Factor}_n$$

Some of the potential independent variables that could be used irrespective of the sector concerned might be the following ones: *number of ports, density of railroads/ highways,, duration of power cuts per year.*

Source	SS	df	MS	Number of obs	=	81
Model	2.0866e+09	5	417314641	F(5, 75)	=	195.76
Residual	159886107	75	2131814.76	Prob > F	=	0.0000
				R-squared	=	0.9288
				Adj R-squared	=	0.9241
Total	2.2465e+09	80	28080741.4	Root MSE	=	1460.1

Numberof2013EmployeesMachinery	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
CapitalEffect	9297.983	1743.955	5.33	0.000	5823.846	12772.12
AutomotiveExports	1.10e-06	1.69e-07	6.52	0.000	7.65e-07	1.44e-06
NumberofEmployeesinBasicMetals	.3657159	.0605315	6.04	0.000	.245131	.4863008
Numberoftheatreandcinemahal	16.4805	5.946597	2.77	0.007	4.634277	28.32673
TerrorPerPop	-49850.11	18686.61	-2.67	0.009	-87075.74	-12624.48
_cons	206.3761	189.338	1.09	0.279	-170.8047	583.5568



### 3. The 10-step methodology

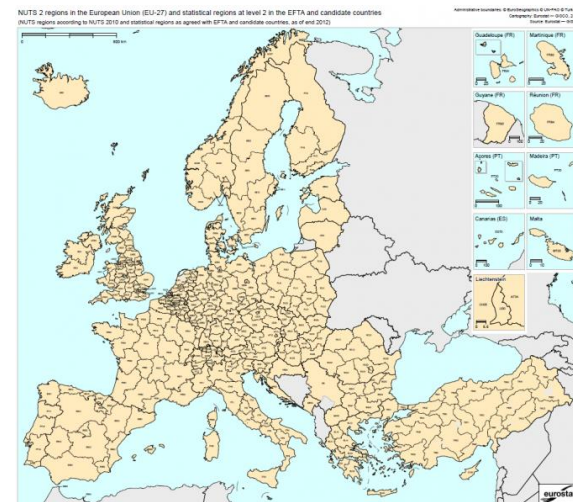
#### Step 2: Increased Use of Regional Data

##### Challenge

Being able to deepen analysis in sector strategies and improve evidence-based policy making, it is crucial to grasp how sector activities are geographically distributed. This would require **taking into account a combination of indicators**.

##### Suggested Options

- i) Increased focus on «workplaces»: Firms' manufacturing operations are likely to take place in areas that are different than those they are registered in.
- ii) Distribution of sector employees is another powerful indicator to illuminate the size of sectors – especially for those with a low degree of informality.
- iii) Regional turnover data is less prone to the discrepancies observed in regional export data – as exports are more generally recorded in the firms' headquarters' place.



Source: NUTS II regions at EU 27, Eurostat





### 3. The 10-step methodology

#### Step 3: Introduction of analyses of product groups and value chains

##### Challenge

Manufacturing sector strategies tend to undertake analyses at the broad sector level – as specified in the Eurostat's NACE classification. This aggregate approach **masks the specification of regions** in certain product groups and/or activities.

##### Suggested Options

- i) Data collection: Introduction of firm capacity reports collected by chambers of commerce.
- ii) Global Value Chain Analyses: Better understanding of regions and countries' specialisation in certain activities and how they're integrated in national or global value chains.
- iii) Product Space: By shedding light on the regions' and countries' export basket, it helps to explore whether intra-sector jumps to some new products could be done.

##### MANUFACTURING

10	Manufacture of food products
11	Manufacture of beverages
12	Manufacture of tobacco products
13	Manufacture of textiles
14	Manufacture of wearing apparel
15	Manufacture of leather and related products
16	Manufacture of wood and of products of wood and cork, except furniture; manuf
17	Manufacture of paper and paper products
18	Printing and reproduction of recorded media
19	Manufacture of coke and refined petroleum products
20	Manufacture of chemicals and chemical products
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations
22	Manufacture of rubber and plastic products
23	Manufacture of other non-metallic mineral products
24	Manufacture of basic metals
25	Manufacture of fabricated metal products, except machinery and equipment
26	Manufacture of computer, electronic and optical products
27	Manufacture of electrical equipment
28	Manufacture of machinery and equipment n.e.c.
29	Manufacture of motor vehicles, trailers and semi-trailers
30	Manufacture of other transport equipment
31	Manufacture of furniture
32	Other manufacturing
33	Repair and installation of machinery and equipment





### 3. The 10-step methodology

#### Step 3: Introduction of analyses of product groups and value chains (cont'd)



Source: Atlas of Economic Complexity, <http://atlas.media.mit.edu/en/>

*Example:* Serbia has a **revealed comparative advantage** in «cars», but not in «vehicle parts» – despite the fact that these two products are very close in the product space implying that they may require a similar level of skill-set and technology.



### 3. The 10-step methodology

#### Step 4: Consideration of foreign direct investment and foreign enterprises

##### Challenge

FDI in manufacturing sectors could be an important element in regional development by triggering technology spillovers, assisting human capital formation and enhancing enterprise development. Despite this, **FDI data by sector and region tends to be generally limited.**

FDI by sectors 2001-2011

Food, beverage and agriculture	16.40%
Financial services	14.30%
Telecom.	13.50%
Oil and gas	8.90%
Automotive	8.70%
Retail	5.80%
Real estate	5.30%
Tobacco	5.30%
Pharmaceutical	4.60%
Construction	4.40%
Others	12.80%

Source: SIEPA

##### Suggested Options

- i) Regular Bulletins published by the Ministry of Economy and/or National Investment Promotion Agencies, can provide up-to-date data on the FDI inflow and stock by sector and region.

➤ There is a tendency for FDI in Serbia to be located near the national highway (E-75) route (SEETRA, TEPAV)



Source: Serbia's E-75, European Western Balkans



### 3. The 10-step methodology

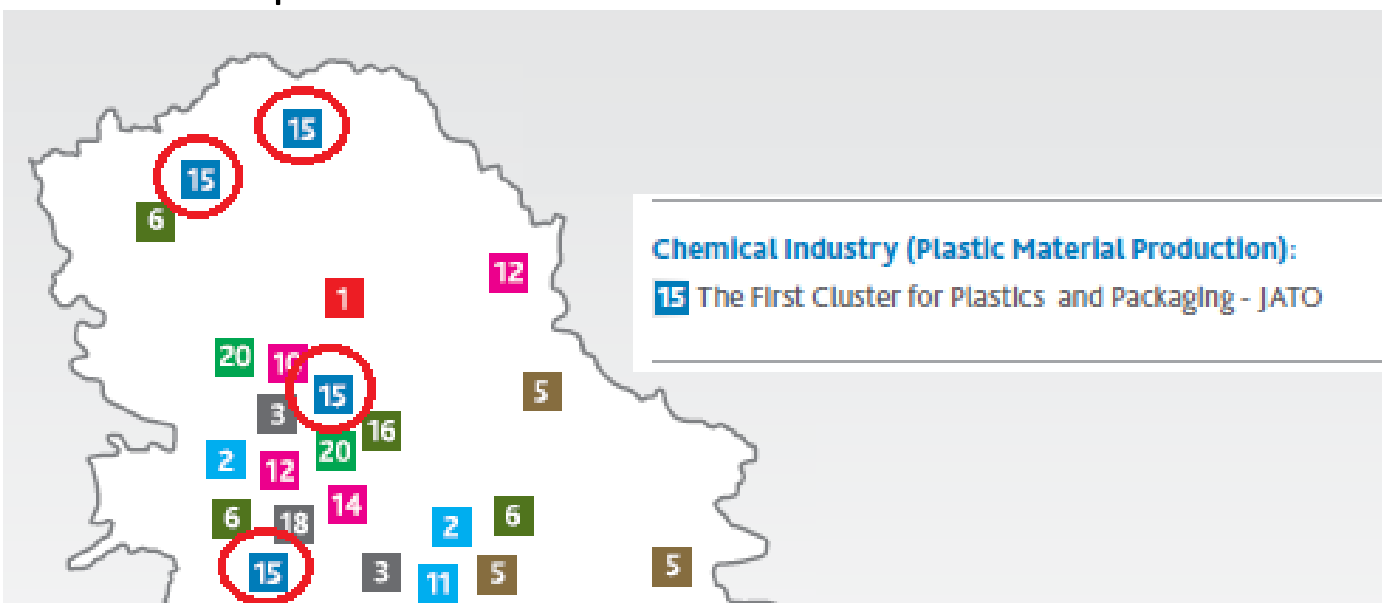
#### Step 5: Examination of Clusters

##### Challenge

Cluster analyses can help diagnose regional economic strengths and challenges. **Identifying established clusters**, as well as agglomerations with strong cluster potential would be befitting as a first step towards tailored strategies.

##### Suggested Options

- i) Mapping of Clusters and Agglomerations could be done by calculation location quotients, input-output analyses and other quantitative and qualitative techniques.



##### **Example:**

What are the specific needs of the «Plastics and Packaging Cluster» in Vojvodina?



### 3. The 10-step methodology

#### Step 6: Mapping of R&D Activities and Regional Availability of Skills

##### Challenge

***Unusually heavy concentration of R&D activities*** can limit the diffusion of knowledge between regions and sectors unless some transmission mechanisms are put in place

The malfunctioning of the labour market, specifically ***the mismatch between the education system and the productive sectors*** is evident in most regions and sectors

##### Suggested Options

- i) **Mapping R&D activities** by region would be a pre-requisite for establishing these transmission mechanisms, as well as determining the necessity of scaling up – the number of approved patent and utility model applications and the level of R&D spending by region and sector (e.g. Intellectual Property Office by Serbia).
- ii) **Labour market analyses** could help to strategically plan active labour market policies and specific initiatives in co-ordination with other public institutions to be able to respond to the demands of manufacturing sectors.



E.g. Does the faculties of Nis University generate enough skilled graduates that would foster the further development, as well as shift into higher-value added production of prominent sectors?

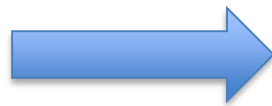


### 3. The 10-step methodology

#### Step 7. Alignment with other national policies

##### Challenge

- There might be **discrepancies between sector strategies and other national policies** (e.g. investment incentive system) – in particular when it comes to prioritising locations for investment. The conflicting priorities of different national stakeholders might undermine the policies' impact.



##### Suggested Options

- Inter-ministerial committee and working groups could be help to align the priorities of different relevant Ministries, and intensify the dialogue between different stakeholders. Strong participation by **regional actors** was also strongly recommended.*

«The Industrial Development Strategy and Policy of Serbia» links together numerous development documents adopted by the Government, such as:

- Strategy for Scientific and Technological Development
- Regulatory Reform strategy
- National strategy of Economic Development
- National Sustainable Development Strategy
- The Export Promotion Strategy
- Regional Development Strategy



### 3. The 10-step methodology

#### Step 8. Alignment with regional plans and/or sector reports

##### Challenge

- The number of strategic documents and plans, both by national and regional institutions, **tends to significantly proliferate over time**. Many different actors engage in the preparation of sectoral reports for their regions – such as chambers of commerce, development agencies etc.

##### Suggested Options

- i) Mobilisation of Regional Stakeholders: To achieve harmonisation, **structured input** could be requested during the preparation of national sector strategies (depth & coherence)



REPUBLIC OF SERBIA

National Agency for Regional Development

- ii) Provincial/Regional Public Institutions: Branches of Ministries, as well as **regional development agencies** could provide valuable information to the sector preparation process.



### 3. The 10-step methodology

#### Step 9. Validation by regional private sector stakeholders

##### Challenge

- Most of the time, regional actors are not involved in the consultation process, and there is a possibility that the views expressed during situational analysis meetings **tend to be biased in favour of the private sector based in economic centres** at the expense of smaller but numerous firms from other regions.

##### Suggested Options

- Extensive Consultations* involving a wider array of private sector stakeholders so as to clarify, as well as agree on, a common direction. Involving private sector stakeholders *at the end of the strategy design process*, in addition to ex ante, may yield additional information..
- Increased Transparency* would allow the whole consultation process to maintain its accountability, thus overcoming the potential scepticism that might be attached to the consultation practices from the private sector.

##### Case Study



«This complex process of preparation is designed to ensure that **the publication recognizes the interests of the entire FIC membership** and to prevent promotion of individual group interests.»





### 3. The 10-step methodology

#### Step 10. Breaking down overall targets and objectives

##### Challenge

- Regional stakeholders might not have a clear understanding of **how they can potentially contribute to overall targets/action items** in industrial sector strategies, as well as, of the role that they are expected to play in the overall scheme.

##### Suggested Options

- i) Projections: Base on regions' strengths and weaknesses, a number of sector-specific projections could be undertaken for the medium-term to initiate discussions among different stakeholders

Region	Exports in 2015 (USD)	Share of exports in 2015	Export trend	Investment intensity	R&D intensity	Export share in 2023	Change in share 2015 to 2023 (in percentage points)
TRA2	13 023 344	0.18%	0.29%	0.07%	0.06%	0.14	-0.04

Source: Strengthening the Spatial Dimension in the Sector Strategies of Turkey

- ii) Specifying regional aspect: There might be, mostly, other qualitative targets and objectives included in sector strategies without a regional dimension.



## 4. Conclusion



No **one-size-fits-all approach** to strengthen the spatial dimension

Understanding **unique settings of regions** and identification of region-specific challenges and opportunities

Working at **sufficient level of disaggregation** would pave the way for stronger analyses.



## Contact details:

**Umur Gökçe**

*Policy Analyst*

*OECD South East Europe Division*

e-mail: [umur.gokce@oecd.org](mailto:umur.gokce@oecd.org)