Raising Competitiveness Through Industrial Policy
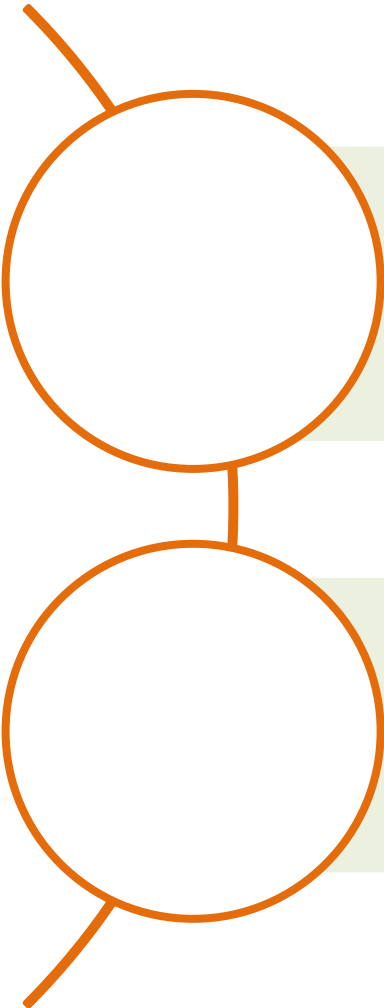
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Presentation outline

1. Important elements of a structural and sectoral analysis

2. Selected indicators

6 areas of structural and sectoral analysis

Structural analysis

Interrelations between sectors

Global value chains

Human capital

Expert and private sector feedback

Policy objectives

Objective: Understand economic structure, structural dynamics and contribution of economic sectors to overall economy and economic growth

- Composition of various components of the macro aggregates and their relative change in their size over time
- Sets the scene for sector-specific policy actions
- Key component of holistic sectoral and structural analysis

The OECD STAN Database

The OECD Structural Analysis (STAN) Database compiles 23 key indicators by economic activity for structural change analysis. The database uses data from annual national accounts by activity tables and other sources such as national surveys. The indicator areas of the STAN database are key characteristics for structural analysis. They are grouped in 8 areas:

- Production
- Intermediate inputs
- Value added
- Labour

- Capital
- Trade
- Government effects
- Income

Comparative industry maturity

Livesey (2012) introduces the concept of relative industry maturity by comparing a country's position in the industry life cycle with the position of the industry abroad. This can be represented in a four-by-four grid showing the stage of maturity of the home industry along the horizontal access and the stage of maturity of the global industry along the vertical axis. Each box in the in the grid represents the comparative maturity of the industry sector in the home country relative to the global norm.

Location Quotient concept (LQ)

Location quotient (LQ) is a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region/ country as compared to the nation/group of countries. It can reveal what makes a particular economy "unique" in comparison to the peers. The basic uses of industry LQs (and, by extension, for clusters and occupations as well) include these:

- To determine which industries make the economy unique.
- To identify the "export orientation" of an industry and identify the most export-oriented industries
- To identify emerging export industries
- To identify endangered export industries that could erode the country's economic base.

Interrelations between sectors

Objective: Examining linkages can reveal evidence of sub-sector clustering, value chains and production fragmentation. It can also highlight the limitations of targeted intervention on a single sub-sector, which applies to designing smart policies to foster sector development.

- Method that goes beyond the analysis of separate industries and direct relations among them
- Enables policy makers to better understand the importance and growth potential of different sectors

Symmetric Input-Output table:

	Industries	Final use		Total
Industries	Intermediate consumption	Domestic final use	Export	Total production
	Import			
	Value added			
	Total production			

Analysis outcomes:

- **Employment multipliers**

- **Production multipliers**

- **Sector linkages**

Objective: Understanding sector positioning in GVCs may reveal valuable information relevant to positioning a country and its competitiveness in given sectors as well as uncovering the underlying drivers of their integration in the global economy.

The OECD WTO TiVA Database

Measuring Trade in Value Added (TiVA) is a joint initiative by the OECD and World Trade Organisation. The TiVA database contains 39 indicators designed to reflect the complex nature of trade interrelationship between countries, the domestic and foreign contributions to exports, and the importance of intermediate imports in exports. The TiVA database also seeks to better reflect the contribution made by services to the production of goods and to offer a different perspective on bilateral trade balances. The TiVA indicators are calculated for 57 economies (which include the OECD countries and Brazil, China, India, Indonesia, the Russian Federation and South Africa) and the years 1995, 2000, 2005, 2008, 2009 2011. They are broken down into 18 industries.

Revealed comparative advantage (RCA)

Sub-sectors can be compared internationally to assess their export performance. RCA uses trade flows to assess the relative advantages and disadvantages of sectors. RCA calculates, in a given country, sector's share of total goods and services exports divided by the same sector's shares of total exports of goods and services worldwide. RCA can be a starting point for shedding light on what shapes observed trade patterns – e.g. factor endowments, total factor productivity and policies.

Product space analysis

The Product Space is a network that formalizes the idea of relatedness between products traded in the global economy. It takes an empirical view of similarity between products, focusing on correlations observed at the global level between export shares of different products. Such an approach can uncover relations between apparently unrelated economic activities, opening the way to targeted policy intervention

Human capital

Objective: Understand population's level of attainment in education and skills as factors determining the viability of manufacturing sectors and their development potential

Qualification mismatch analysis

Qualification mismatch analysis seeks to assess how closely the highest level of education that a person has obtained matches their occupation and its qualification profile. Such findings can inform labour policy to better match skills and occupations.

Skills gap analysis

Assessments of skills levels measure people's ability to work in certain occupations. Aligning the skills obtained through education and training with those required in sub-sectors and occupations yields positive labour market outcomes where individuals and businesses leverage existing skills.

Skills anticipation

Skills anticipation uses quantitative and qualitative methods to assess future skill needs. It focuses on the various links between education and work to inform how education policy matches future labour markets and how individuals make career choices.

Expert feedback and policy objectives

Expert and private sector feedback

When designing policies specifically for sector development, direct private sector feedback on externalities and challenges to enterprise development provides critical direction. The economist Dani Rodrik posits that "the right model for industrial policy is ... strategic collaboration between the private sector and the government with the aim of uncovering where the most significant obstacles to restructuring lie and what type of interventions are most likely to remove them"

Policy objectives

National, sectoral and regional development strategies, all aim to facilitate sustainable economic growth and increase well-being of citizens. It is of utmost importance to ensure that key strategies and long-term economic and social goals are considered when designing sectoral policies.

> The Location Quotient (LQ) is a metric that can be used to calculate the relative advantage or disadvantage of a region/ country in a certain sector's production

$$LQ = \frac{\dfrac{employment_{i\,Serbia}}{total\,employment_{Serbia}}}{\dfrac{employment_{i\,EU}}{total\,employment\,i\,EU}}$$

> On the basis of LQ, the country is defined as being specialised in a certain sector (i) if the sector's share of total employment is Serbia is higher than the share of this sector in total employment in the region (e.g. EU, WB). In that case, LQ is higher than 1.

Classification of sectors by value and changes in LQ in the period 2009-2014

"Emerging"

Sector in which Serbia does not have a relative production advantage and LQ increased in 2009-2014

$$LQ_{2014} < 1;$$
$$LQ_{2009} < LQ_{2014}$$

"Still growing"

Sector in which Serbia has a relative production advantage and LQ increased in 2009-2014

$$LQ_{2014} > 1;$$
$$LQ_{2009} < LQ_{2014}$$

"Shrinking"

Sector in which Serbia does not have a relative production advantage and LQ decreased in 2009-2014

$$LQ_{2014} < 1;$$
$$LQ_{2009} > LQ_{2014}$$

"Stagnating"

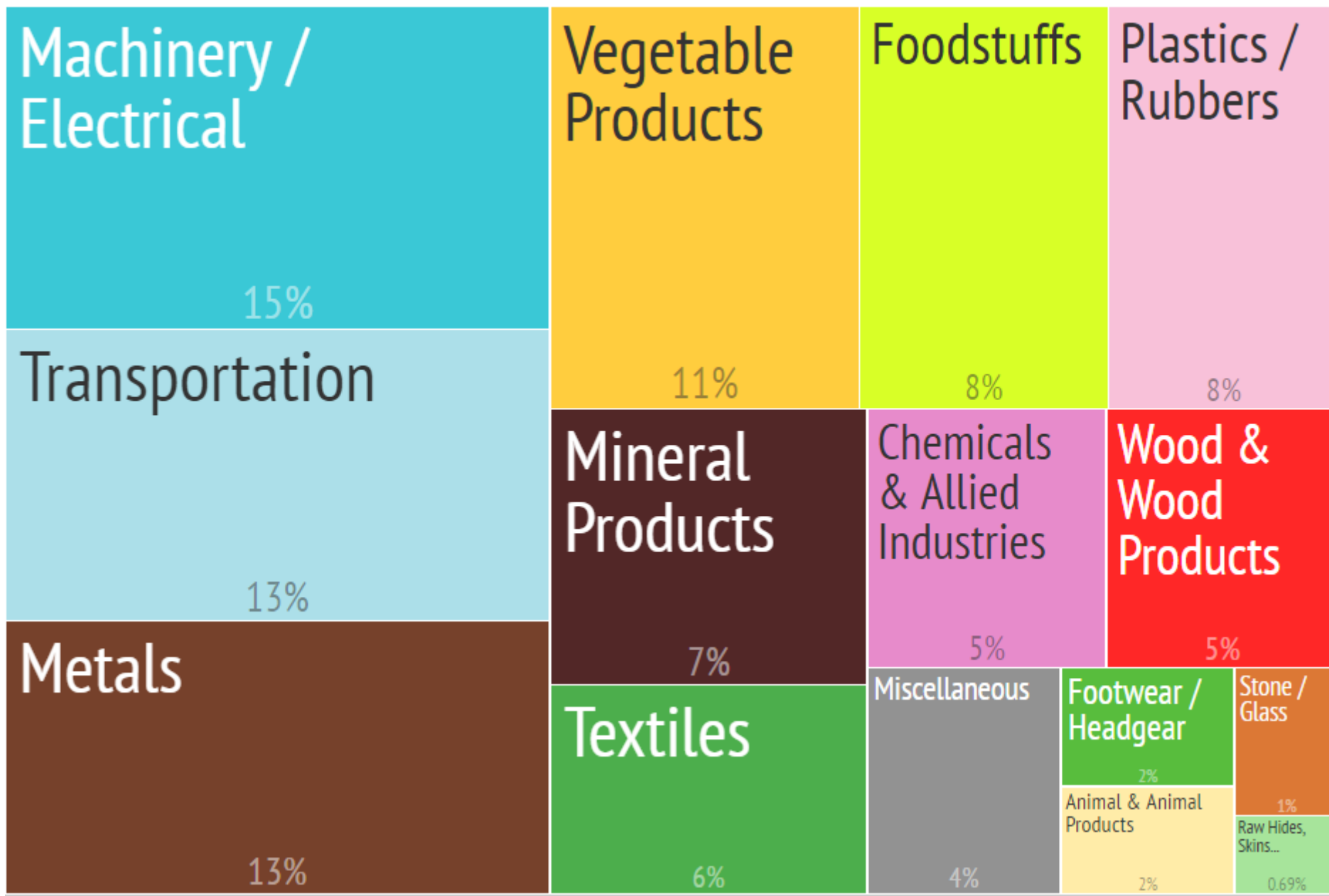Sector in which Serbia has a relative production advantage and LQ decreased in 2009-2014

$$LQ_{2014} > 1;$$
$$LQ_{2009} > LQ_{2014}$$

Classification of manufacturing sectors by value and changes in LQ in the period 2009-2014

"Emerging"	"Still growing"
Electrical equipment	Food products
Motor vehicles	Leather and related products
Rubber and plastic products	Textiles
Wood	Wearing apparel

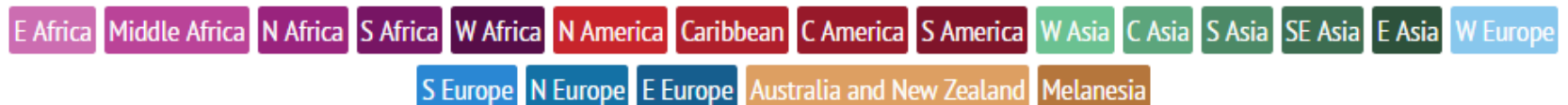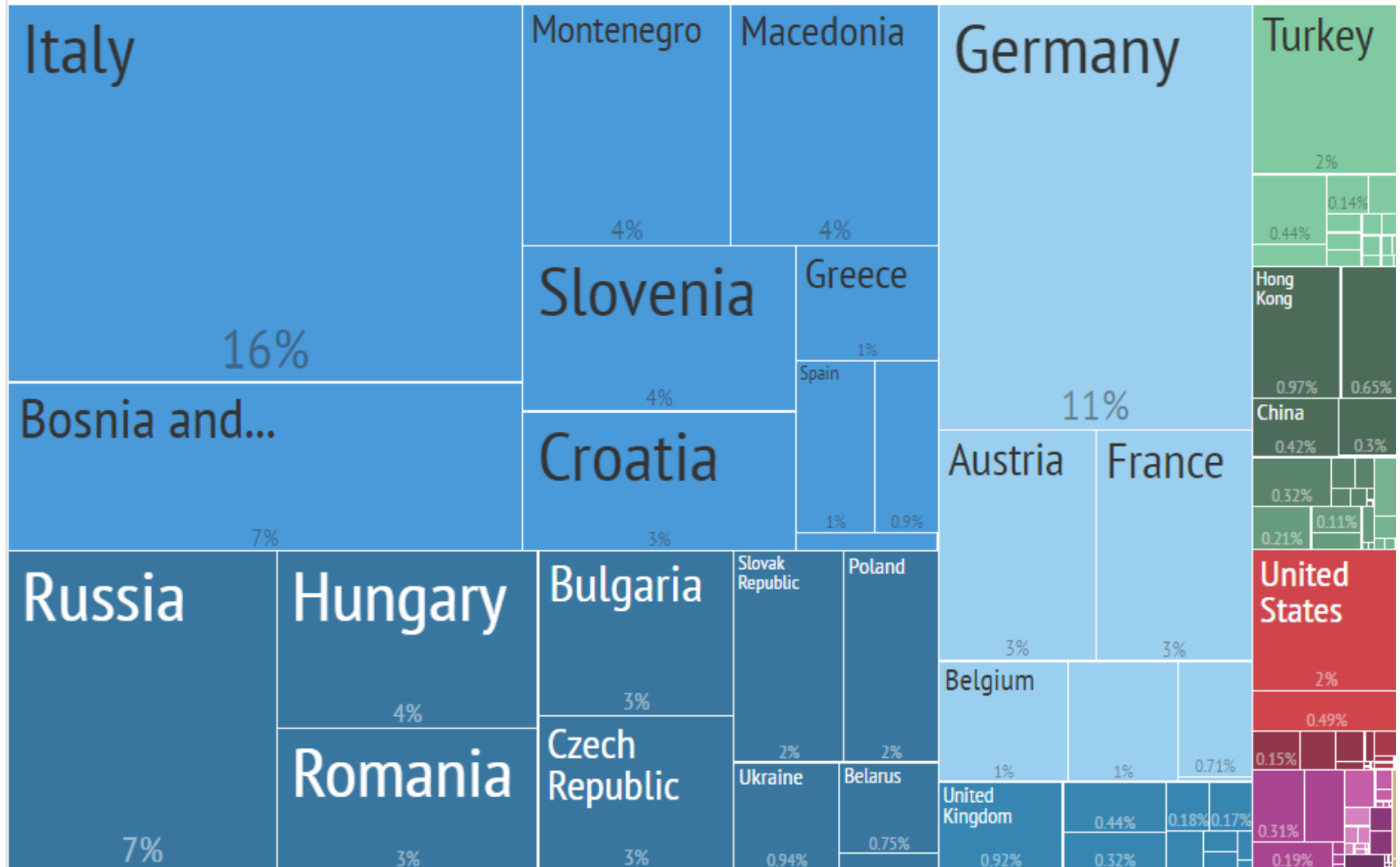| "Shrinking"	"Stagnating"
Computer, electronic and optical products	Basic metals
Fabricated metal products	Beverages
Furniture	Chemicals and chemical products
Machinery and equipment n.e.c.	Coke and refined petroleum products
Other transport equipment	Tobacco products

Source: Statistical Office of the Republic of Serbia, Eurostat, OECD analysis
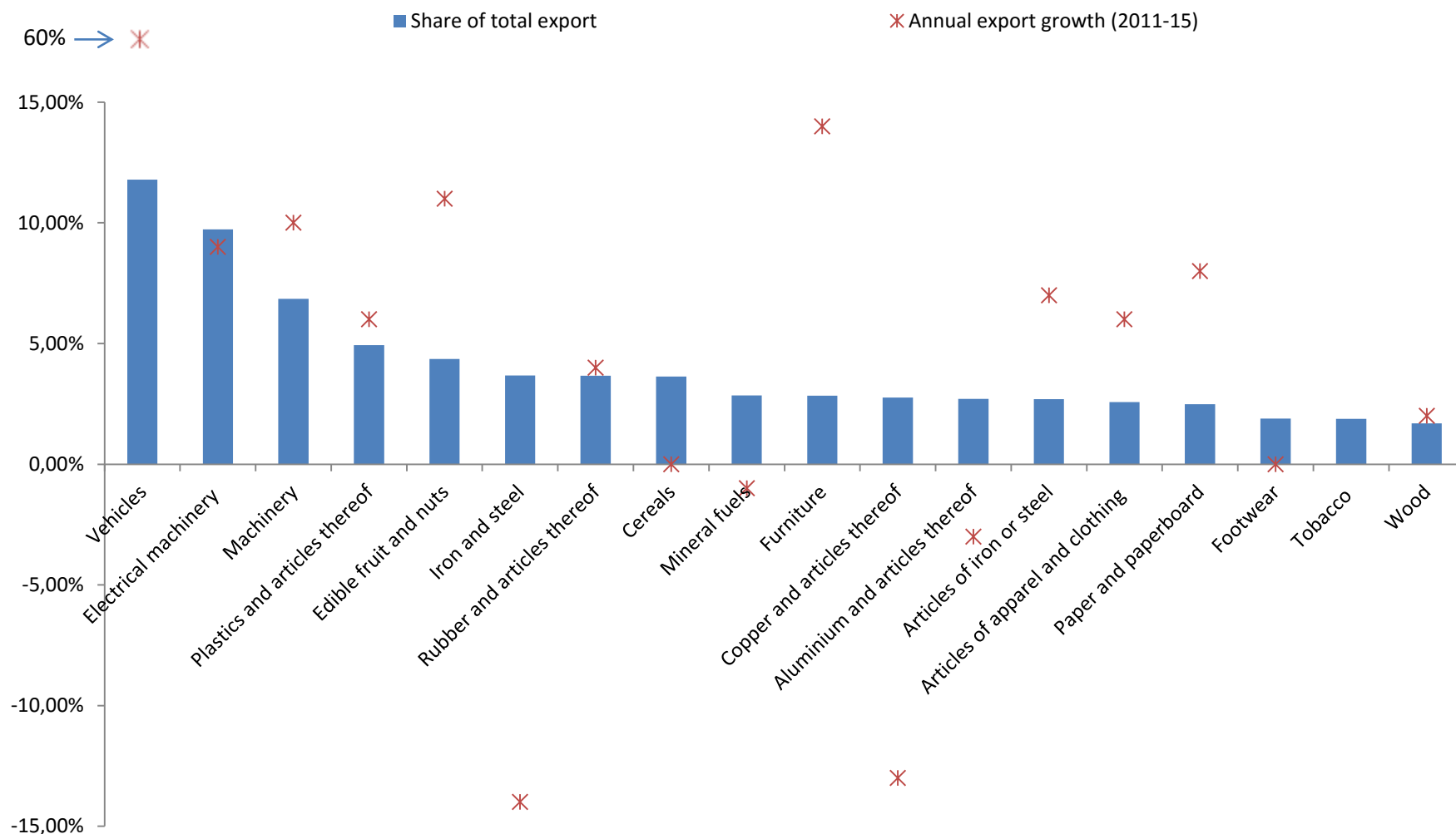
Where did Serbia export in 2014

$14.6B USD

Italy 16%
Bosnia and... 7%
Russia 7%
Hungary 4%
Romania 3%
Montenegro 4%
Macedonia 4%
Slovenia 4%
Croatia 3%
Greece 1%
Spain 1%
Bulgaria 3%
Czech Republic 3%
Slovak Republic 2%
Poland 2%
Ukraine 0.94%
Belarus 0.75%
Germany 11%
Austria 3%
France 3%
Belgium 1%
United Kingdom 0.92%
Turkey 2%
0.14%
0.44%
Hong Kong 0.97%
0.65%
China 0.42%
0.3%
0.32%
0.11%
0.21%
United States 2%
0.49%
0.15%
0.31%
0.19%
0.44%
0.18%
0.17%
1%
0.71%
0.32%

E Africa | Middle Africa | N Africa | S Africa | W Africa | N America | Caribbean | C America | S America | W Asia | C Asia | S Asia | SE Asia | E Asia | W Europe

S Europe | N Europe | E Europe | Australia and New Zealand | Melanesia

Export share and export growth by commodity

Legend: ■ Share of total export ✳ Annual export growth (2011-15)

60% → ✳

Categories (left to right): Vehicles, Electrical machinery, Machinery, Plastics and articles thereof, Edible fruit and nuts, Iron and steel, Rubber and articles thereof, Cereals, Mineral fuels, Furniture, Copper and articles thereof, Aluminium and articles thereof, Articles of iron or steel, Articles of apparel and clothing, Paper and paperboard, Footwear, Tobacco, Wood

Y-axis: 15,00%, 10,00%, 5,00%, 0,00%, -5,00%, -10,00%, -15,00%

Source: Statistical Office of the Republic of Serbia,

Classification of commodities by value and changes in RCA in the period 2010-2015

"Emerging"	"Still growing"
Electrical equipment	Motor vehicles
Machinery	Rubber
	Furniture
	Paper and paperboard

"Shrinking"	"Stagnating"
Mineral fuels and oils	Plastics
Pharmaceutical products	Edible fruit and nuts
	Iron and steel
	Cereals
	Copper and aluminium

Source: UN Comtrade, OECD analysis

Prospects for market diversification

Prospects for market diversification for a product exported by Serbia in 2015
Product : TOTAL All products
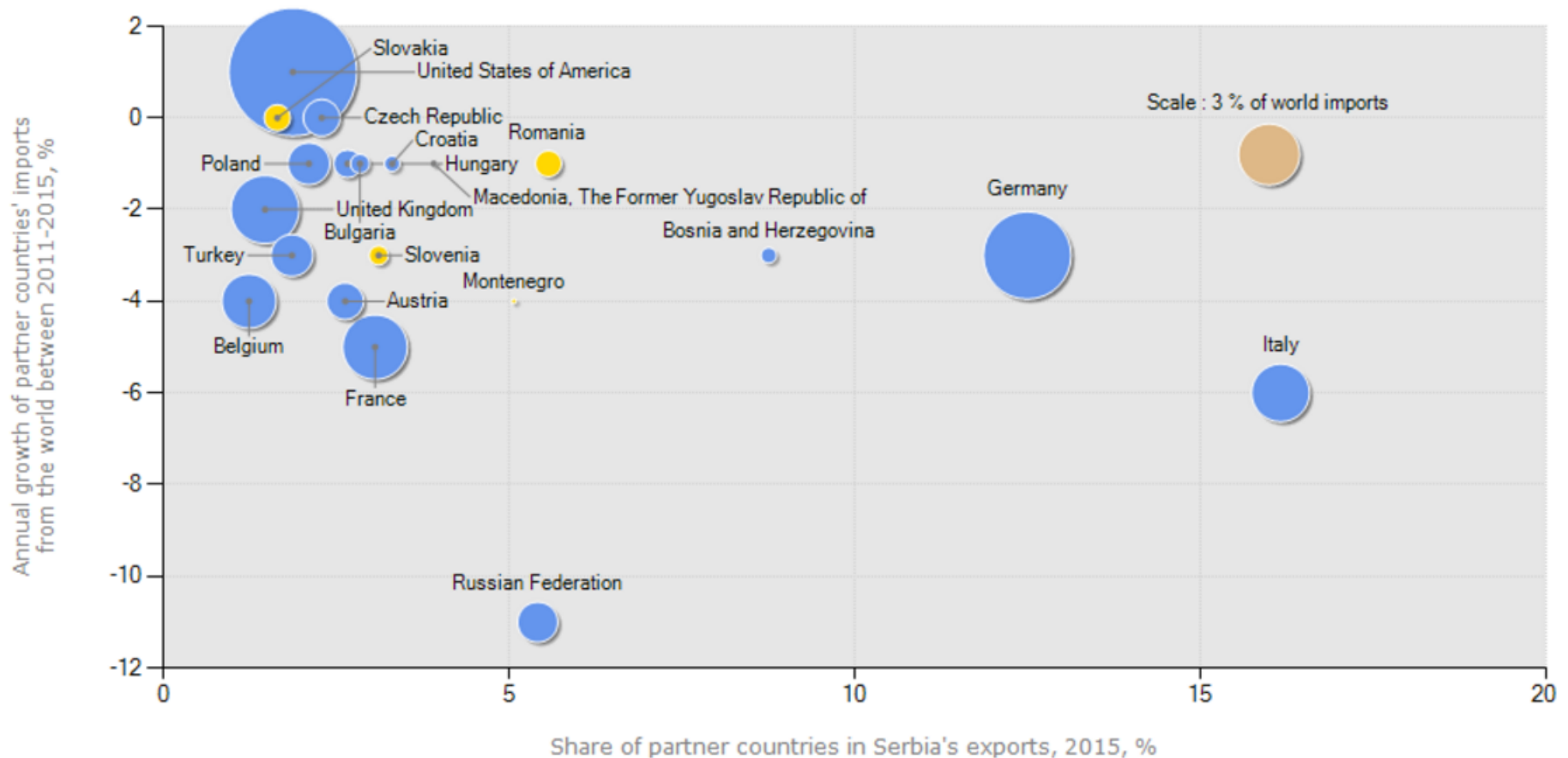
Thank you!

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