FACULTY OF INTERNATIONAL RELATIONS

Iveta Černá, cernai@vse.cz

Dept. of International Business

Czech Automotive Sector

~ *Current Position and Challenges*

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Outline

1) Position in production and GVCs
2) Economic footprint
3) Current challenges, SWOT

Position of CR in the EU and worldwide automotive production

(MV=motor vehicles, PC=passenger cars)

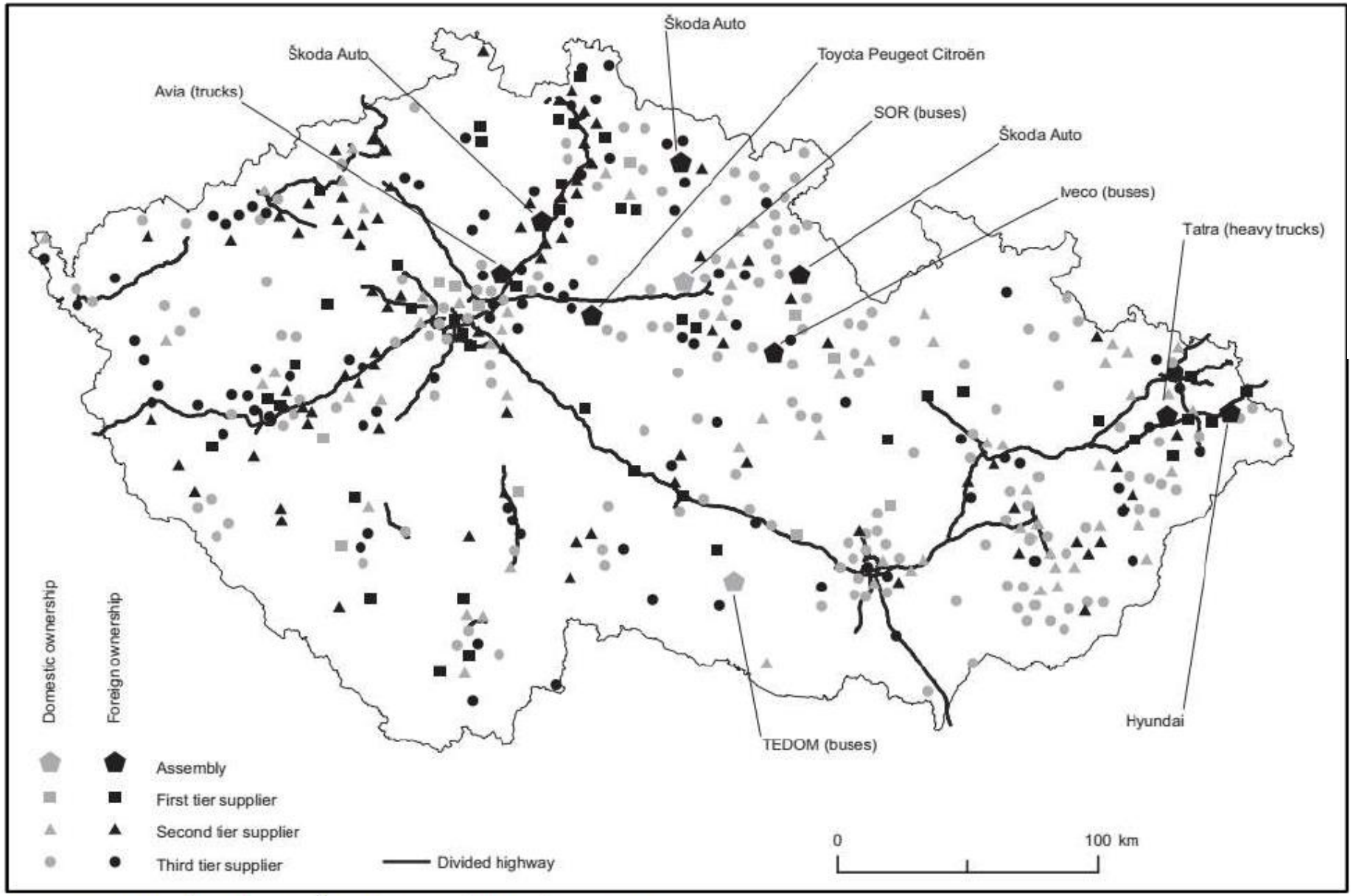
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
MV production (units)	1,076,385	1,199,834	1,172,342	1,132,931	1,162,017	1,256,332	1,344,137	1,419,993	1,345,846	1,428,620	1,135,447
Share in EU MV production	6.4%	6.8%	7.2%	7.0%	6.8%	6.8%	7.0%	7.2%	7.0%	7.7%	8.7%
Share in world MV production	1.4%	1.5%	1.4%	1.3%	1.3%	1.4%	1.4%	1.4%	1.4%	1.5%	1.5%
PC production (units)	1,069,518	1,191,968	1,171,774	1,128,473	1,157,371	1,244,406	1,342,920	1,413,881	1,345,041	1,427,563	1,129,184
Share in EU PC production	7.1%	7.6%	8.0%	7.7%	7.7%	7.8%	8.2%	8.3%	8.1%	9.0%	10.4%
Share in world PC production	1.8%	2.0%	1.8%	1.7%	1.6%	1.7%	1.7%	1.8%	1.7%	1.9%	1.8%

Sources: own calculations based on data from (ACEA, 2011) to (ACEA, 2021a), (UNCTADstat)

Passenger car producers

Manufacturer	Indicator	2018	2019	2020
Škoda Auto	Operating revenue (th EUR)	16,536,771	18,387,264	16,643,822
	Number of employees	33 696	33 881	35 437
	Added value (th EUR)	3,364,967	3,933,784	n.a.
	Share of added value on production	20.3%	21.4%	
Hyundai Motor Manufacturing	Operating revenue (th EUR)	5,203,940	5,023,056	4,508,631
	Number of employees	2 552	2 580	2 800
	Added value (th EUR)	408,867	556,774	520,201
	Share of added value on production	7.9%	11.1%	11.5%
Toyota Motor Manufacturing Czech Republic	Operating revenue (th EUR)	1,482,383	1,528,405	1,230,643
	Number of employees	2 185	2 188	2 500
	Added value (th EUR)	n.a.	n.a.	n.a.
	Share of added value on production	n.a.	n.a.	n.a.

Source: own elaboration based on Orbis (2022) database



Source: Pavlínek & Žížalová (2016), p. 337

Final producers & Tier 1, 2, 3 suppliers (2009)

Source: CzechInvest (2019)

Final producers & OEM (2019)

NACE 29 in selected economic indicators

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total production (GDP production approach)	7.6%	8.1%	8.1%	8.5%	9.6%	10.3%	11.1%	11.1%	10.7%	10.4%	9.4%	-
Merchandise exports	19.8%	20.1%	20.3%	21.1%	22.8%	26.0%	28.0%	28.2%	27.2%	27.6%	26.3%	24.4%
Employment in industry	11.1%	11.4%	11.2%	11.1%	11.4%	11.9%	12.3%	12.7%	13.0%	13.0%	-	-
Units of MV produced per 1000 inhabitants	102.2	113.5	110.8	107.0	109.7	118.5	126.6	133.4	126.2	133.7	106.0	-
Value added of total industry	13.4%	13.2%	13.0%	13.7%	15.4%	16.2%	17.8%	17.4%	16.2%	16.6%	-	-

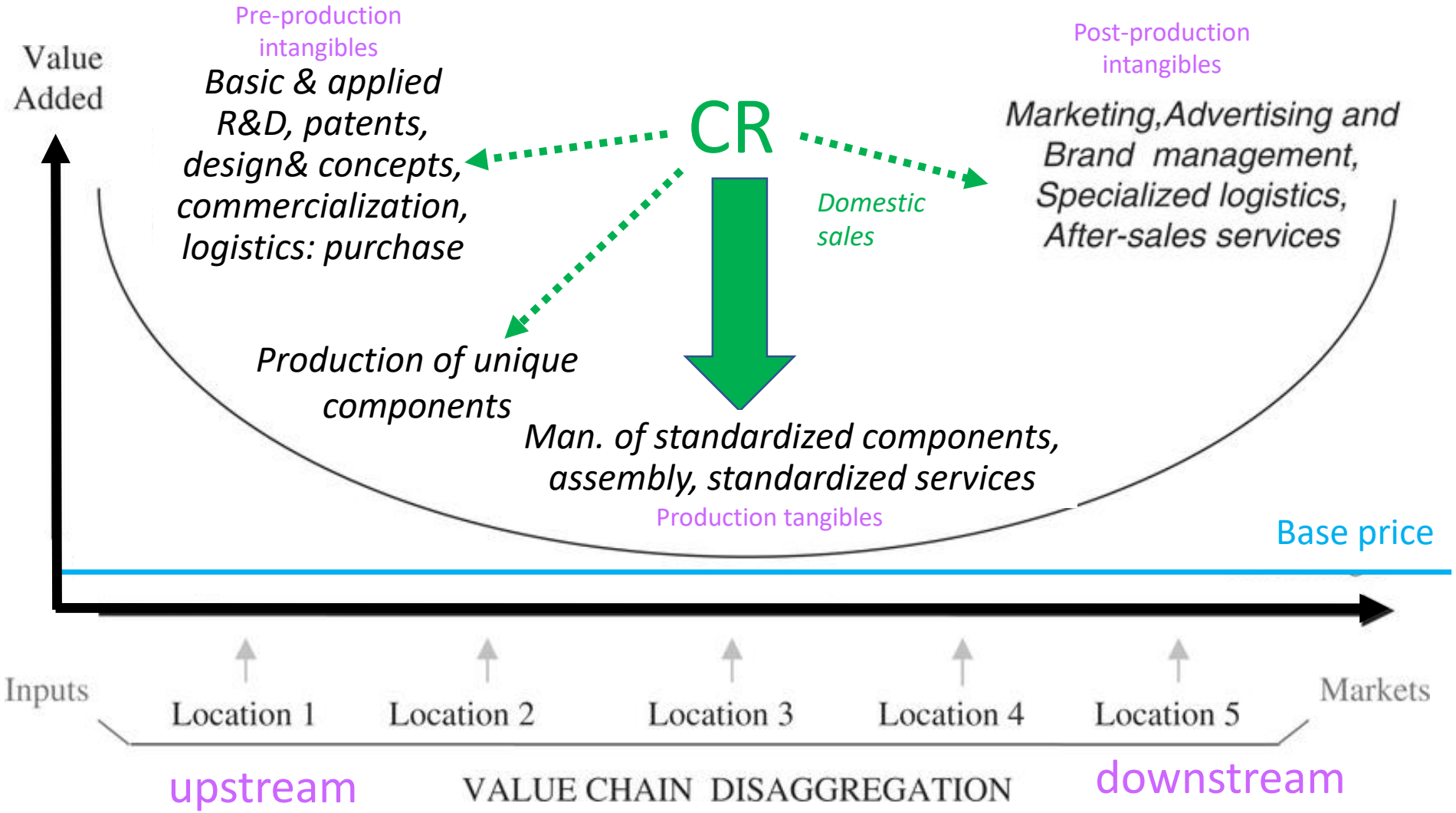
Source: own calculations based on data from Czech Statistical Office (n.d.)

NACE 29 disaggregation (2018)

NACE group	Personal costs	VA	Sales	Equity	Assets	No. of employees	No. of enterprises
291 Manufacture of motor vehicles	32.7	48.1	47.0	52.2	45.9	23.7	7.6
292 Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers	1.4	1.0	0.7	0.9	0.9	1.8	14.8
293 Manufacture of parts and accessories for motor vehicles	65.8	50.8	52.3	46.9	53.2	74.5	77.7

Source: Ministry of Industry and Trade (2019), p. 173

Smiley curve of auto industry



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Position in GVCs (%)

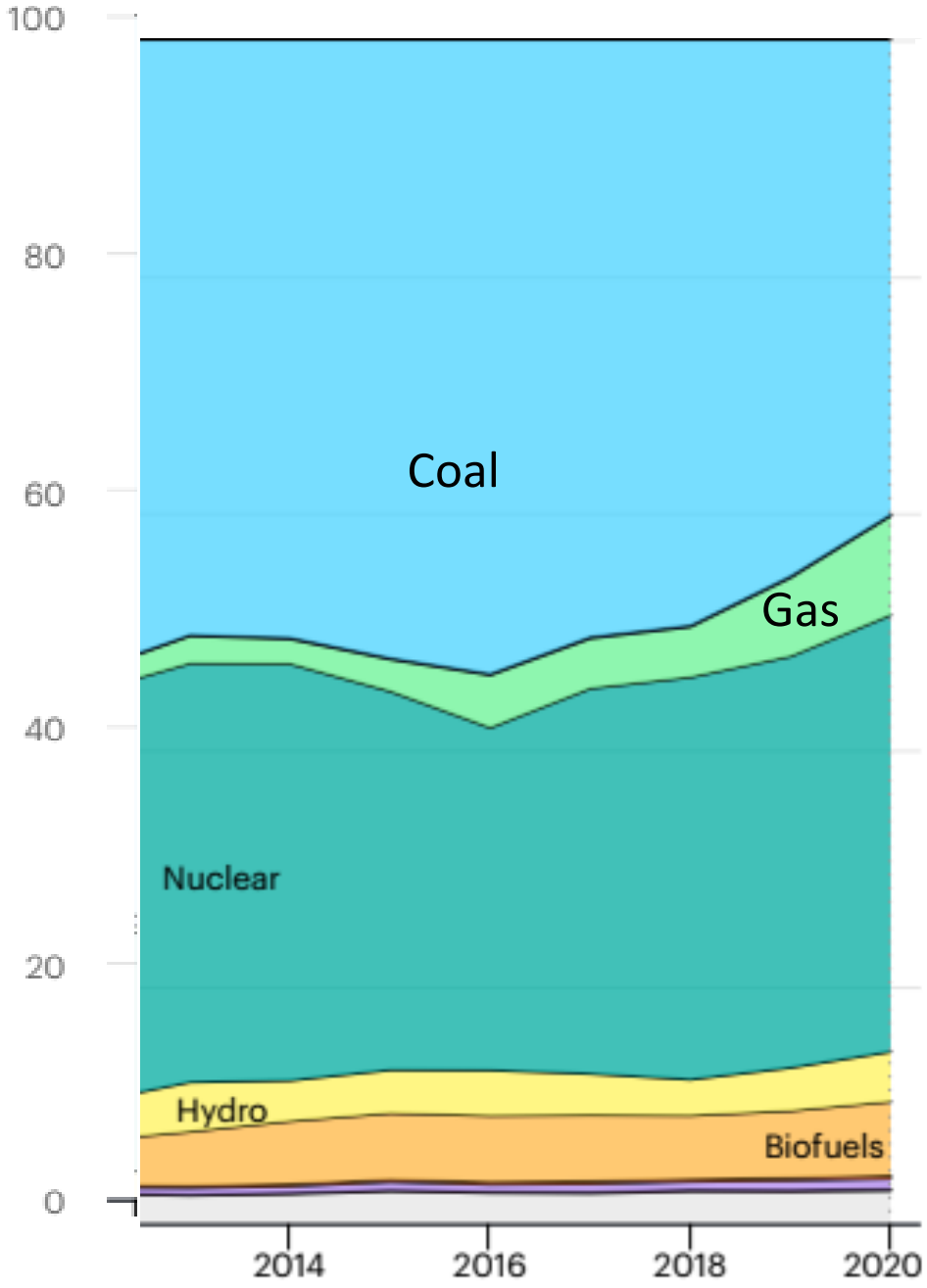
	2010	2011	2012	2013	2014	2015	2016	2017	2018
Domestic VA share of gross exports	47.9	46.4	44.1	44.1	43.3	42.9	42.9	42.9	42.6
Domestic VA embodied in foreign exports as share of gross exports	4.0	4.3	4.2	4.8	5.0	5.5	5.4	5.2	5.1
Domestic VA in exports of final products as a share of total gross exports	28.4	27.2	25.9	25.3	24.6	23.8	24.0	24.3	24.3
Domestic VA in exports of intermediate products as a share of total gross exports	19.5	19.2	18.2	18.8	18.7	19.1	18.8	18.6	18.3
Industry domestic VA contribution to gross exports	9.6	9.7	8.7	9.3	10.0	10.7	11.2	11.3	10.9
Domestic services VA share of gross exports	12.3	11.8	11.0	11.7	10.8	10.8	10.4	10.6	11.3
Domestic VA share of gross imports	1.3	1.3	1.3	1.5	1.5	1.6	1.6	1.5	1.4
Share of domestic VA embodied in foreign final demand	82.6	84.7	87.0	87.9	88.8	88.0	88.6	88.6	88.7
VA as a % of production	23.2	22.3	21.8	21.1	21.8	21.3	21.7	21.5	20.6

Source: own elaboration based on data from (OECD, 2021b)

Current challenges

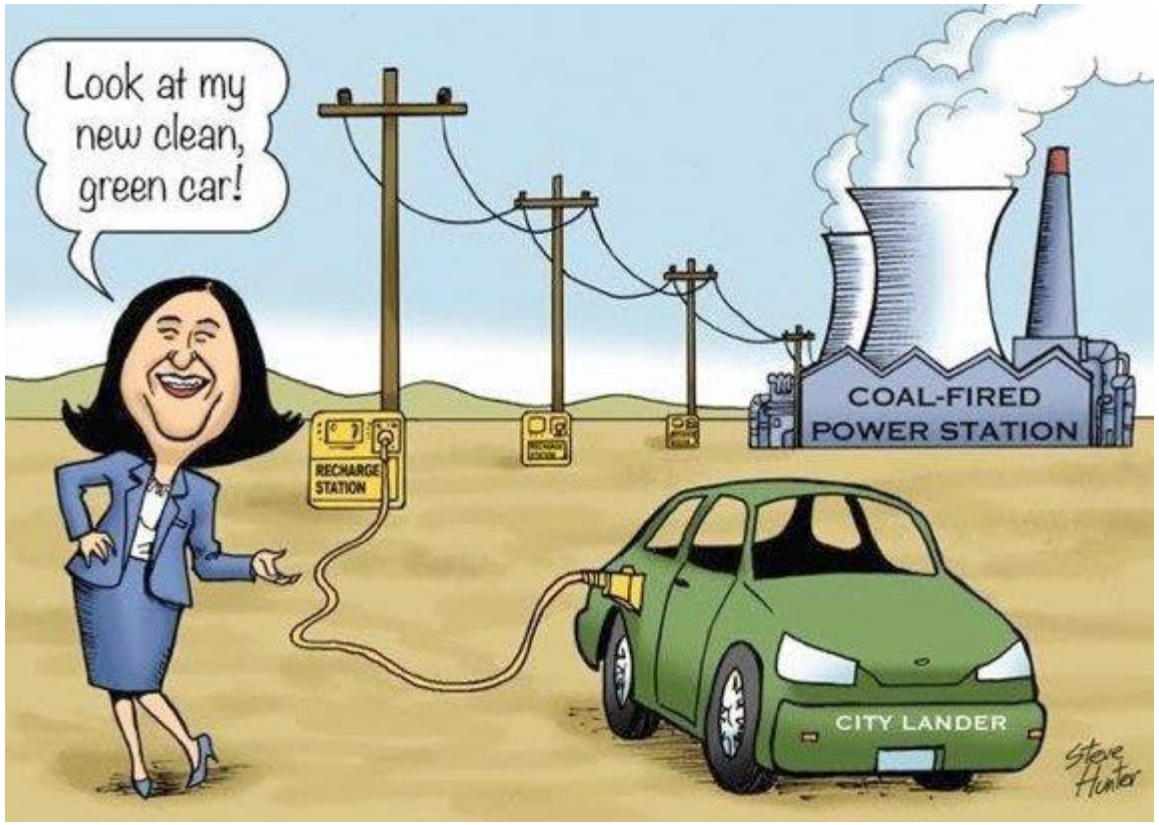
- Material shortages – semiconductors, etc.
- MAE – rise in public debt (covid-related), inflation, purchasing power
- Decarbonisation and electromobility trends – limits, penalties
- Energy issues – energy mix, dependency on Russia

Electricity generation by source



Coal Oil Natural gas Nuclear Hydro

Biofuels Waste Wind Other sources Solar PV



Source: IEA

Strengths	Weaknesses
• Geographic location • Tradition in the auto industry and mechanical production • Established position in suppliers' networks • High productivity rate • High rewards • High GVC participation rate • Membership in the EU	• High reliance on the EU as an export market • Relatively high focus on ICE-powered vehicles production • High foreign ownership and control • Low share and decreasing domestic value added • Rising labour costs, nearly full production capacity reached • Noticeable interdependence between macroeconomic situation and automotive sector performance • Low ratio of forward to backward linkage
Opportunities	**Threats**
• Setting up gigafactories for EV battery production • Closer cooperation with technical universities and R&D • R&D centres establishment • Low business operations risk • Automation and robotization • Involvement of immigrants from Ukraine as a workforce • Perspective on non-EU export markets • Growing integration with global production networks • Displacement of production facilities from Asia/Russia	• Supply chain disruptions due to raw materials shortage • Future infectious diseases or pandemic • Middle-income trap • Political instability or conflicts in Asia • Green deal and 'Fit for 55' – end of production of ICE-powered and hybrid vehicles • Stagflation resulting from COVID-19 and Russian invasion • Energy mix, security, and costs - weak attraction to EV battery related manufacturing investment • Low investments in R&D, especially GERD • Sustainability of key foreign automotive investors • Mismatch between supply and EU demand (EV market) • Non-participation in the euro area • Competition from Asian automotive producers

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Thank you for your attention.

cernai@vse.cz