The German Export-Led Growth Model – Who Benefits?

A Quantitative Approach to Intersectional Labour Market Integration Inequality in the Export Sector

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Literature

- **Growth-model theory** (Seguino 2012, 2019; Stockhammer 2015; Baccaro and Pontusson 2016; Behringer and van Treeck 2019; Kohler and Stockhammer 2020)

     Germany: Export-led growth model

- **Labour market dualization** (Thelen 2012, 2015; Baccaro and Benassi 2016; Benassi 2017)

- **Intersectionality** (Crenshaw 1989; Dubrow 2008; Crenshaw et al. 2013; Rouhani 2014; Tao and McNeely 2019)

Methods

$$Ln\ [p/(1-p)]_{rt} = \alpha+\beta_1 GEN_{rt}+\beta_2 OR_{rt}+\beta_3 CLA_{rt}$$ Simple Addition

$$+\beta_4(GEN*OR)_{rt}+\beta_5(GEN*CLA)_{rt}+\beta_6(OR*CLA)_{rt}$$ Two-way interactions

$$+\beta_7(GEN*OR*CLA)_{rt}$$ Three-way interaction

$$+\beta_8 X_{rt}+\varepsilon_{rt}$$ Controls & Error-term

- SOEP (2005-2019), National Accounts (2009-2019)

- 200.857 observations

- Reference categories: Men, German, High-class

Descriptive Data

		Origin			
		German		Non-German	
	Class	High-class	Low-class	High-class	Low-class
Gender	Man	2.30	1.08	0.98	3.74
	Woman	2.39	0.13	0.69	0.58

Note: This table shows the relative frequency of each group in comparison to the full sample, averaged for the years 2005-2019. A value of exactly one denotes representation in the export sector that is equal to the group's share in all workers, while above (below) one denotes over-(under-)representation.
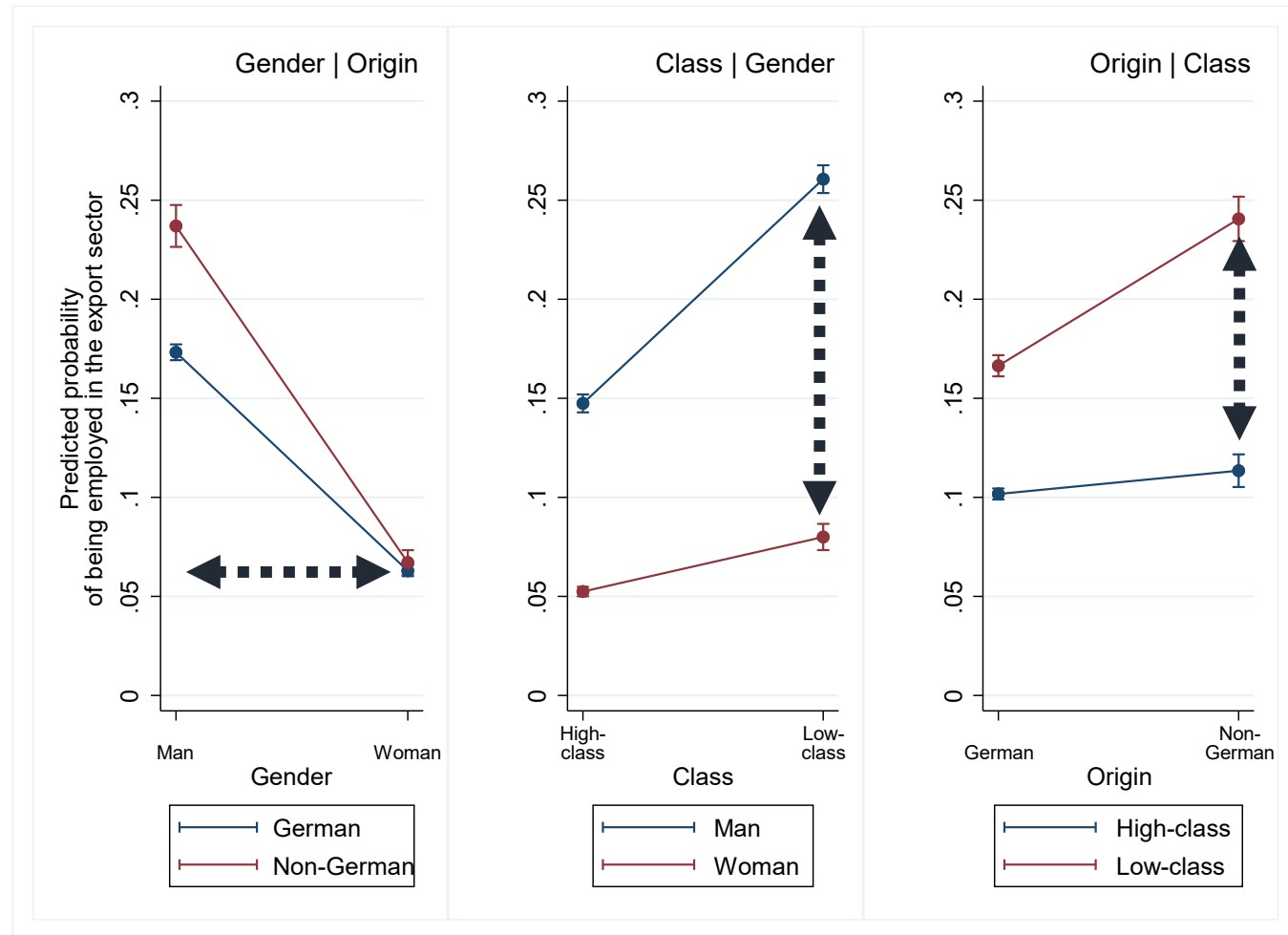
Source: own calculations; data: SOEP (2022)
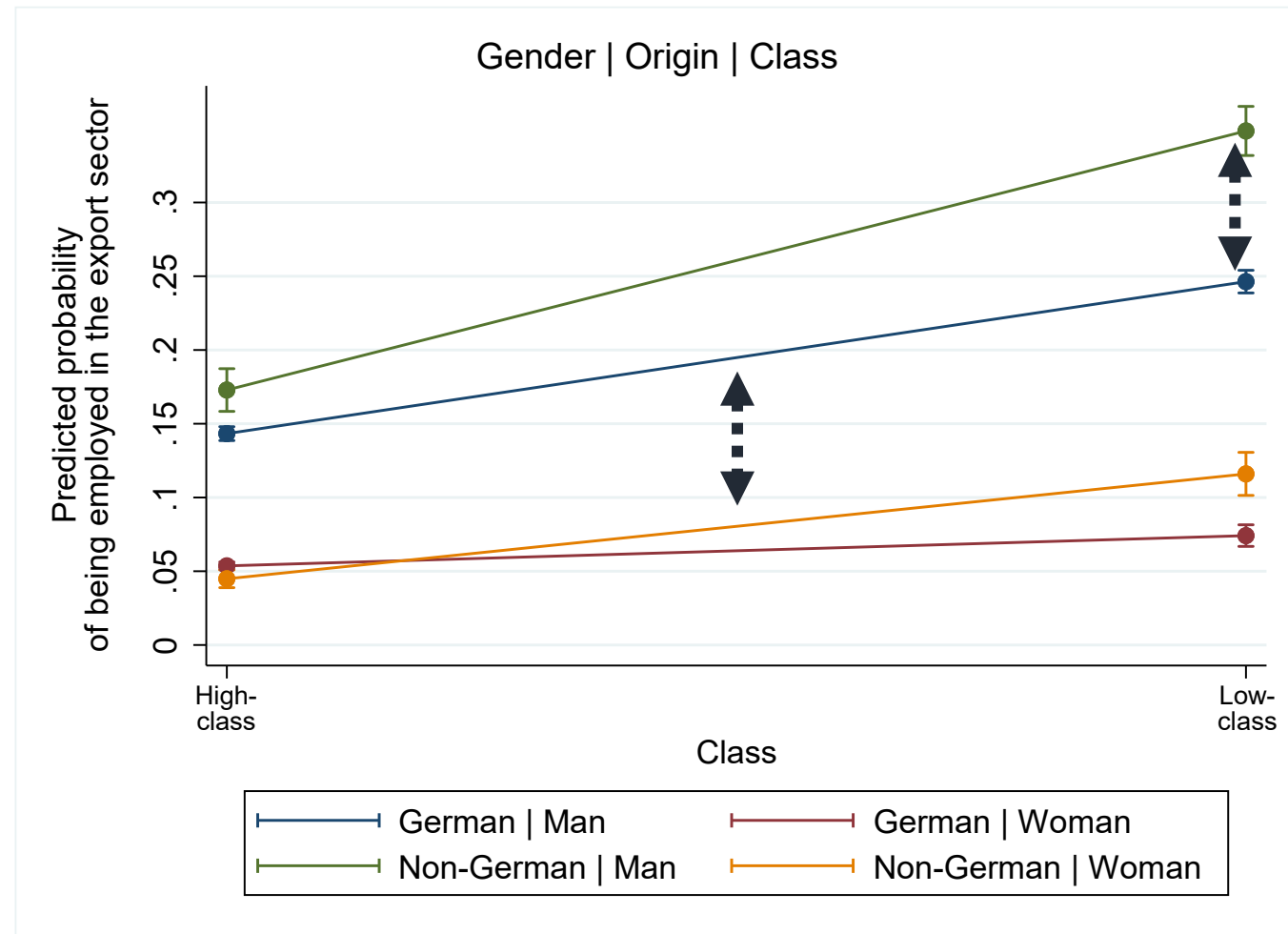
Additive Model
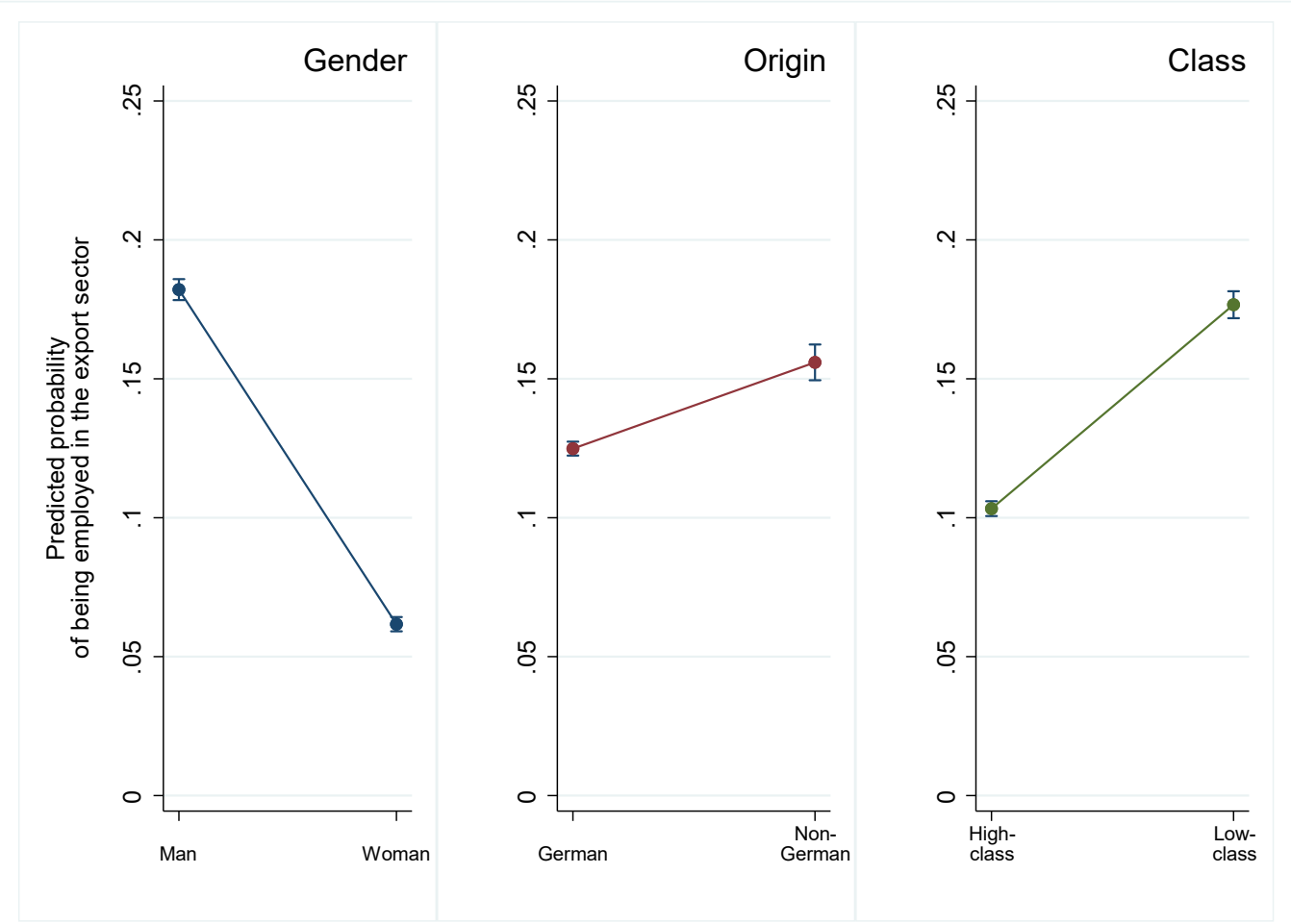
Source: own calculations based on average marginal effects, data: SOEP (2022)

Multiplicative model: Two-way interaction

Source: own calculations based on average marginal effects, data: SOEP (2022)

Multiplicative model: Three-way interaction

Source: own calculations based on average marginal effects, data: SOEP (2022)

Occupational segregation

Relative percent of separate gender and origin groups in the export sector based on Erikson, Goldthorpe and Portocarero (1979)

in %	German	Non-German	Men	Women
Working class	40.4	70.0	51.9	26.2
Self-employed	1.81	0.9	1.8	0.9
Managerial positions	44.9	22.9	39.8	43.3
Clerical work	12.8	6.2	6.4	29.5
Agricultural work	0.06	0.0	0.0	0.1
Sum	100	100	100	100

Note: This table shows the percent of each group in comparison to each full export-sector occupational segment, averaged for the years 2005-2019.

Source: own calculations; data: SOEP (2022)

Conclusion

1. **Gender (women): major negative influence on the probability of employment in the German export sector**

2. **Origin is mainly relevant for non-German low-class men**

3. Yet, descriptively, the differentiation within the export sector appears to **disadvantage workers with a migration background.**

4. **Class (low-class): minor positive influence on the probability**

Overall, male workers benefit more from the German export-led growth model **than female workers.**

Policy conclusions

Macroeconomically: Equality-led growth model (Onaran and Oyvat 2022)

Institutional: Higher minimum wages, support for unionization, wage guidelines, anti-discrimination legislation

Workplace: Diversity strategies for recruiting and hiring in the export sector

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Appendix

Logistic regression

Dependent variable: Probability of being employed in the export sector	Separate categories	Gender* Nationality	Gender* Class	Class* Nationality	Gender* Nationality* Class
Gender	0.298***	0.316***	0.322***	0.297***	0.339***
	(0.008)	(0.009)	(0.010)	(0.008)	(0.011)
Origin	1.376***	1.493***	1.385***	1.099**	1.249***
	(0.039)	(0.050)	(0.039)	(0.049)	(0.069)
Class	1.956***	1.961***	2.055***	1.833***	1.955***
	(0.044)	(0.045)	(0.053)	(0.047)	(0.056)
Gender* Origin		0.718***			0.663***
		(0.047)			(0.062)
Gender* Class			0.776***		0.723***
			(0.044)		(0.048)
Origin*Class				1.465***	1.310***
				(0.086)	(0.092)
Gender* Origin*Class					1.509***
					(0.208)
Year dummies	x	x	x	x	x
Constant	0.177***	0.175***	0.173***	0.182***	0.175***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
McFaddens	0.074	0.074	0.074	0.075	0.075

Average marginal effects

	Separate categories	Multiplicative model including two-way interactions		
		Nationality* Gender	Gender* Class	Class* Nationality
Separate categories				
Man	0.183***	0.183***	0.182***	0.183***
	(0.002)	(0.002)	(0.002)	(0.002)
Woman	0.063***	0.064***	0.062***	0.063***
	(0.001)	(0.001)	(0.001)	(0.001)
German-born	0.125***	0.125***	0.125***	0.125***
	(0.001)	(0.001)	(0.001)	(0.001)
Non-German-born	0.162***	0.162***	0.163***	0.155***
	(0.003)	(0.003)	(0.003)	(0.003)
Low-class	0.182***	0.182***	0.180***	0.180***
	(0.002)	(0.002)	(0.002)	(0.002)
High-class	0.104***	0.104***	0.104***	0.104***
	(0.001)	(0.001)	(0.001)	(0.001)
Two-way interactions				
Man | German-born		0.173***		
		(0.002)		
Woman | German-born		0.063***		
		(0.001)		
Man | Non-German-born		0.237***		
		(0.005)		

Average marginal effects

Separate categories		
Man	1.183***	(0.002)
Woman	0.064***	(0.001)
German-born	0.125***	(0.001)
Non-German-born	0.155***	(0.003)
Low-class	0.189***	(0.002)
High-class	0.104***	(0.001)
Two-way interactions		
Man | German-born	0.176***	(0.002)
Woman | German-born	0.060***	(0.001)
Man | Non-German-born	0.213***	(0.005)
Woman | Non-German-born	0.077***	(0.002)
Man | Low-class	0.256***	(0.003)
Woman | Low-class	0.093***	(0.002)
Man | High-class	0.150***	(0.002)
Woman | High-class	0.050***	(0.001)
German | Low-class	0.170***	(0.003)
German | High-class	0.102***	(0.001)
Non-German | Low-class	0.243***	(0.006)
Non-German | High-class	0.111***	(0.004)
Three-way interactions		
Man | German | Low-class	0.242***	(0.004)
Woman | German | Low-class	0.087***	(0.002)
Man | Non-German |Low-class	0.339***	(0.008)
Woman| Non-German | Low-class	0.132***	(0.004)
Man| German | High-class	0.148***	(0.002)
Woman | German | High-class	0.049***	(0.001)
Man | Non-German | High-class	0.161***	(0.006)
Woman | Non-German | High-class	0.054***	(0.002)

Robustness

- Additional controls: Age, Children, Interaction: Children*Gender
- Replacement: German-born by current nationality
- Replacement: Working-class by individual itself by working-class status of parents
- Sample sensitivity: Top-3-export sectors; Top-7-export sectors

Robustness: Marginal effects

	Including binary children variable		Alternative specification: Nationality		Alternative specification: Class		Top-3 export sectors		Top-7 export sectors	
Separate categories										
Man	0.182***	(0.002)	0.182***	(0.002)	0.197***	(0.008)	0.233***	(0.002)	0.252***	(0.002)
Woman	0.062***	(0.001)	0.062***	(0.001)	0.063***	(0.005)	0.097***	(0.002)	0.111***	(0.002)
German	0.125***	(0.001)	0.129***	(0.001)	0.129***	(0.005)	0.168***	(0.001)	0.184***	(0.002)
Non-German	0.152***	(0.003)	0.140***	(0.004)	0.192***	(0.015)	0.200***	(0.004)	0.219***	(0.004)
Low-class	0.177***	(0.002)	0.181***	(0.003)	0.168***	(0.008)	0.248***	(0.003)	0.275***	(0.003)
High-class	0.103***	(0.001)	0.103***	(0.001)	0.118***	(0.006	0.136***	(0.002)	0.148***	(0.002)
Two-way interactions										
Man | German	0.174***	(0.002)	0.180***	(0.002)	0.184***	(0.008)	0.225***	(0.002)	0.243***	(0.002)
Woman | German	0.060***	(0.001)	0.062***	(0.001)	0.058***	(0.005)	0.094***	(0.002)	0.108***	(0.002)
Man | Non-German	0.218***	(0.006)	0.187***	(0.007)	0.269***	(0.025)	0.274***	(0.006)	0.295***	(0.006)
Woman | Non-German	0.066***	(0.003)	0.067***	(0.004)	0.092***	(0.014)	0.107***	(0.004)	0.120***	(0.004
Man | Low-class	0.260***	(0.004)	0.264***	(0.004)	0.246***	(0.013)	0.335***	(0.004)	0.367***	(0.004)
Woman | Low-class	0.081***	(0.003)	0.085***	(0.003)	0.068***	(0.008)	0.147***	(0.004)	0.169***	(0.005)
Man | High-class	0.148***	(0.002)	0.146***	(0.002)	0.164***	(0.009)	0.189**	(0.003)	0.203***	(0.003)
Woman | High-class	0.052***	(0.001)	0.053***	(0.001)	0.060***	(0.006)	0.075***	(0.002)	0.085***	(0.002)
German | Low-class	0.167***	(0.003)	0.177***	0.003)	0.161***	(0.009)	0.238***	(0.003)	0.263***	(0.003)
German | High-class	0.102***	(0.001)	0.103***	(0.001)	0.106***	(0.006)	0.134***	(0.002)	0.146***	(0.002)
Non-German | Low-class	0.238***	(0.006)	0.216***	(0.007)	0.207***	(0.020)***	0.310***	(0.006)	0.350***	(0.007)
Non-German | High-class	0.111***	(0.004)	0.096***	(0.005)	0.182***	(0.021)	0.150***	(0.005)	0.158***	(0.005)
Three-way interactions										
Man | German | Low-class	0.246***	(0.004)	0.259***	(0.004)	0.234***	(0.014)	0.323***	(0.004)	0.351***	(0.004)
Woman | German | Low-class	0.075***	(0.004)	0.084***	(0.004)	0.065***	(0.009)	0.139***	(0.005)	0.161***	(0.004)
Man | Non-German |Low-class	0.341***	(0.009)	0.320***	(0.011)	0.304***	(0.032)	0.411**	(0.009)	0.465***	(0.009)
Woman| Non-German | Low-class	0.119***	(0.008)	0.095***	(0.009)	0.082***	0.017	0.194***	(0.009)	0.218***	(0.010)
Man| German | High-class	0.144***	(0.002)	0.147***	(0.002)	0.148***	(0.010)	0.185***	(0.003)	0.198***	(0.003)
Woman | German | High-class	0.053***	(0.001)	0.052***	(0.001)	0.052***	(0.006)	0.076***	(0.002)	0.086***	(0.002)
Man | Non-German | High-class	0.168***	(0.007)	0.132***	(0.008)	0.245***	(0.033=	0.217***	(0.008)	0.226***	(0.008)
Woman | Non-German | High-class	0.045***	(0.003)	0.056***	(0.006)	0.099***	(0.020)	0.072***	(0.004)	0.080***	(0.005)

Sectors and nace codes

Top	Export sector	nace (2005-2012)	nace02 (2013-2019)
1	Motor vehicles and parts	34, 35	29, 30
2	Machinery	29	28
3	Chemical products	24	20
4	Data processing equipment, electrical and optical products	30, 32, 33	26
5	Metals and metal products	27, 28	24, 25
6	Electrical equipment	31	27
7	Nutrition and animal feed, beverages, tobacco products	15, 16	10, 11, 12

Based on Schwarzer 2017

Top-ten export industries based on export shares
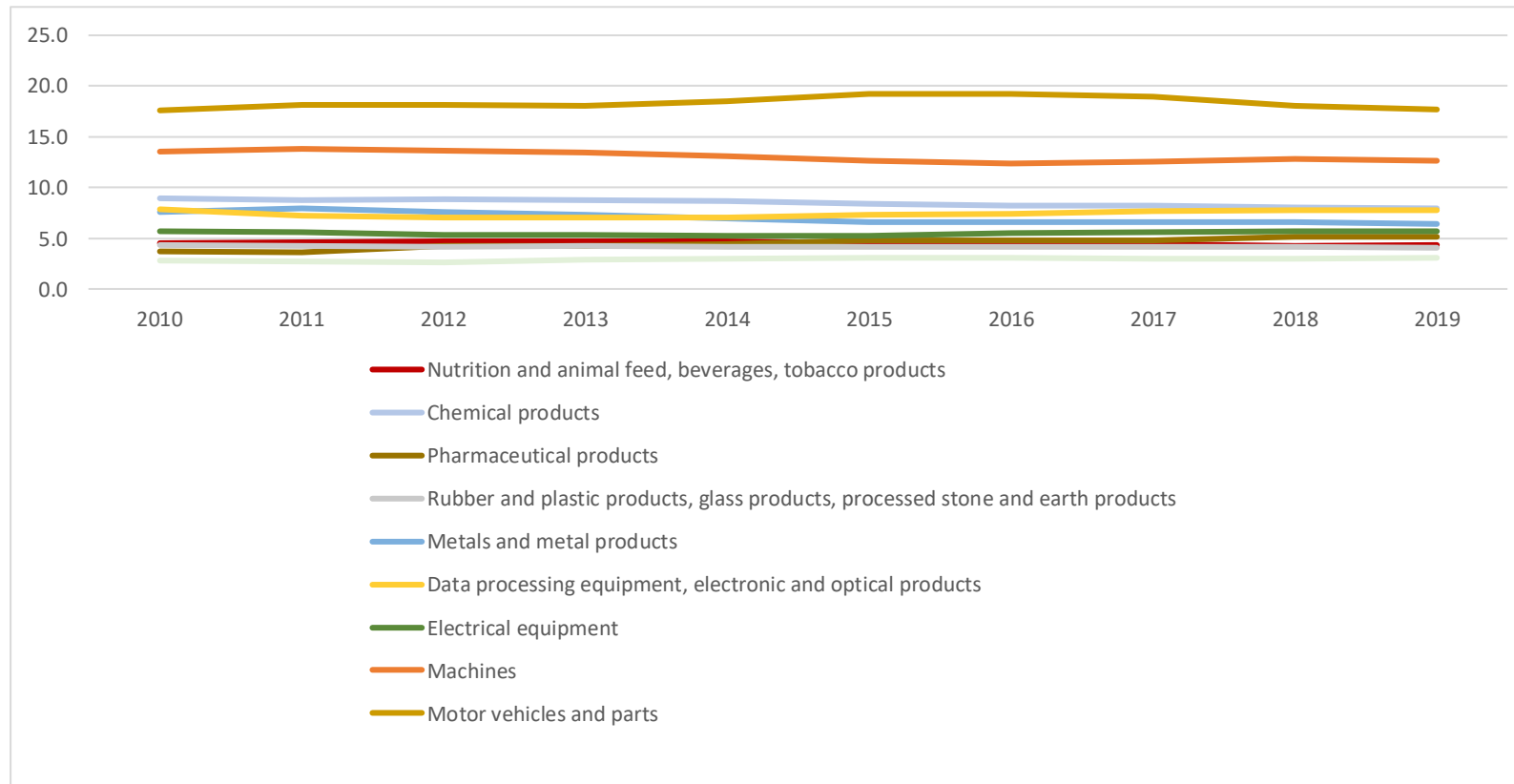
Source: own calculations; data: National Accounts (2022)

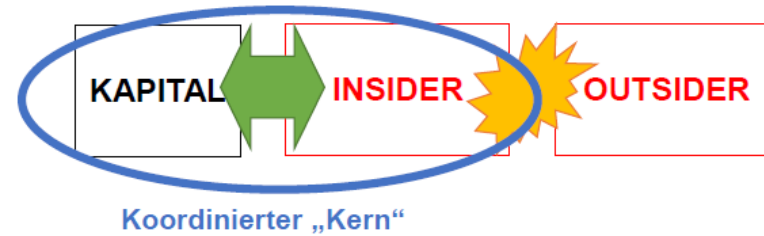# Social blocs (Baccaro & Pontusson (2016), Haffert & Mertens (2021), Höpner (2019), Thelen (2012))
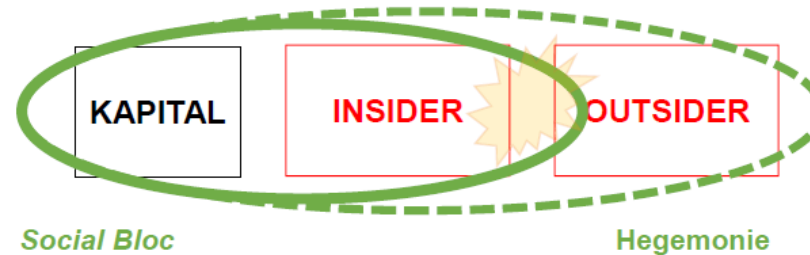

Source: Figure from lecture „Sociology of economics" Prof. Dr. Paul Marx (Institute of socio-economics at University of Duisburg-Essen; Lecture 10)