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Functional Specialization in Global Value Chains

Bart Los (University of Groningen)

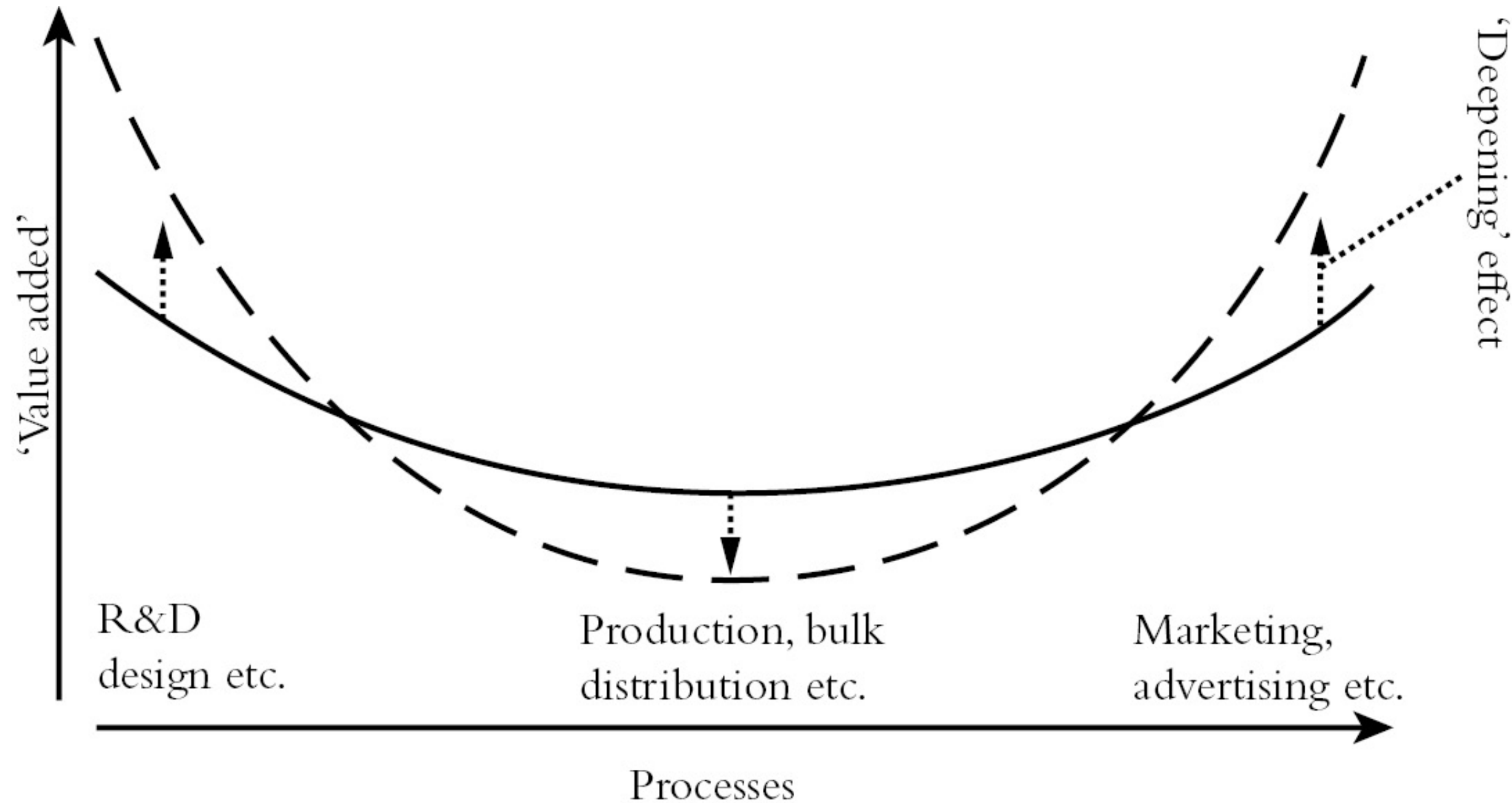
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**university of
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Global Value Chain:

“ All activities required to produce a final product from scratch”



Source: Baldwin, 2016, *The Great Convergence*

Within-industry functional specialization

Table 1. Specialisation indices for exports of electronic goods, 2011

Exporting country	Based on gross export value	Based on value added	Based on value added in functions			
			Fabrication	R&D	Management	Marketing
China	2.56	2.57	4.02	0.85	0.80	2.19
Hungary	1.60	0.97	1.20	0.83	0.70	0.97
Mexico	1.54	0.86	1.83	0.90	0.78	1.12
Japan	1.38	1.57	2.06	1.49	0.35	1.91
USA	0.90	1.05	0.59	1.50	2.36	1.23
Austria	0.66	0.72	0.50	1.03	0.82	0.68

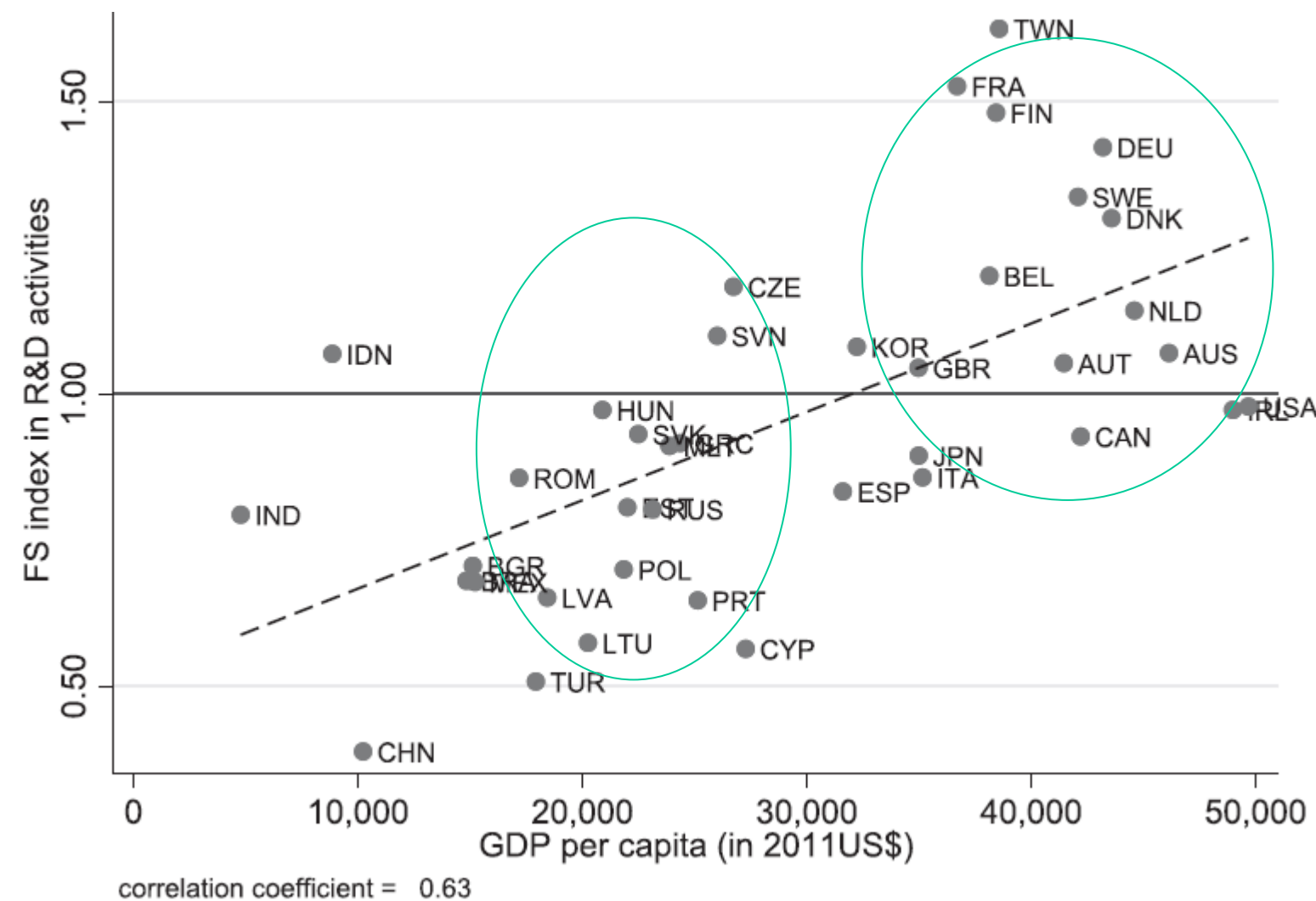
Notes: Balassa indices based on comparing shares of electronics in exports of a particular country to similar share for all countries in the world, see Section 3. Exports of value added include value added by any industry in the export of goods from the electronics industry (ISIC rev. 3 industries 30 to 33). Indices bigger than one are in bold.

Source: Authors' calculations based on World Input–Output Database (November 2013 release) and Occupations database.

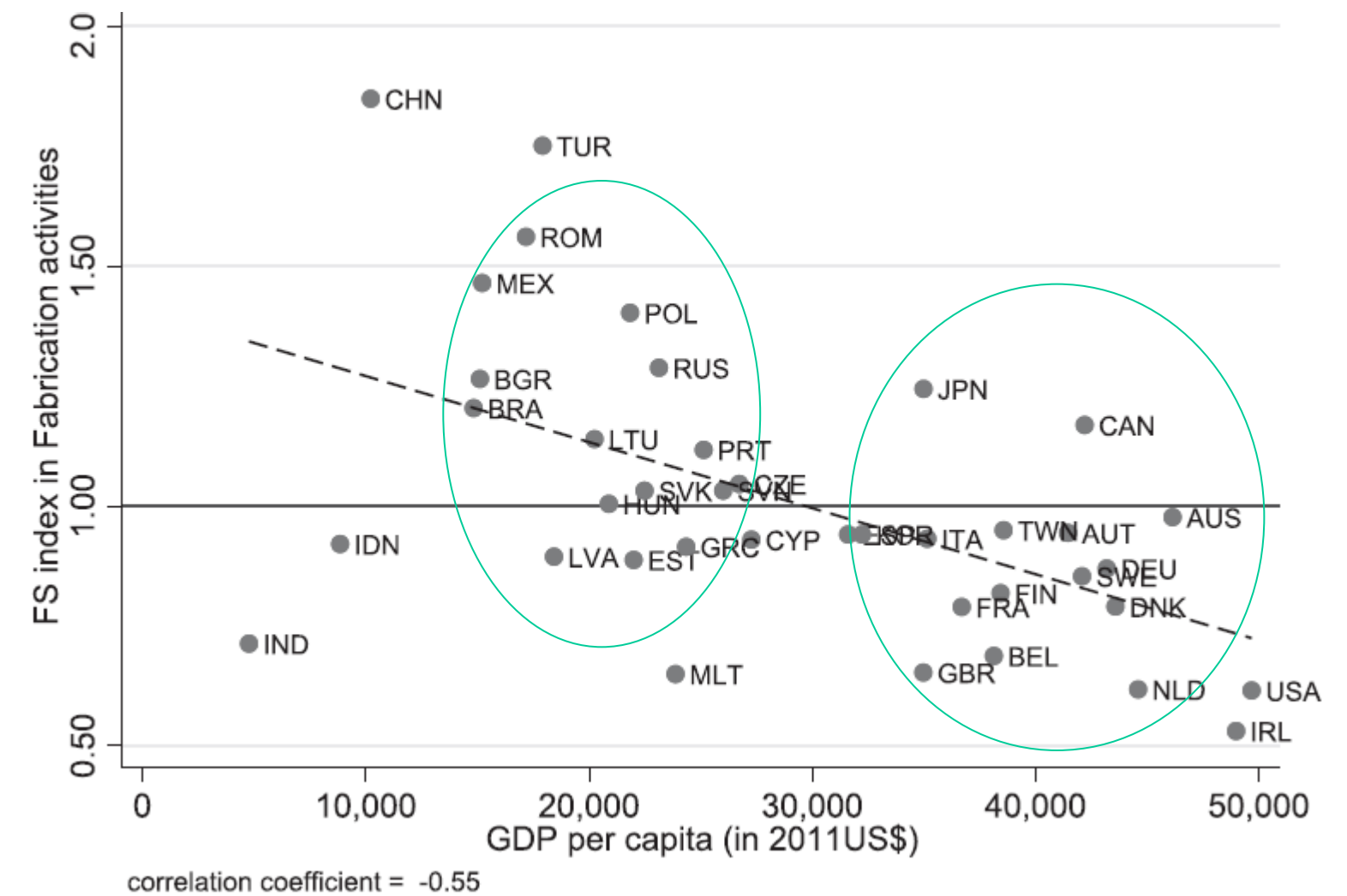
Source: Timmer et al., 2019,
Journal of Economic Geography

Functional specialization and living standards are related

R&D



Fabrication



Source: Timmer et al., 2019, *Journal of Economic Geography*

Sources of change in employment (2000-2014, in %)

EU 15

	Fabrication	R&D	Management	Marketing
Technology	-15.4	-9.3	-34.8	1.9
Trade	-31.6	-17.3	-22.8	-19.0
Consumption	34.0	39.3	36.4	39.6
Total	-12.9	12.8	-21.1	22.5

EU 15: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxemburg, the Netherlands, Portugal, Spain, Sweden, United Kingdom

EU 13

	Fabrication	R&D	Management	Marketing
Technology	-54.9	-36.7	-48.5	-19.5
Trade	5.3	2.2	8.2	5.5
Consumption	31.5	37.1	36.0	39.9
Total	-18.1	2.6	-4.3	25.9

EU 13: Bulgaria, Croatia, Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovak Republic, Slovenia

In the “Age of Global Value Chains”:

- For “old” EU-members, technological change and changes in the location of activities have both exerted a negative influence on employment. For fabrication, the effect of trade about twice as large;
- For “new” EU-members, changes in trade patterns affected employment positively, but the effects were much smaller than negative effects of labor-saving technology;
- For R&D and marketing: The positive effects of global consumption growth exceeded the negative effects of technology and trade. For management and fabrication in specific, the effects of consumption growth fell short to attain this.

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