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A Ladder without Upper Rungs: On the Limitations of Industrial Policies in TNC Capitalism. The Case of the European Union[1]

Abstract *Global production and trade is significantly organised by Transnational Companies (TNC). In this article, I will argue that even if one considers industrial development as a proxy for development or leading to development in a broad sense, the prospects for 'progress' in contemporary capitalism are very limited. I will revisit theory, method, and proxies for 'development' and 'industrial development', as used by Arrighi and Drangel (1986) and Arrighi et al. (2003). I will adapt their approach for a core-periphery typology in the EU, and use it in order to estimate industrial convergence compared with convergence in 'development' (in EU language: convergence and cohesion). Furthermore, I will suggest additional proxies to estimate (spatial) politico-economic power in the hierarchy of TNC capitalism. I will close with concluding remarks on policies, from a dependency perspective.*

Keywords *EU, core-periphery, uneven development, commodity chains, manufacturing*

1. The Three-Tier World-System according to Giovanni Arrighi and Jessica Drangel

I follow in my inquiry the three-tier system of core – semiperiphery – periphery, as suggested by Giovanni Arrighi and Jessica Drangel (1986). The authors clarified, adapted and qualified the World-System Analysis, as introduced by Immanuel Wallerstein (1979, 1984, 1985). They use the term semiperiphery "exclusively to refer to a position in rela-

tion to the world division of labor and never to refer to a position in the interstate system" (ibid:15). Although both spheres, (the economic) world division of labour and the geopolitical "hierarchy of the interstate system" (ibid), are important and interrelated, it is "the separation of the two types of command [that] is a peculiarity of the capitalist world-economy" (ibid:16). The economic activities of this world-economy are pursued in commodity chains[2]; therefore, it is not a sectoral distribution that decides upon the allocation of states as belonging to the core, semi-periphery, or periphery.

It is rather "the unequal distribution of rewards among the various activities that constitute the single overarching division of labor defining and bounding the world-economy" (ibid:16). These economic activities are called "nodes of the commodity chain" (ibid:16). Arrighi and Drangel "take only the level of aggregate rewards as indicative of the core and peripheral status of an activity" (ibid:18). What is the nature of these economic activities? Are there economic activities that can be considered core or peripheral? These questions seem to have utmost importance for development studies, a) in the light of the historical experience of core-periphery categorisation, and b) for possible future development scenarios. Other than modernisation theoretical accounts which more or less regard progress as a movement from agricultural production to industrial production (as claimed in the British experience), Arrighi and Drangel reject the idea of invariant characteristics:

> "We further assume that no particular activity (whether defined in terms of its output or of the technique used) is inherently core-like or periphery-like. Any activity can become at a particular point in time core-like or periphery-like, but each has that characteristic for a limited period. Nonetheless, there are always some products and techniques that are core-like and others that are periphery-like at any given time." (Arrighi/Drangel 1986:18)

We will return to this question shortly. Since Arrighi and Drangel's model is a three-tier system, we first need to explain the logic behind it (the relations between enterprises and the states), and the identification of the three tiers. The authors outline their interpretation of the capitalist enterprise, which they perceive as engaging in a mix of activities and

creating competitive pressure by introducing profit-oriented innovations. The success of an enterprise lies in its ability to upgrade its mix of activities at the expense of other enterprises:

> "[A]s the capitalist enterprise is a locus of "accumulation" (of assets, expertise, specialized knowledge, and organization), the present capability of an enterprise to upgrade its mix of activities will to some extend depend upon its past success in doing so." (ibid:21)

The core enterprises that successfully upgrade their activities are, Arrighi and Drangel (1986:21) claim, quoting Schumpeter, "aggressor by nature and wield the really effective weapon of competition". Arrighi and Drangel (1986:19ff.) draw on Schumpeter's conception of "creative destruction", but they interpret it spatially instead of chronologically. With Schumpeter, profit-oriented innovations create windfall profits for a few, and losses for the majority of enterprises. In the phase of economic prosperity, a productive revolution occurs which then leads – during a depression phase – to the elimination of old and outdated elements of the industrial structure. Competition is dampened in the prosperity phase, but in the depression phase, the majority of enterprises overrate their chances of being equally successful, and so engage in cut-throat competition. While this was a "cluster in time", Arrighi and Drangel (1986:20) use this concept for a "cluster in space": zones of predominant prosperity and zones of predominant depression (cf. also Arrighi et al. 2003:17). Core enterprises compete by outsourcing the consequences of competition to peripheral enterprises (or peripheral capital). A relatively small group of core enterprises cluster in a "core zone" and produce a spatial polarisation. Such an arrangement would be volatile (if core and periphery arrangements changed easily), but core enterprises and core states have developed together, producing a rather stable form of spatial polarisation. Arrighi and Drangel (1986:22) observe that the "competitive struggle among capitalist enterprises has not taken place in a political void, but has been closely interrelated with the formation of states – that is, of formally sovereign territorial jurisdictions".

States have been integral to the formation of the global economy, and commodity chains have operated across state boundaries. However, states differ in their ability to influence the commodity chains, and "the modali-

ties by which the social division of labor operates" (ibid:22). The position of states in their relation to enterprises (or commodity chains) contains weaknesses. States are seen as having the priority of securing their monopoly of power in their territories, and not the creation of wealth. They compete against other states, attempting to upgrade their position in the division of labour.

> "The main difficulty is that economic command is largely dependent upon an innovative participation in the world division of labor […], and that capitalist enterprises have progressively become specialized agencies of such participation […]. The problem of upgrading a state's mix of core-peripheral activities is thus largely a problem of being able to attract and develop organic links with "core capital" […]. This capacity is only in part reflection of state's political power […] it depends equally if not more on the extent to which a state has already developed organic links with core capital and, therefore, already encloses within its jurisdiction a predominantly core mix of activities." (ibid:24)

However, core states do have, and peripheral states lack, the capability

> "(1) to control access to the most remunerative outlets of all major commodity chains, (2) to provide the infrastructure and services required by core-like activities, and (3) to create a political climate favorable to capitalist entrepreneurship. This means that core states control advantages of core locations and can use that control to develop a symbiotic relation with the core capital that is already located within their jurisdiction, and to attract more core capital from peripheral locations." (ibid:25)

This symbiotic relationship between core states and core capital enhances, for both, the ability "to consolidate and reproduce their association with predominantly core-like activities" (ibid:26), while the opposite is true for peripheral states which face an "endemic inability […] to escape their association with predominantly peripheral activities" (ibid:26). Semi-peripheral states are those that have an about even mix of core-like and peripheral activities. They may try and strengthen linkages between the two types of activities within their boundaries and by doing so escape some world market pressure. Also, they can compete with core-activities

outside their territory, but with peripheral activities as well. The actions of semi-peripheral states make a difference, as they are not passive recipients of mixes of core-peripheral activities (upgrading or preventing from downgrading, ibid:27f.). Actual upgrading from semi-periphery to core status, however, seems possible in exceptional cases only:

> "[T]he inability of the bulk of semiperipheral states to move into the core (and of peripheral states to move into the core) is the obverse of the success of some states to upgrade their mix of core-peripheral activities and move to a higher position." (ibid:28)

Candidates for upgrades to core or semi-periphery are found at the borders between the three tiers. Arrighi and Drangel (1986:29) adapt the concept of "perimeter", introduced by Peter Lange (1985) They call these upper areas the perimeter of the core and the perimeter of the periphery. Arrighi (1985:247) 'redefines' these perimeters as a

> "no man's land that separates the unambiguously semiperipheral from the unambiguously core states, the perimeter of the core is not a line demarcating two zones but is itself a zone – a relatively empty but quite wide zone. Indeed, the two perimeter zones may even be subject to a progressive widening consequent upon core-periphery polarization."

In their empirical analysis, Arrighi and Drangel (1986:30) emphasise "that there is no operational way of empirically distinguishing between peripheral and core-like activities and therefore of classifying states according to the mix of core-peripheral activities that falls under their jurisdiction". There is no complete map of commodity chains, and consequently no assessment of the competitive pressure at their nodes. Furthermore, the relationships of competition and cooperation are constantly changing. Arrighi and Drangel (1986:31) point out, however, that such problems were not unique to their concept:

> "Mixes of core-peripheral activities play in world-systems theory a role analogous to that played by "marginal utility" in neo-classical price theory or "labor embodies" in Ricardian and Marxian theories of value. All such "quantities" play

> a key role in their respective conceptualizations but cannot be subjected to direct measurement. What matters is to be able to derive from the conceptualization a set of empirically verifiable hypotheses that can provide us with indirect measurements of key variables."

Rather conventionally, Arrighi and Drangel (1986:31ff.) use GNP per capita in a common currency (US dollar) as an indicator for the aggregate rewards in order to test their hypothesis of a three tier system. I emphasise a few of their findings. The state composition of the three-tier system has not changed substantially from 1938 to 1983: "In sum, 95% of the states for which we could find data (and 94% of total population) were in 1975/83 still on or within the boundaries of the zone in which they were in 1938/50" (ibid:44). There were (temporary) downward movements, however, from 1938/1950 to 1960/1970 (Germany and UK from core to perimeter of the core, and France and Belgium from perimeter of the core to the semi-periphery). 74 out of 93 states remained in one of the three zones (10 in the core zone, 20 in the semi-periphery, and 44 in the periphery) and are described as "organic members" (ibid:49). The organic members are then used to estimate the "economic activities" prevailing in different zones.

We have already seen that Arrighi and Drangel reject the idea of invariant characteristics for core-like or peripheral activities. Especially as far as industrialisation and industrial production are concerned, this aspect seems important for development studies. The findings of Arrighi and Drangel (1986:53ff.) suggest that views of progress based on modernisation theory (from agricultural to industrial production) are of limited explanatory value. Furthermore, they question the claim that the capability to industrialise qualifies as a means or sign of an *overall* development or dependency characteristic. Using data on the average labour force employed in "industry" and on the share of "manufacturing" in GDP for the countries in the three tiers, they found that "the gap between the degree of industrialization" of the core *vis-à-vis* the semi-periphery and the periphery narrowed significantly after 1960. In the late 1970s, "the semiperiphery not only caught up with but overtook the core in terms of industrialization" (ibid:55). Arrighi and Drangel (1986:55f.) argue that semiperipheral countries lost "economic command" in terms of industrialisation in the period of 1938-1948, and

> "so there are good reasons for supposing that in this period core-like activities were largely industrial activities. Interestingly enough, it was at the end of this period that Prebisch and his associates first introduced the concept of core-periphery relations and formulated it in terms of a primary activities-industrial activities dichotomy." (ibid:55)

From the 1950s to the 1960s, "a positive correlation between industrial activities and core-like activities is still in evidence" (ibid) but gaps in industrialisation and GDP between core, semiperiphery and periphery are narrowing. The authors call 1960 to 1965 transitional years: the gaps in industrialisation are decreasing "but there is no corresponding relative decline in core states' economic command". The authors explain this by "the fact that the positive correlation between industrial and core-like activities was losing strength". In the following two decades, "a weakened positive correlation turned into an increasingly strong *negative* correlation". In the period from 1965 to 1980, "the periphery and the semiperiphery continued to industrialize" and "the core began to de-industrialize". While the industrialisation gap narrowed (between core and periphery) or almost disappeared (between core and semiperiphery), the economic command of the semiperiphery (compared to the core) remained constant, and that of the periphery (compared to the core) worsened (ibid:55f.): "In sum, the industrialization of the semiperiphery and periphery has ultimately been a channel, not of subversion, but of reproduction of the hierarchy of the world-economy" (ibid:56).

But what replaces industrial production as core activity? Arrighi and Drangel (1986) draw on Arrighi (1985:275), who argues that

> "the growing importance of vertically integrated TNC's in all branches of economic activity (from agriculture and mining to manufacturing, distribution, and banking) dissolves and blurs any previously existing correlation between the core-periphery dichotomy […] and distinctions based on the kind of commodity produced (e.g., industry versus agriculture) or even on the techniques of production used (e.g., high productivity versus low productivity)".

The distinguishing feature between core, semiperipheral, and peripheral states seems to have become the ability to control commodity chains:

> "The relevant distinction is between activities that involve strategic decision making, control and administration, R&D, and other "brain" activities, on the one hand, and activities of pure execution, on the other. […] [C]ore states are those where TNC's concentrate their brain activities, and peripheral states are those where they concentrate their muscle-and-nerve activities. Under these circumstances, semiperipheral states would be of two types: states that have attained the core position of the previous stage of development of the world economy but that have not yet moved on to the core position of the new stage; and countries where TNC's locate a fairly balanced mix of brain and muscle/nerve activities." (Arrighi 1985:275)

These inquires suggest that there is a persistent path dependence in the spatial division of labour that makes an upgrading of a state's position difficult. Core states and core enterprises grow and develop together in a symbiotic relationship, but the nature of the commodity chains is changing. The control over the commodity chain gained importance in relation to industrial production and its geographical distribution. Semiperipheral or peripheral countries could close the gap to core countries as far as industrialisation is concerned without closing the gap in terms of distribution of GNP per capita. Based on this research, Arrighi (1990) talked of a "developmentalist illusion", arguing against the assumption that 'industrialization' was the equivalent of 'development' and 'core' the same as 'industrial'. Following Arrighi and Drangel (1986), Arrighi et al. (2003) demonstrate [that] industrial convergence has not been accompanied by a convergence in the levels of income and wealth enjoyed on average by the residents of the former First and Third Worlds (ibid:4).

They base their empirical analysis on studies that found evidence of a core or OECD "convergence club" at the upper end of the world income distribution (ibid: 6 and 8). The convergence among these countries was not accompanied by an overall (global) convergence of income. In order to show the convergence of industrial production against the non-convergence of income, they relate a country's income (measured by the Gross National Product per capita – GNP*PC* – in relation to

the weighted average of core countries' income of a given year) to its industrial development (measured by the share of manufacturing in the GDP of a country in relation to the share of manufacturing in the GDP of core countries in any given year). Measured by "the proportions of GDP in manufacturing" in core and periphery and semiperiphery, "industrial convergence in this period was due exclusively to First World de-industrialization", argue Arrighi et al. (2003:15), while the unevenness in economic performance between peripheral and semi-peripheral countries increased significantly.

2. Industrial convergence without development? An inquiry into a Three-Tier System of the European Union

2.1 Core, semiperiphery, and periphery in the European Union

In 2015, the European Central Bank (ECB 2015) expressed its disappointment at the degree of convergence within the EU/EMU between 1999 and 2014, and acknowledged the limitations of mainstream neoclassical economics. The arguments put forward by authors from the European Dependency School (EDS), research networks that applied elements from the Latin American dependency school on the European situation in the 1970s and 1980s (cf. Weissenbacher 2015&2018), still hold: neither of the two ways of challenging polarisation in an "integration of unequal partners" have materialised, these being either: a) a balanced industrialisation between core and periphery, or b) more re-distributive funds from the core to the periphery. Since b) is seen as being out of the question in the EU setting, for the ECB (2015:31) "achieving sustainable real convergence by means of sound national economic policies is important to support the economic and social cohesion of EMU".

The key elements of economic growth and convergence in neoclassical economics are (still) 'technology', 'innovation', and 'research and development'. The ECB's (2015:38ff.) presentation, however, reflects the difficulty of neoclassical theory in explaining technological progress that "appeared like manna from heaven" (Maier et al. 2006: 57). Drawing on the externalities or endogenous growth model (cf. ibid:96ff.), the ECB (2015:40) suggests that an "alternative way" is necessary "to endogenously

create growth, and for convergence to be explained in a theoretical model, innovation must be 'produced' in a separate sector of the economy". If it is the public sector that is responsible for financing and producing technology and innovation, it may be no surprise that "[c]ountries that spend more on R&D tend to exhibit higher income levels" (ECB 2015:42). The data the ECB presents seem to support the thesis that those regions that can afford more technological investments have an advantage. This opens different development paths in addition to neoclassical convergence, from persisting development gaps to divergence (cf. Weissenbacher 2008:94). Consequently, as Maier et al. (2006:101) put it, the "question of convergence cannot be answered by [neoclassical] theory but must be passed on to empiricism". This obsession with productive forces and technological progress seems to be the fetish of the ideology of the capitalism of transnational companies (TNC), a mode of production that has created productive forces capable of providing "a good life for all".[3]

Economic convergence is conventionally measured by beta and sigma convergence. The former tries to capture whether there is a 'catching-up' process between low and high income countries by means of higher economic growth, while the latter "refers to a reduction in the dispersion of income levels across economies" (ECB 2015:31). The ECB (2015:31) argues that "real convergence mainly pertains to the [beta]-dimension of convergence, with [sigma]-convergence being a by-product; sustainable convergence is the key precondition for economies that are catching up to be resilient to shocks". Other authors stress the importance of Sigma-convergence "because it speaks directly as to whether the distribution of income across economies is becoming more equitable" (Young et al. 2008:1084) and "that the concept of Sigma-convergence is more revealing of the reality as it directly describes the distribution of income across economies without relying on the estimation of a particular model" (Monfort 2008:5). I will follow Arrighi and Drangel (1986) and Arrighi et al. (2003) in the attempt to estimate core-periphery relations in the EU at the country level. Consequently, I am not interested in estimating the actual living situation of people in the core and periphery of the EU, but the (relative) relations between core and periphery and their change over time.

Calculations that use Sigma-convergence usually observe statistical variations among the EU28 or EU15 groups; EuroStat presents data that

refer to EU28=100 or EU15=100. I will relate, however, EU countries to the EU core. While Arrighi et al. (2003) used the OECD "convergence club" as the core proxy, they relate the periphery and the semiperiphery to, I will use the undisputed core country of Europe, Germany, as the sole EU core reference (Germany=100). Germany certainly has core characteristics different from the US, and therefore the interpretation in terms of industrialisation will differ somewhat. The main argument of de-industrialisation, however, seems to hold for both Germany and the USA, according to the data I used. If one takes 1960=100 as base line, then the share of manufacturing industry in all branches (gross value added) as proxy for industrialisation will start to show declining values no later than the 1970s (table 1). It will not be a surprise that these data suggest a lead by TNC from the USA – as compared to those from Germany – in the outsourcing process towards the (semi)periphery. The widening of the gap between the US and Germany slowed down in the 1990s, when the German economy was faced with the integration of Eastern Germany. However, the German "wage-dumping policy" (Flassbeck/Spiecker 2011), which brought the German economy a significant competitive edge, seems to have stopped de-industrialisation. One could read the confrontational protectionist policies by the Trump administration as a reaction to a weakening of US control of global TNC capitalism, with its commodity chains.

The obvious difference between the US and Germany (in the data presented) is the higher share of industrialisation of the smaller and more export-oriented German economy in all available data.

The main objective in this article is, however, the core-periphery system in the European Union, and the question regarding industrial policies for convergence and cohesion if the logic of TNC capitalism remains unaltered.

I will suggest a contemporary core-periphery system of the European Union at the national level. (Data for the resident/citizen concept of Gross National Income (GNI) per capita at purchasing power standards (PPS) do not seem to be easily available at the regional level.) The GNI per capita (PPS) considers income from residents of one country that is earned in other countries, and subtracts domestic income by nationals from other countries. PPS is an artificial common currency that respects countries' different price levels (cf. Eurostat n/y1&2).

The purpose of this sketch is to find a working classification of a core-periphery system in the EU that could be used for further research. I used the data on GNI per capita (PPS) provided by the AMECO database (EU Commission n/y). Data for EU15 are available from 1960 and data for EU28 from 1990. I related the data to Germany = 100 and used an average over each available decade (cf. Table 2).

Arrighi and Drangel (1986) worked within the world system and commodity chains. Their assessment aimed at a working scheme for the global level. Following the dependency paradigm, and staying geographically in Europe, particularly the EU, I was interested as to whether a three-tier system could be observed in the EU as well. There would be candidates for Arrighi and Drangel's (1986) perimeters (of the periphery and of the core) in the EU also (Slovakia and the Czech Republic in the 1990s/2000s, and Ireland and Finland (1990s) or Spain and Italy (2000s), respectively). With a much more limited data set than Arrighi and Drangel (1986) and Arrighi et al. (2003), I, however, intend to stick to a three-tier system between EU core and EU periphery and try to explain some of the special cases. The data, indeed, suggest a three-tier system in the EU. I use the upper three quintiles of GNI per capita (100=Germany) to approximate core = 81-100, semiperiphery = 61-80, and periphery = 41-60. Due to the restricted space, I need to limit my presentation and interpretation. Historical data can be found, however, in tables 2 and 4 (more detailled interpretation in Weissenbacher, forthcoming).

In the current decade, the consistent hard core countries (except Belgium) plus Ireland still score higher than Germany (cf. tables 2 and 3). Belgium has lost ground, and so did Finland, France, and the UK. Italy has even dropped to the semiperiphery, which it leads, followed by Spain down to the Czech Republic. Portugal lost and Slovakia gained, both appearing as a crossover (perimeter?) between semiperiphery and periphery, which is led by Greece and Estonia (which have declined from their previous positions), down to Romania, and far behind to Bulgaria. Tables 2 and 3 offer a synopsis. Most of the countries are "organic members", as Arrighi and Drangel (1986) put it, of their group during the observation period, and therefore their overall classification fits their historical record. According to the AMECO data, Greece started as a periphery and wound up as a peripheral country. The GNI per capita increase that suggested a rise to

semiperiphery (of EU15/EU28) seems somewhat a surprise, especially if we look at the share of manufacturing in total gross value added over the entire observation period (table 4). I ranked Greece therefore as periphery. Slovakia has risen to the threshold between periphery and semiperiphery, yet whether it really advances to the semiperiphery remains to be seen. The historical data suggest an overall peripheral classification. Similarly I ranked Portugal, which reached the threshold due to a recent decline, as a peripheral country. Spain had loomed into the core before it declined. A treatment as semiperiphery seems justified. Italy remains the commuter between core and semiperiphery, the perimeter of the core. Recent tendencies in the Italian political economy suggest a characterisation as belonging to the semiperiphery for the time being (cf. Weissenbacher forthcoming). The UK seems to have had recovered from semiperipheral status, but recent developments also suggest a decline. I will keep the UK in the core group, although there is reason to believe that this might change in the not too distant future. We will return to the Irish case in the following chapter.

2.2 A ladder without upper rungs: commodity chains and the confusion of industrial development with development

Following Arrighi and Drangel (1986), industrial production, as we have seen, lost its core characteristics in the 1960s. This is pretty much in line with the ever more pronounced 'new international division of labour' that brought an outsourcing and re-organisation of production from the core to the (semi)periphery, especially with the global economic crisis of the 1970s. Consequently, TNC strategy has changed the focus from organising production (industrialisation) in the territories/jurisdictions of the countries of their home bases to controlling (production in) the commodity chains (CC). It is important to remember that it is not territories and their governments or jurisdictions that control CC but core transnational companies (TNC). If I use the spatial expression of control by core countries, it will be used as proxy for the symbiosis the core TNC developed with core territories/jurisdictions they use as home bases. Historical experience saw a rather persistent divide between core and periphery, which is also reflected in the dataset for the EU. Furthermore, recent research by UNCTAD (2013:122) suggests that 80% of world

trade is organised by TNC in CC, and about 60% of global trade consists of intermediate goods and services. As far as the core-periphery distribution of such CC activity is concerned, the predominant share of investments still stems from what UNCTAD considers the 'developed world'.

In my inquiry I use the undisputed European core country, Germany, as a reference for changes in industrial production and income levels per capita. With the latter, we have already seen that there were fluctuations, yet during the observation period the three-tier system showed remarkable persistence against the pretence of the overall core integration model of the EU28, which is convergence and cohesion. The matter of industrialisation directly concerns the political economy of the EU and immediate economic policy. Can re-industrialisation or more industrialisation (more industrial production) in the EU (semi)periphery bring development or convergence? The findings of the Arrighi research groups suggest that even if one termed climbing the ladder in this hierarchy 'development', such 'development' was unlikely.

In order to numerically estimate the EU situation in terms of industrialisation, I used the share of manufacturing industry in all branches (gross value added) at current prices (expressed in ECU/Euro) as proxy for industrial development or level of industrialisation, and related each country to Germany (=100, cf. table 4). I averaged the yearly data (where available from the AMECO database) over decades. The interpretation of the findings necessarily varies from Arrighi et al. (2003). They used the OECD convergence club and marked the de-industrialisation of these core countries as an important reduction in the industrialisation gap: the core de-industrialised and the (semi)periphery industrialised. I do not treat groups of countries but rather single countries, and the reference country is Germany, the industrial export champion. But the de-industrialisation process of core countries can still be reproduced with this data. If we take the core countries of table 3 plus Italy (and without Ireland, which will be explained later) than we will get the following picture (in table 4): Luxembourg de-industrialises from the 1980s to the 2010s (no earlier data). Belgium, Denmark, France, Italy, the Netherlands, and UK de-industrialise *vis-à-vis* Germany from the 1960s to the 2010s (UK data: from 1970s), with one important exception: the 1990s. I interpret the 1990s as the decade which statistically reflects the inte-

gration of the former German Democratic Republic into the Federal Republic (first eastern enlargement of the EC/EU), a process which weakened the German economy. For Austria, Finland, and Sweden this comparative recovery of industrial production *vis-à-vis* Germany lasted into the 2000s.

In the Southern EU (semi)periphery, Greece and Portugal did participate in the industrialisation process of the overall (semi)periphery, according to these data, until the 1980s, but the accession to the EC/EU as 'unequal partners' stopped the process, unsurprisingly so if one follows the analysis of authors from the European dependency school (Weissenbacher forthcoming). Data for Spain start in the accession decade, and if one takes the 1990s as the German decade of 'weakness', then we can see immediate de-industrialisation.

The data for the EU28 start with the 1990s. If one compares tables 2 and 4, the difference is striking. While in table 2, which represents a proxy for hierarchies of wealth, the grey rows (enlargement countries after EU15) are grouped at the 'peripheral' side, the tendency in table 4, with a proxy for industrialisation, shows a different story. These countries are grouped with the core country, Germany. Furthermore, if we assume, for the sake of the argument, a strict three-tier system following these industrialisation data (a three-tier system of the three upper quintiles of Germany=100, sorted from bottom to top, cf. table 4), then the current decade would find this typology: *Industrialised countries* (higher than 80) are Austria, Poland, Lithuania, Slovakia, Slovenia, Germany, Hungary, Romania, Czech Republic, Ireland; *Semi-industrialised countries* (61-80): Denmark, Belgium, Croatia, Italy, Estonia, Sweden, Finland; *low industrialised countries*: (60 and lower): Cyprus, Luxembourg, Greece, UK, Malta, France, the Netherlands, Latvia, Portugal, Spain.

It cannot be a surprise that the countries Stöllinger (2016) calls the "Central European (CE) manufacturing core" (Germany, Austria and the Viségrad countries Czech Republic, Hungary, Poland, and Slovakia) are among the 'industrialised countries' in this typology. It also indicates the Austrian dependence on Germany. Austria's FDI stocks balance had only turned positive recently, due to its engagement in the production networks with the regional EU enlargement countries which joined in 2004 (table 6, cf. Becker/Disslbacher/Weissenbacher 2015). Stöllinger

(2016:803) starts with general assumptions that the Arrighi research groups (discussed above) had rejected for core countries (and accepted for semiperipheral and peripheral countries only): "[We] will consider a decline in the value added share of the manufacturing sector as an adverse structural shift for an economy". Stöllinger (2016:804) is here drawing, however, on literature which was written in a time when industrial production was still considered a 'core activity' by the Arrighi research group:

> "Closely related to our work is Chenery (1960) who links manufacturing value added per capita, i.e. manufacturing intensity in several manufacturing industries to domestic supply and demand conditions which are proxied by income per capita. He finds a positive relationship between manufacturing intensity and income per capita for all industries." (Stöllinger 2016:804)

For Arrighi's research groups, industrial production had ceased to be the distinctive core activity (in core territories) in the 1960s, and upward shifts by industrialisation processes were seen as being possible, afterwards, above all within the group of peripheral and semiperipheral countries. Stöllinger (2016:806f.) presents literature that considers consequences of CC participation as possible in either direction, catching-up or increasing uneven development. 'Offshoring' of production from the core is on Stöllinger's (2016:805) radar, but he does not focus on explaining why it is possible for countries to maintain their core status despite the fact that the

> "flip side of this agglomeration of manufacturing activities in the CE manufacturing core is a significant decline in the share of EU manufacturing value added exports in other EU Member States, in particular in high-income countries including the Nordic and the Benelux countries and above all France and the United Kingdom" (Stöllinger 2016:814).

The evidence presented in this article suggests that the observations of the Arrighi research groups for the capitalist world system are also true for the European Union, namely that it is the ability to control TNC commodity chains that enables a core status to prevail, or, in other words, that 'core activity' goes well beyond organising manufactured production

on one's own territory. Again, I need to refer to Weissenbacher (forthcoming) for detailed (historical) interpretation, but the current EU situation tends to be in line with the arguments of Arrighi's research groups as well. For all (semi)peripheral countries except Greece, the convergence in industrial production is much more pronounced than the income situation (for Portugal, the situation seems more balanced). The situation of the semiperipheral countries Cyprus, Malta, Italy, and Spain will be explained below. For all core countries except the special case of Ireland, the situation is the other way round, as convergence in industrial production is well below the income situation. Ireland is an example of the phenomenon of extreme financialisation, part of which was a domestic loan expansion due to cheap credit, made possible by Ireland's entry to the Eurozone. Mortgage debt more than trebled from 2002 (47.2 billion euro) to the onset of the crisis of 2008 (139.8 billion euro) (Wickham 2012:66ff.). As far as manufacturing production is concerned, the dependence of the Irish economy on TNC is seen as a weakness, part of which "is the practice of transfer pricing whereby the foreign-owned companies tend to inflate the value of their output in the Irish economy in order to avail of the state's low tax on manufacturing profits" (Kirby 2010:22). Irish data for manufacturing in the AMECO database start with the 1990s, with an already high percentage that would overtake the German level in the following decade. The 2010s seem to surpass the industrial success story of Finland, but not as pronounced regarding the income situation. Italy's progress in manufacturing industry (according to these data) does not show such massive jumps and also loses out in the 2000s. Italy has never reached the per capita income levels of Finland and Ireland (compared to Germany=100) and loses massively in the 2010s. For our purpose, the success stories and the upward shift to the core are particularly interesting. Following the model of Arrighi's research groups, industrialisation ceased to be a characteristic of core countries in the second half of the 1960s. If this is true also for the EU (the overall core integration model), we would therefore expect that additional efforts in industrialisation would – in optimal cases – lead to upward movement among peripheral and semiperipheral countries, but not to the shift of a semiperipheral country to the core. If we take the core countries of the 1970s, namely Austria, Belgium, Denmark, France, Germany, Luxembourg, The Netherlands and Sweden, and compare them

to the core countries of the 2010s, then there are three countries that have entered the core zone: Finland from the semiperiphery, UK re-entering from the semiperiphery, and, surprisingly, Ireland marching through from the periphery. Additionally, we will keep Italy on the radar, because it seems to have reached the perimeter of the core, and then the core, by 'traditional' core means, namely industrialisation. It is important to remember that Finland was already considered a core country in Arrighi and Drangel's (1986) global scheme in the years 1975-1983, and Ireland belonged to the perimeter of the core.

The striking issue (but not a surprise following Arrighi's working groups) is that, with a few exceptions, the 'convergence' to the German level (Germany=100) on part of the (semi)peripheral countries is higher, in many cases very much higher, in terms of industrial production (table 3), than the 'convergence' in the income level (table 1). The exceptions are Greece and Cyprus, Malta in the 2000s, and Spain, beginning with the 2000s. I interpret the Spanish situation with the 'pseudo boom' that poured foreign capital into the economy's non-tradable sector (cf. Becker/Weissenbacher 2014). All in all, there is a trend that supports the Arrighian notions: a) industrial production ceased to be a core characteristic; b) the core countries keep the core status by controlling the global (European) commodity chains; c) core TNC are able to control and exploit manufacturing production in the periphery and semiperiphery. We will discuss these aspects in a moment.

2.3 Further evidence of the control of TNC

In order to further establish this argument, I suggest using additional proxies for quantification. I use – taking from the OECD database on outward activities of TNC (OECD n.y.) – a) the figures of *TNC in the manufacturing sector* (of all available country data) in the EU28 area, and b) the turnover of these TNC in the EU28 area in 2014. I use these data as a proxy for the extent of control of European commodity chains. I took into account the size of countries and therefore calculated a TNC per capita amount and a TNC turnover per capita amount (Euro millions at current prices). In order to make these data comparable with the data of GNI per capita and share of manufacturing industry, I, again, related them to Germany (=100). They confirm the Arrighian thesis of control

of European commodity chains versus productive activity in the manufacturing sector (for details and graphics: Weissenbacher, forthcoming). For most *core countries*, the number of TNC with outward activities in the EU28, as well as their turnover (both per capita), are above or at least around the level of GNI income per capita (compared to Germany=100), while the share of manufacturing production lies below the comparative income level. Some countries are extreme (top: Luxembourg with 1012 TNC per capita and a turnover of 1966, both compared to Germany = 100). Only Ireland, Italy (which has lost its core position), and the UK (which might again lose its core position) are exceptions to this overall core trend. The opposite is true for *(semi-)peripheral EU countries*. The GNI income per capita is below the share of manufacturing production (with the exceptions mentioned above), but above the number of TNC per capita, as well as their turnover per capita levels. These data paint an intense picture of the core – (semi)periphery situation in the European Union. The status of the core means the control of TNC and European commodity chains. This is very clear in the cases of the hard core (Austria, Belgium, Denmark, Germany, Sweden) and also Finland. It seems to explain the persistent role of France, despite its weaker GNI per capita positions. But what about Ireland? And the seemingly weakened Italy and UK? Also, the Netherlands are not included (no data). And we need to explain more the – at first glance – somewhat surprising positions of Cyprus and Malta (which may be historically explained by their British legacy).

Let us have a look at TNC home countries as yet another proxy for the amount of power in the global political economy. Among the 100 largest global non-financial TNCs in 2016 (as presented by UNCTAD 2017b), exactly one half was considered to have an EU country as its home base. (To be sure, there are also other European TNCs among the top 100, i.e. from Switzerland.) 15 TNCs are considered to have the UK as their 'home economy', 11 from France and also 11 from Germany, three from Spain, two each from Ireland and Italy, and one each from Belgium, Denmark, Finland, Luxembourg, the Netherlands, and Sweden (table 5). From this perspective, it seems clear why the UK can preserve its position as a core country. The level of France's TNC control in the top 100 seems also in line with its persistent role as core country, despite weak-

ening GNI per capita levels. Semiperipheral Italy (in GNI per capita terms) controls three percent of foreign assets in this top 100 list, and also semiperipheral Spain. With the exception of Austria, all the smaller countries of the hard core control one TNC in the top 100 list. Ireland is listed as homebase for two TNCs, but with a low share of foreign sales and employment.

Another proxy I suggest for regional/country 'control' of TNC is Foreign Direct Investments (FDI). There is an entire data set available for FDI outward stock in Millions of (current) US dollar (UNCTAD 2016, 2017a). These data indicate the extent to which TNC control investments abroad, but not specifically in the EU28 area and not for the manufacturing sector in particular (as with the OECD data above). Table 6 shows the differences in political-economic power in numbers. I calculated averages over decades for the FDI net (outward and inward) stock and averages of country populations over the respective decades (population data from Eurostat or national sources) to receive FDI stocks per capita for each decade. In order to make the data comparable to the data we used so far, I again calculated a relation to Germany (=100). Table 6 (first three columns) shows absolute figures and the net FDI stocks averaged for each decade, and the relation to Germany (=100), respectively. The core – (semi)periphery divide is again apparent. The demarcation line of net FDI stocks runs between Spain and Italy, which might indicate the better position of Italy in the hierarchy. Very generally, the (semi) peripheral countries do have negative values in net FDI stocks, which means they import more FDI than they export. The situation is reversed in the core countries.

The most striking exception in the sphere of semiperipheral countries are Cyprus and Malta. The explosion of their inward and outward FDI stock in the decade of EU accession seems to indicate that these two countries are being used as bridgeheads into the EU, but also as nodes of tax avoidance (Garcia-Bernardo et al. 2017 , cf. Weissenbacher forthcoming). However, there are also cases in core countries that merit our attention. There is, above all, Luxembourg boasting exorbitant FDI inward and outwards stock data, which indicates a special TNC network country (with special tax regulations). Among the core countries, Luxembourg is followed by Ireland, also with striking data for inward and outward

FDI stocks. Among the hard core countries, Belgium and the Netherlands also display extreme data. Their data reflect the ability of TNC to transfer prices to, and evade taxes in, the most preferred jurisdictions (Weissenbacher forthcoming). Among the core countries, Ireland might surely be considered as having shaky foundations, because it seems to depend on the integration into two core structures, the US and the EU core, for upholding its position in the commodity chains (Wickham 2012:75).

3. Room to manoeuver? A few concluding remarks

Neither for the Latin American nor the European Dependency School is industrial development synonymous with development in a broad (societal) sense. What I have tried to show in this article, following the (world systems) approach of Arrighi and Drangel (1986), and Arrighi et al. (2003), is that even if – due to the current lack of feasible alternatives – industrial development (under current circumstances, without changing the mode of production) is the only policy proxy for development, one should not raise one's hopes too high. There is some room to manoeuver within the sphere of the (semi-)periphery, but climbing to a core level is unlikely, and reserved to special cases such as Ireland, which experienced a hard landing with the crisis of 2008ff. And the Irish case can hardly count as one of successfully climbing the ladder by means of industrialisation, but can rather be explained by circumstances that seemed favourable for transnational companies (TNC). Industrialisation or industrial policy for (semi-)peripheral countries will usually mean accepting a lower place in the commodity chains (or, metaphorically speaking, hoping to climb a ladder without the upper rungs). The place at the top of the international hierarchy depends on the (usually historically grown and therefore 'path-dependent') ability to control or influence TNC and their commodity chains.

It is my understanding of the dependency schools (Latin American and European) that they regarded a change of the mode of production as necessary. Speculating on the elasticity of international demand may be a tactic, but does not seem to be a sound (long-term) strategy. An alternative

development strategy could start by reconsidering the principles of self-reliance which would re-orient production regionally and give preference to "use value" instead of "exchange value" (Galtung 1976:6). This appears necessary to protect the natural environment, but it is also a social imperative. In a global or European environment hostile to changing the mode of production, such policies are difficult to achieve, especially if a country needs to act alone. 'Resilience against crises' may be the strongest argument. Currently, the European situation does not appear very stable. The structural problems of the global and European mode of production further disintegration and, for now, favour neo-nationalist and Neo-Fascist parties which continue the neoliberal EU policy by more authoritarian means (Becker 2018). Such parties are not interested in a change of the mode of production, but rather are supported by capital fractions that may perceive no other way of maintaining the status quo. Therefore, their proposals of heterodox economic policies may appear to be more acceptable (cf. Becker/Weissenbacher 2016).

Progressive alternatives can only attempt to use the narrow room to manoeuver as long as the international or EU structure appears unchangeable. Domestic capitalist and comprador classes will oppose policies which challenge the mode of production. Additionally, alternative regional and national policies need to be aware of nationalist traps. The geographer Edward Soja (1980:224) argued that "the transformation of capitalism can occur only through the combination and articulation of a horizontal (periphery vs. centre) and vertical (working class vs. bourgeoisie) class struggle, by transformation on both the social and spatial planes" (cf. Weissenbacher 2015, 2018). The imperatives of competition and competitiveness and the underlying perceptions of technological progress and innovation need to be challenged or interpreted anew, e.g. by taking up ideas from the self-reliance concept. Internalising externalities was, for Galtung (1976:12), one of the most important factors of self-reliance: "Much less is lost by reinventing something invented elsewhere already than by casting oneself in the role of the learner and imitator. In conventional terms: the research and development facilities may be clumsy – whatever that means – but they are one's own, as are the mistakes, and it is from own mistakes, not from those made by others, there is more to learn'.

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2 This footnote is motivated by suggestions of one of the anonymous reviewers. It seems important to stress that the terminology has changed alongside the shifts in content in 'chain' research from commodity chains towards global commodity chains and global value chains. "By the early 2000s," writes Bair (2014:2), "the commodity chain terminology was frequently being used interchangeably with other constructs, such as global production networks (GPNs). In recent years, one such alternative nomenclature – global value chains (GVCs) – has become hegemonic, especially within more applied or policy-oriented studies of global industries. Global value chain analysis has even been taken up enthusiastically by international financial institutions […]". Global commodity chains and global value chains "are analytically oriented towards the micro (individual firm) or meso (sector) level as opposed to the macro and holistic perspective characteristic of the world-system conceptualization of commodity chains" (Bair 2005:164). I will stick, therefore, to the original world-system terminology in this article: "World-systems theorists understand commodity chains as consisting not only of the steps involved in the transformation of raw materials into final goods, but also as webs connecting that set of productive activities with the social reproduction of human labor power as a critical input into this process. Additionally, world-systems theorists are most fundamentally interested in how commodity chains structure and reproduce a stratified and hierarchical world-system" (Bair 2005:155f.; see Bair 2009 and 2005 for a literature overview of the different strands of 'chain' literature).

3 Contrary to Karl Marx's 19th century expectations, the development of productive forces (labour/workers in combination with the means of production) has not (yet) lead to such conflicts with the relations of production (the economic material base with class relations between owners and not-owners of the means of production) that would change the social formation and the mode of production. TNC capitalism manages to fragment global workers even more (with highly polarised incomes), employs ever less wage labour due to high productivity (but accepts extreme labour-intensive conditions in the periphery), wastes resources (with the consequences for mankind), and establishes uneven consumption patterns. Since the relations of production are treated as 'given' in mainstream thinking, the 'development of the productive forces' experiences a "strange non-death" (to borrow a phrase from Colin Crouch 2011). Theodor Adorno (1972) had elaborated as early as 1968, shortly after the period Arrighi and Drangel consider transitional years (when industrial production ceased to be a core activity), the underlying issues of contemporary capitalism: "Late capitalism or industrial society?" It was "the current form of socially necessary appearance", he argued (Adorno 1972:368f.), "[t]hat productive forces and relations of productions are seen as one today and therefore one could readily design society from the productive forces". It was a necessary appearance for society, because it integrated formerly distinctive elements of the "so-

cial process", including people. Material production, distribution, consumption are administered in common, the boundaries of which become blurred: "All is one. The totality of mediation processes ['Vermittlungsprozesse'], truly of the exchange principle, produces another deceptive immediacy. It allows for the possible forgetting of differences and antagonisms, contrary to one's own perception, or to repress them from consciousness" (Adorno 1972:369). The ideology of core countries in late capitalism blocks the view at different development experiences (and narratives that might diverge from bottom-up capitalism as free market success story). Relations of production go beyond ownership of the means of production and include elements of the state and its administration. Adorno (1972:363) calls this the "role of the state as institutional capitalist ['Gesamtkapitalist']" which seems compatible with the symbiotic relationship between states and companies which Arrighi and Drangel talked about (above). The productive forces seem to resemble general technical rationality, and an appearance is thus created that "the universal interest is that in the status quo, and full employment is the ideal and not the liberation from dependent labor" (ibid). The relations of production have survived, argues Adorno (ibid), and have "continued to subjugate the productive forces. The signature of this age is the predominance of the relations of production over the productive forces, which have mocked the conditions for some time" (ibid).

References

Adorno, Theodor (1972 [1968]) Spätkapitalismus oder Industriegesellschaft? Einleitungsvortrag zum 16. Deutschen Soziologentag. In: Theodor Adorno: Soziologische Schriften I. Hrsg. von Rolf Tiedemann. Frankfurt/Main: Suhrkamp, 354-370. (= Gesammelte Schriften 8)

Arrighi, Giovanni (1985): Fascism to Democratic Socialism. Logic and Limits of a Transition. In: Arrighi, Giovanni (ed.): Semiperipheral Development. The Politics of Southern Europe in the Twentieth Century. Beverly Hills, London, and New Delhi: Sage, 243-279. (=Explorations in the World-Economy 5)

Arrighi, Giovanni (1990): The Developmentalist Illusion: A Reconceptualization of the Semiperiphery. In: William Martin (ed.): Semiperipheral States in the World-Economy. Greenwood Press: Westport, CT, 11-42.

Arrighi, Giovanni/Drangel, Jessica (1986): The Stratification of the World-Economy: An Exploration of the Semiperipheral Zone. In: Review 10 (1), 9-74. (=Anniversary Issue: The Work of the Fernand Braudel Center)

Arrighi, Giovanni/Silver, Beverly/Brewer, Benjamin (2003): Industrial Convergence, Globalization, and the Persistence of the North-South Divide. In: Studies in Comparative International Development 38 (1), 3-31. https://doi.org/10.1007/BF02686319

Bair, Jennifer (2005): Global Capitalism and Commodity Chains: Looking Back, Going Forward. In: Competition & Change 9 (2), 153-180. https://doi.org/10.1179/102452905X45382
Bair, Jennifer (2009): Global Commodity Chains: Genealogy and Review. In: Bair, Jennifer (ed.): Frontiers of Commodity Chain Research. Stanford: Stanford University Press, 1-34.
Bair, Jennifer (2014): Editor's Introduction: Commodity Chains in and of the World System. In: Journal of World-Systems Research 20 (1), 1-10. https://doi.org/10.5195/JWSR.2014.574
Becker, Joachim (2018): Neo-Nationalismus in der EU: sozio-ökonomische Programmatik und Praxis. Materialien zu Wirtschaft und Gesellschaft No. 179. Vienna: AK Wien.
Becker, Joachim, and Weissenbacher, Rudy (2014): Berlin Consensus and Disintegration: Monetary Regime and Uneven Development in the EU. In: Dymarski, Włodzimierz/Frangakis, Marica/Leaman, Jeremy (eds.): The Deepening Crisis of the European Union: The Case for Radical Change. Analysis and Proposals from EuroMemo Group. Poznań: Poznań University of Economics Press, 5-32.
Becker, Joachim, and Weissenbacher, Rudy (2016): Heterodoxy from the right: Economic policy concepts of the nationalist right in Europe. Euro Memo Group: 22nd Conference on Alternative Economic Policy in Europe. Coimbra, Portugal, 15.09.-17.09.
Becker, Joachim, Franziska Disslbacher, and Rudy Weissenbacher (2015): Zwischen Deutschland und Osteuropa: Österreichs neue Mittellage. In: Beigewum (ed.): Politische Ökonomie Österreichs. Kontinuitäten und Veränderungen seit dem EU-Beitritt. Wien: Mandelbaum, 132-155.
Chase-Dunn, Christopher (ed.) (1982): Socialist States in the World System. Beverly Hills: Sage.
Chenery, Hollis (1960): Patterns of Industrial Growth. American Economic Review 50 (4), 624–654.
Crouch, Colin (2011): The Strange Non-Death of Neoliberalism. Cambridge and Malden: Polity
ECB – European Central Bank (2015): Real convergence in the euro area: evidence, theory and policy implications. In: ECB Economic Bulletin 5, 30-45.
ECB – European Central Bank: Statistical Data Warehouse, http://sdw.ecb.europe.eu
EU Commission (ed.) (n/y): AMECO database. http://ec.europa.eu/economy_finance/ameco/user/serie/SelectSerie.cfm (Sept. 8, 2017)
Eurostat (ed.) (n/y1): Glossary:Purchasing power standard (PPS). Brussels, http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Purchasing_power_standard_(PPS) (Sept. 8, 2017)
Eurostat (ed.) (n/y2): Glossary:Purchasing power parities (PPPs). Brussels, http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Purchasing_power_parities_(PPPs) (Sept. 8, 2017)

Flassbeck, Heiner/Spiecker, Friederike (2011): The Euro - Story of Misunderstanding. In: Intereconomics 46 (4), 180-187. https://doi.org/10.1007/s10272-011-0381-8
Galtung, Johan (1976): Self-Reliance: Concept, Practice and Rationale. In: Transcend International, https://www.transcend.org/galtung/papers/Self-Reliance%20-%20Concept,%20Practice%20and%20Rationale.pdf (May 23, 2017)
Garcia-Bernardo, Javier/Fichtner Jan/Takes, Frank W./Heemskerk, Eelke M. (2017): Uncovering Offshore Financial Centers: Conduits and Sinks in the Global Corporate Ownership Network. In: Scientific Reports 7, https://doi.org/10.1038/s41598-017-06322-9
Hopkins, Terence, and Wallerstein, Immanuel (1977): Patterns of Development of the Modern World-System. In: Review 1 (2), 11-145.
Kirby, Peadar (2010): Celtic Tiger in Collapse. Explaining the Weaknesses of the Irish Model. Second Edition. Basingstoke: Palgrave-Macmillan. https://doi.org/10.1057/9780230278035
Lange, Peter (1985): Semiperiphery and Core in the European Context: Reflections on the Postwar Italian Experience. In: Arrighi, Giovanni (ed.) (1985): Semiperipheral Development. The Politics of Southern Europe in the Twentieth Century. Beverly Hills, London, and New Delhi, 179-214. (=Explorations in the World-Economy 5)
Maier, Gunther/Tödtling, Franz,/Trippl, Michaela (2006): Regional- und Stadtökonomik 2. Regionalentwicklung und Regionalpolitik. 3., aktualisierte und erweiterte Auflage. Wien and New York: Springer.
Monfort, Philippe (2008): Convergence of EU regions. Measures and evolution. Brussels: European Union (=Directorate-General for Regional Policy 1/2008).
OECD (n.y.) database, outward activity of multinationals by country of location - ISIC Rev 4, and population. http://stats.oecd.org (Sept. 8, 2017)
Soja, Edward (1980): The Socio-Spatial Dialectic. In: Annals of the Association of American Geographers 70 (2), 207-225. https://doi.org/10.1111/j.1467-8306.1980.tb01308.x
Stöllinger, Roman (2016): Structural Change and global value chains in the EU. In: Empirica 43 (4), 801-829. https://doi.org/10.1007/s10663-016-9349-z
UNCTAD (ed.) (2013): World Investment Report 2013. Global Value Chains: Investment and Trade for Development. New York and Geneva.
UNCTAD (ed.) (2016): World Investment Report 2016. Investor Nationality: Policy Challenges. New York and Geneva.
UNCTAD (ed.) (2017a): World Investment Report 2017. Investment and the Digital Economy. New York and Geneva.
UNCTAD (ed.) (2017b): World Investment Report 2017: Annex Tables. http://unctad.org/en/Pages/DIAE/World%20Investment%20Report/Annex-Tables.aspx, October 13, 2017.
Wallerstein, Immanuel (1979): The Capitalist World-Economy. New York: Cambridge University Press.

Wallerstein, Immanuel (1984): The Politics of the World-Economy. New York: Cambridge University Press.
Wallerstein, Immanuel (1985): The Relevance of the Concept of Semiperiphery to Southern Europe. In: Giovanni Arrighi (ed.): Semiperipheral Development: The Politics of Southern Europe in the Twentieth Century. Berverly Hills: Sage, 531-539.
Weissenbacher, Rudy (2005): Jugoslawien. Politische Ökonomie einer Desintegration. Wien: Promedia.
Weissenbacher, Rudy (2007): Historical Considerations of Uneven Development in East Central Europe. In: Joachim Becker/Weissenbacher, Rudy (eds.): Dollarization, Euroization and Financial Instability. Central and Eastern European Countries between Stagnation and Financial Crisis? Marburg: Metropolis, 35-83.
Weissenbacher, Rudy (2008): Keeping Up Appearances: Uneven Global Development in a System of Structural Imbalances. In: Journal für Entwicklungspolitik XXIV (4), 78-121. https://doi.org/10.20446/JEP-2414-3197-24-4-78
Weissenbacher, Rudy (2015): Periphere Integration und Desintegration in Europa: Zur Aktualität der „Europäischen Dependenzschule". In: Journal für Entwicklungspolitik XXXI (3), 86–111. https://doi.org/10.20446/JEP-2414-3197-31-3-86
Weissenbacher, Rudy (2018): Peripheral integration and disintegration in Europe: the 'European dependency school' revisited. Journal of Contemporary European Studies 26 (1), 81-98. https://doi.org/10.1080/14782804.2017.1302875
Weissenbacher, Rudy (forthcoming monography): The Core-Periphery Divide in the European Union: a Dependency Perspective.
Wickham, James (2012): After the party's over: the Irish employment model and the paradoxes of non-learning. In: Lehndorff, Steffen (ed.): A triumph of failed ideas. European models of capitalism in the crisis. Brussels: ETUI, 59-77.
Young, Andrew, Matthew Higgins, and Daniel Levy (2008): Sigma Convergence versus Beta Convergence: Evidence from U.S. County-Level Data. In: Journal of Money, Credit and Banking, 40 (5), 1083-1093. https://doi.org/10.1111/j.1538-4616.2008.00148.x

Abstract *Produktion und Handel werden international in großem Ausmaß von transnationalen Konzernen (TNK) organisiert. TNK verschwinden in der Betrachtung aber oft hinter Güterketten, die wiederum Möglichkeiten für eine nachholende Entwicklung durch Industrialisierungsprozesse zu eröffnen scheinen. Aber ist diese Einschätzung gerechtfertigt? Dem Dependenzparadigma folgend haben Giovanni Arrighi und Jessica Drangel die Güterkettenforschung, wie sie von der Weltsystemforschung vorgestellt wurde, angepasst und interpretiert. Ihre Forschungsergebnisse legen nahe, dass die Organisation von industrieller Produktion innerhalb der eigenen Jurisdiktion seit den 1960er Jahren nicht mehr zur Charakteristik von Zentrumsländern gehörte. Stattdessen behielten Zentrumsländer ihren Status, indem sie die globalen Güterketten kontrollierten. Die Leiter der internationalen Arbeitsteilung zu erklimmen war nur innerhalb der Sphäre der Peripherie und der Semiperipherie möglich, dies führte zu industrieller Konvergenz ohne ‚Entwicklung'.*

Der Beitrag möchte zeigen, dass diese Beobachtungen auch für die heutige EU zutreffen. Er schlägt dafür eine Zentrum-(Semi-)Peripherie-Typologie vor und argumentiert, dass der Industrialisierung in den (semi-)peripheren EU-Ländern keine ‚Entwicklung' (in der Sprache der EU: Konvergenz und Kohäsion) gefolgt sei: Die Leiter scheint keine oberen Sprossen zu haben. Auch EU-Zentrumsländer haben an Manufakturproduktion eingebüßt, bewahren aber ihren Status durch die Kontrolle der Güterketten. Vom Standpunkt des Dependenzparadigmas aus bedeutet ‚Entwicklung' die Überwindung der kapitalistischen Produktionsweise. Kleine erste Schritte der Realpolitik könnten versuchen, das Wettbewerbsparadigma (dominiert durch TNK) herauszufordern und damit die existierenden Produktions- und Konsummuster (aus sozialen und ökologischen Gründen) infrage zu stellen.

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Tables

	1960–69	1970–79	1980–89	1990–99	2000–09	2010s*
Germany#	99	93	84	67	61	63
USA	99	86	72	63	51	47
USA, Germany =100	74	68	64	70	60	55

Table 1: Share of manufacturing industry (UVGM) in all branches (UVG0) - Gross value added at current prices, ECU/Euro, for the USA and Germany (1960=100 and Germany=100)

Source: Own calculations based on data from the AMECO-database: http://ec.europa.eu/economy_finance/ameco/user/serie/SelectSerie.cfm

Note: Germany#: before 1991: Western Germany

2010s: Germany: 2010-2016, USA: 2010-2014; averages over decades. For detailed information on data see Table 4.*

Country	1960–69	1970–79	1980–89	1990–99	2000–09	2010–18
Bulgaria*	…	…	…	22	30	37
Romania	…	…	…	21	29	44
Croatia*	…	…	…	36	46	46
Latvia	…	…	…	28	40	50
Poland**	…	…	…	32	42	52
Hungary****	…	…	…	38	47	52
Lithuania***	…	…	…	28	42	56
Estonia****	…	…	…	28	45	57
Greece	56	77	69	68	77	57
Slovakia****	…	…	…	38	49	60
Portugal	38	46	46	61	67	60
Czech Rep.	…	…	…	57	63	64

Slovenia	…	…	…	58	70	65
Cyprus	…	…	…	68	75	67
Malta**	…	…	…	59	65	68
Spain	56	64	59	69	82	72
Italy	73	79	83	92	93	78
UK	90	79	73	84	97	85
France	76	83	82	89	95	86
Finland	67	73	79	82	98	90
Belgium	81	87	86	96	102	95
Germany#	100	100	100	100	100	100
Ireland	57	58	55	73	101	101
Austria	79	87	88	99	105	101
Sweden	104	100	94	95	107	101
Denmark	92	89	85	93	104	103
Netherlands	95	96	87	99	115	104
Luxembourg	99	102	115	154	166	143

Table 2: Gross national income (GNI) at current prices per capita (PPS), Germany=100 (average over decade)

Source: Own calculations based on data from the AMECO-database: http://ec.europa.eu/economy_finance/ameco/user/serie/SelectSerie.cfm

*Note: Data sorted by last decade, Germany=100; # Before 1991: Western Germany. Grey: Enlargements from EU15 to EU28; * 1990-1999: Average of 1995-1999, ** 1990-1999: Average of 1991-1999, *** 1990-1999: Average of 1993 and 1995-1999, ****1990-1999: Average of 1993-1999*

Country	1960–69	1970–79	1980–89	1990–99	2000–09	2010–18	Total
Bulgaria	x	x	x	P	P	P	P
Romania	x	x	x	P	P	P	P
Croatia	x	x	x	P	P	P	P
Latvia	x	x	x	P	P	P	P

Poland	x	x	x	P	P	P	P
Hungary	x	x	x	P	P	P	P
Lithuania	x	x	x	P	P	P	P
Estonia	x	x	x	P	P	P	P
Greece	P	SP	SP	SP	SP	P	P
Slovakia	x	x	x	P	P	P	P
Portugal	P	P	P	SP	SP	P	P
Czech Rep.	x	x	x	SP	SP	SP	SP
Slovenia	x	x	x	SP	SP	SP	SP
Cyprus	x	x	x	SP	SP	SP	SP
Malta	x	x	x	SP	SP	SP	SP
Spain	P	P	P	SP	SP	SP	SP
Italy	SP	SP	C	C	C	SP	SP
UK	C	SP	SP	C	C	C	C
France	SP	C	C	C	C	C	C
Finland	SP	SP	SP	C	C	C	C
Belgium	SP	C	C	C	C	C	C
Germany	C	C	C	C	C	C	C
Ireland	P	P	P	SP	C	C	C
Austria	SP	C	C	C	C	C	C
Sweden	C	C	C	C	C	C	C
Denmark	C	C	C	C	C	C	C
Netherlands	C	C	C	C	C	C	C
Luxembourg	C	C	C	C	C	C	C

Table 3: Core – Semiperiphery – Periphery Typology for EU28

Source: Own calculations based on data from the AMECO-database: http://ec.europa.eu/economy_finance/ameco/user/serie/SelectSerie.cfm

Note: Countries sorted by last decade, Germany=100 (cf. Table 2); before 1991: Western Germany; Grey: enlargements countries post-EU15; Bold letters: Czech Republic, Slovenia, and Malta could be counted in the periphery in 1990-1999 as could Belgium in the core in 1960-1969, but this would not change the overall assessment. For all the other bold letters, see explanations above.

Country	1960–69	1970–79	1980–89	1990–99	2000–09	2010–16
Cyprus5	…	…	…	44	34	22
Luxembourg3	…	…	68	57	40	24
Greece	40	51	52	50	45	41
UK	…	66	62	70	52	44
Malta5	…	…	…	88	71	49
France	68	65	63	68	61	50
Netherlands1	70	66	59	70	62	52
Latvia6	…	…	…	84	59	56
Portugal	68	68	75	79	67	59
Spain	…	…	75	76	71	60
Denmark2	56	55	60	70	66	61
Belgium8	…	82	75	85	78	63
Croatia5	…	…	…	82	72	64
Italy8	70	79	80	86	79	69
Estonia4	…	…	…	84	74	70
Sweden	…	78	77	88	92	76
Finland	65	77	83	100	111	77
Austria	78	78	75	85	89	83
Poland6	…	…	…	91	81	83
Lithuania5	…	…	…	80	84	86
Slovakia4	…	…	…	98	102	95
Slovenia7	…	…	…	118	105	98
Germany*	100	100	100	100	100	100
Hungary7	…	…	…	94	97	101
Romania9	…	…	…	110	103	104
Czech Rep.	…	…	…	105	112	112
Ireland	…	…	…	96	108	116

Table 4: Share of manufacturing industry (UVGM) in all branches (UVGo) - Gross value added at current prices, ECU/Euro (Germany=100)

Source: Own calculations based on data from the AMECO-database: http://ec.europa.eu/economy_finance/ameco/user/serie/SelectSerie.cfm

*Note: * Before 1991: Western Germany; data sorted by last decade; grey: enlargements countries post EU15. Strictly adhering to a three-tier system (upper three quintiles of Germany=100), the middle frame distinguishes a typology of industrialised countries (higher than 80), semi-industrialised countries (61-80), and low industrialised countries: (60 and lower)*

Data limitations: 1: 1960s=1969, 2: 1966-1969, 3: 1985-1989, 4: 1993-1999, 5: 1995-1999, 6: 1992-1999, 7: 1991-1999, 8: 2010-2015, 9: 1995-1999, 2010-2014; No data for Bulgaria

Gross value added equals output valued at basic prices less intermediate consumption at purchasers' prices. Gross value added includes consumption of fixed capital. Manufacturing industry: Nace rev.1 D

	Number of TNC in Top 100	Foreign Assets %	Foreign Sales %	Employees Abroad %
Belgium	1	3	1	2
Denmark	1	0	1	1
Finland	1	1	1	1
France	11	10	9	9
Germany	11	11	15	13
Ireland	2	2	0	0
Italy	2	3	2	0
Luxembourg	1	1	1	1
Netherlands	1	1	0	1
Spain	3	3	2	2
Sweden	1	0	1	1
United Kingdom	15	17	15	12
United States	22	21	24	27

Table 5: Share of EU TNC among 100 Largest Global Non-Financial TNC
Source: UNCTAD (2017b): Table 24, own calculations.

	1990–1999	2000–2009	2010–2016	
Bulgaria	-595.24	-19056.63	-43345.96	
Romania	-1423.14	-31590.49	-72085.86	
Croatia	-262.50	-14337.67	-23913.29	
Latvia	-458.11	-5597.61	-12578.15	
Hungary	-10154.44	-52034.75	-60952.14	
Poland	-8534.47	-90845.12	-170623.57	
Lithuania	-637.04	-7246.16	-12473.87	
Estonia	-666.34	-6952.50	-12806.53	
Greece	-7423.81	-10170.25	9612.03	
Portugal	-14320.44	-32534.04	-57807.89	
Slovakia	-1459.03	-28161.84	-46512.01	
Czech Rep.	-6755.58	-62795.21	-107341.74	
Slovenia	-1463.79	-3108.21	-5075.04	
Cyprus	20.62	-6708.76	-5359.88	
Malta	-719.35	-22528.09	-92523.92	
Spain	-56565.26	-51117.99	-31076.89	
Italy	35121.94	43683.87	148084.58	
UK	101842.27	575667.92	310964.46	
France	96530.24	280272.64	567068.56	
Finland	8184.80	29257.22	40365.78	
Belgium	ND	-16182.21	-10206.43	
Germany	**183788.03**	**174897.44**	**513821.46**	
Austria	-5708.61	-3849.20	40069.82	
Ireland	-30192.18	-68977.77	66824.28	
Sweden	37129.34	37989.00	57957.92	
Denmark	2259.21	15081.68	78419.82	
Netherlands	54800.11	152340.07	380215.60	
Luxembourg	ND	-5384.47	-4847.05	

Table 6: Net FDI Stock, Average Over Decades in Millions of Current US Dollar and per capita (Germany =100)

Sources: FDI data from: UNCTAD: World Investment Report, http://unctad.org/en/Pages/DIAE/FDI%20Statistics/World-Investment-Report-(WIR)-Annex-Tables.aspx; average over decade as given; Population data from: Eurostat: Population Main Table,

	FDI_PC 1990–1999 Germany = 100	FDI_PC 2000–2009 Germany = 100	FDI_PC 2010–2016 Germany = 100	GNI_PC 2010–18[e] Germany =100
	-3	-116	-94	37
	-3	-69	-57	44
	-3	-156	-89	46
	-8	-116	-98	50
	-43	-242	-97	52
	-10	-112	-71	52
	-8	-102	-66	56
	-20	-240	-153	57
	-31	-44	14	57
	-63	-147	-87	60
	-12	-247	-136	60
	-29	-288	-161	64
	-32	-73	-39	65
	1	-430	-100	67
	-85	-2649	-3444	68
	-63	-56	-11	72
	27	36	39	78
	78	450	77	85
	74	217	142	86
	71	263	117	90
	ND	-73	-14	95
	100	**100**	**100**	**100**
	-32	-22	74	101
	-370	-789	228	101
	187	198	95	101
	19	131	220	103
	158	442	357	104
	ND	-551	-141	143

http://ec.europa.eu/eurostat/web/population-demography-migration-projections/population-data/main-tables; averages over decades, last decade: 2010-17; France: population for mainland plus Corsica, average of 2010-2013; Grey: EU enlargments post EU15. Sorted by GNI per capita 2010-18.

Note: e: 2017&18 estimates