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## On Global Social Mobility, or How Kondratieff Waves Change the Structure of the Capitalist World System<sup>1</sup>

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### Abstract

*According to Nikolai Kondratieff's close friend, great Russian-American sociologist Pitirim Sorokin, social mobility means a change in social position of persons and groups. The change of positions of countries in the World System (WS) is one of the many varieties of social mobility. The paper discloses the implicit connection between the research agendas of Kondratieff and Sorokin, using dependency theory and Immanuel Wallerstein's WS analysis as the interface. Classical dependency theory claims the polarization of the WS into centre and periphery. Wallerstein asserts the existence of the stable semiperiphery as the 'middle class' of the WS. Drawing on the findings of the recent empirical research grounded in relational data and applying network analysis, this paper claims that the number of intermediate positions between the core and ultimate periphery in the WS is not stable. It grows with each new Kondratieff wave. This means that long economic cycles not only provide opportunities of upward mobility or threats of downward mobility for individual countries, but change the 'hierarchy ladder' itself. In the WS core and upper tier semiperiphery countries, the quantitative expansion of the 'new middle class' did not abolish the divide or mobility barriers between the top capitalist elite and those described as the 'we are the 99 %' by the activists of the Occupy movement. Drawing upon the Weberian concepts of opportunity closure and usurpation as key mechanisms of class building, I argue that the division between CWS core and the Rest will persist, accompanied by the growth of the number of countries occupying intermediate positions in the WS along with the multiplication of these structural positions themselves. The number of these positions increases according to formula  $MSP=N-2$ , where MSP stands for 'middle structural position', and N is the order number of current Kondratieff wave (as of 2016,  $N=5$ ).*

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*Instead of unconditional convergence, the future of the WS harbours the increase in numbers of countries stuck in the 'middle income trap'.*

**Keywords:** *World System analysis, Capitalist World System (CWS), Kondratieff waves, social stratification, neo-Marxian class theory, neo-Weberian class theory, closure, usurpation, social mobility, mega-classes in the World System, core, semicore, semiperiphery, strong periphery, weak periphery.*

### **Introduction**

World system (WS) analysis, founded by one of the most influential sociologists of the 20<sup>th</sup> century Immanuel Wallerstein, is one of the important sites of the international reception of the work of Nikolai Kondratieff. More specifically, Kondratieff's famous hypothesis of 'long waves' (Kondratieff 2004 [1922]), 1999 [1928]), 1935, 2002) is one of the pillars of the diachronic dimension of the WS analysis, grounding Wallerstein's work on the dynamics of the CWS as the specific type of WS (Wallerstein 1974, 1980, 1989, 2000, 2011 [1989]), 2011). To recall, according to Wallerstein, the CWS is the opposite of the world-empire (WE), as another type of the WS. World empires precede and for some time (until the globalization of the CWS in the 19<sup>th</sup> century) coexist with the CWS as its 'external areas' after the emergence of the CWS during the 'long 16<sup>th</sup> century, with its initial core area located in the North Western Europe. After the globalization of the CWS, the rise and fall of the ever new Kondratieff waves (KW) shapes the course of world history, dividing world historical time into distinctive epochs.

The differentiation of the CWS into core, periphery and intermediate semi-periphery positions provides the basic framework for the synchronic dimension of the Wallersteinian WS analysis. This paper focuses on the relations between diachronic and synchronic dimensions. More specifically, I will explore whether the structure of CWS changes in the course of time, as the most encompassing social system is growing 'older', or 'ageing'? Is the number of types of structural positions in the CWS stable or changing? If so, how the structure of CWS changes and what are the causes of this change? These are research questions of this paper, conceived as a contribution to the WS analysis.

It is conceived also as the contribution to the interdisciplinary exchange or dialogue between economics and sociology. Kondratieff's famous hypothesis is usually perceived as contribution to economics (Schumpeter 1939; Diebolt 2012; Lucas *et al.* 2014) which is about the consumption, distribution and production of scarce resources by societies and individual human actors. WS analysis belongs to sociology, which is interested in the social action and social structures at the micro-, macro- and mega-level and their change. Those social structures in which sociologists are interested most involve the emergence and reproduction of inequality between social categories and groups. According to Wallersteinian WS analysis, the differences and relations between

core, semiperiphery, and periphery of the CWS refer to the most basic inequalities in the world, or to its basic class structure. I will start with the question, whether this basic structure of the CWS changes.

By 'changes in the structure of the CWS' I mean changes in the number of the categories of structural position in the CWS, which I will alternatively designate as the mega-level classes (or 'mega-classes') of the CWS member societies. Emergence and disappearance of classes is the change of the structure in the strong sense, which should be distinguished from changes in the CWS structure in the weak sense: changes in numbers of relative countries of countries taking different positions, while the number of positions remains constant. Technically, the change of structure in the first or strong sense means difference between the row and column marginals in a mobility table, while structural change in the second or strong sense is reflected by the difference in the number of rows and columns in a mobility table (see, *e.g.*, Hout 1983, and illustrations in the 4<sup>th</sup> section).

Describing structural positions in the CWS as classes, I would like to disclose and pinpoint the similarity of the problem situations in the research on the stratification of the CWS and those in the work on the stratification of the national or country-level societies. Nobody will be astonished by the statement that classes emerge and go, as this did happen (say) with the classes of the feudal landlords and serfs with the passing of the Middle Ages in the European societies. Can something like that happen with the structure of the CWS? I will argue that the number of middle structural positions in the CWS (mega-classes) increased with each next Kondratieff wave, and will continue to increase also in the future, unless/until revolutionary changes in the technology and capitalist organization of economy (Schumpeterian 'creative destruction') will stop.

Social mobility is one of the most important issues in the sociological research agenda of Pitirim Sorokin (1889–1968). He made landmark contribution to this field, publishing at nearly the same time with Kondratieff's pioneering works on the long cycles of economic activity his path-breaking book *Social Mobility*, which for several decades remained the only comprehensive work in the field. In 1959, he republished this book, adding into the new edition as appendix Chapter Five, 'Genesis, Multiplication, Mobility, and Diffusion of Sociocultural Phenomena in Space' from the last (Fourth) volume of his main work *Social and Cultural Dynamics* (Sorokin 1937–1941). Therefore, he changed the original book title to *Social and Cultural Mobility*. 'While *Social Mobility* deals with a change in social position of *persons and groups in social space*, Chapter Five is concerned with mobility of *cultural phenomena in cultural space*. Combined, these works give an essential knowledge of both forms of mobility – social and cultural – that are different from, but supplementary to, one another' (Sorokin 1959 [1927]: IV).

Kondratieff and Sorokin were fellow countrymen, born in the families of Komi peoples heritage in Northern Russia. They met in Khrenovo Teachers Seminary (Kostroma government), befriending for life. Kondratieff and Sorokin met for the last time in 1924 during Kondratieff's trip to the US where Sorokin had university teacher's position after his exile from Soviet Russia in 1922, offering his help to Kondratieff in search for similar job (Grinin *et al.* 2012: 6–7). Although both scholars were close personal friends and were connected by their political activities as important activists of the Party of Socialists-Revolutionaries, they (at the very least according to my knowledge) did not refer to each other's work in their publications. By further expansion of Sorokin's landmark social mobility concept, this paper can provide a seminal contribution to the disclosure of implicit intersections of their research agendas. In the context of the WS, social mobility means not only change of social positions and groups, but also that of whole countries and societies. WS analysis provides concepts for the analysis of the positions of countries in the WS. Wallerstein used Kondratieff waves theory to explain the downward or upward movements of particular countries between these positions. There will be shown how this theory helps to explain the multiplication of these positions themselves.

The paper starts with the discussion of the parallels and affinities between theoretical problems and alternatives in the analysis of the stratification of country level societies and that of the CWS. The second section of this paper presents selected findings of empirical bottom up research on the stratification of the CWS as we know it during last 50 years, focusing on the work which uses relational (network) data. The third section recalls the Kondratieff wave theory which will be used as the tool to explain or provide theoretical (top down) rationale why findings of empirical research on the zoning of the CWS deviate from the orthodox trichotomous Wallerstein's schema (core-semiperiphery-periphery). Drawing on the ideas of the Neo-Weberian class analysis, this explanation is elaborated in more detail in the last fourth section. There will also be provided here the interpretation of the recent inductive (bottom up) research findings (Mahutga and Smith 2011) on the mobility in the CWS to illustrate my points about the structural change of CWS which should be distinguished from the pure or net mobility. This distinction is obvious in the research on the social mobility in the national (country level) societies (see, *e.g.*, Erikson and Goldthorpe 1992).

### **1. Do Classes Exist? If They Do, How Many Classes Are There?**

The existence of ('real') classes is the main issue in the debates on the social structure of national societies. Main alternatives in the macroanalysis of so-

cial structure are the categorical (relational) and the continuity approaches. The works of Eric O. Wright (1985, 1989, 1997) and John Goldthorpe with collaborators (*e.g.*, Erikson, Goldthorpe, and Portocarero 1979; Erikson and Goldthorpe 1992) are two most influential paradigms of the class analysis, representing (respectively) its two main branches – neo-Marxian and neo-Weberian class analysis. The continuity approach is grounded in the concept of socioeconomic status, measured by index values at the interval or ratio level. The widely celebrated book by Peter M. Blau and Otis Dudley Duncan (1967) on the mobility in the American occupational structure is most famous example of the continuity approach in the analysis of social structure.

According to this approach, there are no real categorical divisions in a society, only continuously graded hierarchy of income or socioeconomic status, with ‘low’, ‘lower middle’, ‘upper middle’, ‘high income classes’ as purely nominal classification units or statistical aggregates. The same approach can be applied in the mega-analysis of the structure of the World System. In the most widely used international statistical database – World Development Indicators (WDI) of the World Bank – countries of the world are divided into four ‘classes’: (1) Low income; (2) Lower middle income; (3) Upper middle income; (4) High income. These groupings are only nominal or notional aggregates, similar to social strata in the social stratification analysis, grounded in the social economic status measurement. As a matter of fact, there is continuous gradation of income from the poorest countries of Africa and Asia, and closing with few mini-states called ‘tax havens’, like Liechtenstein, Luxembourg, Cayman Island or the Bahamas. The number of divisions, simplifying this continuity order, is up to the researcher's choice. Since 2012 this list includes Latvia and Lithuania (Estonia was included in 2006). However, it is moot point (at the very least, from the native's viewpoint) whether acquiring the status of the ‘high income country’ by the Baltic countries status did really mean the advancement in the global hierarchy, achieving the membership in the core of the WS or entering the world ‘top class’ in the sense of the WS analysis (see Norkus 2012).

However, the question how many classes ‘really’ exist is just non-problem (or pseudo-problem) in the continuity analysis of the stratification of national societies as well as in the kindred approaches in the quantitative macro-comparative research. Quite the opposite, this is central issue in the neo-Marxian and neo-Weberian class analysis. According to the categorical approach, class division is no conventional or arbitrary classification procedure. Classes do exist in the reality. As regards the number of classes, this is empirical, not definitional question. It is similar to the question how many chemical elements or elementary particles do exist in nature? Or how many bird species are living in August 2016 (say) on the Wrangel Island in the Arctic Ocean? Even if kindred elements or species belong together as elements of the taxons

of higher order, they cannot be 'collapsed' or 'defined out reality' by the researcher's fiat. The discovery of new life species or synthesis of new chemical element is rare and important event in the natural sciences, worthy of the report in the *Nature*, and even of Nobel Prize. Similarly, finding of a new class rising is important contribution to the sociological analysis of national or world society.

The advocates of continuity approach refer to the weakness or lack of 'class consciousness' in the most contemporary societies. However, the classics of class analysis never considered 'class consciousness', 'class identity' or 'class action' as part of the definition of class concept. Karl Marx famously distinguished between 'classes in itself' from 'classes for itself'. Max Weber considered collective identity as the distinctive feature of status groups and political groups, not of classes. For both of them class was not emic but etic concept (see Goodenough 1970: 104–119; Harris 1980: 29–45). Thus, the membership in the same CWS mega-class does not entail the 'class consciousness' or 'collective action' by countries belonging to the same class, although speculations are possible that under some specific circumstances mega-classes of CWS may become collective actors. The 'Non-Aligned movement' or BRICS talk can be interpreted in this way, but this is just not the subject of present paper.

I would argue that assumption about the specific number of mega-classes is one of the 'hard core' assumptions of the Wallersteinian WS analysis as the distinctive research programme in the sense of Imre Lakatos (1978).<sup>2</sup> Such assumptions are basic tenets that cannot be abandoned or altered without abandoning the programme in question. They should be distinguished from the auxiliary hypotheses, which constitute 'protective belt' around the 'hard core' assumptions. Three Newtonian laws of motion can serve as example of such 'hard core' assumptions in the most successful research programme in the physics. Trichotomous view of the world system (periphery-semiperiphery-core) structure is the trademark of the WS analysis founded by Immanuel Wallerstein. This assumption distinguishes Wallersteinian WS analysis from its ancestor and closest kin – dependency theory (*e.g.*, Prebisch 1950; Singer 1950; Amin 1974, 1976; Frank 1969, 1978), characterized by the dichotomic vision of the world system, distinguishing the core with autocentric and the periphery with extroverted accumulation of capital. To wit, periphery-semiperiphery-core scheme is for Wallersteinian WS analysis like the Holy Trinity tenet is for Christian faith. Drop Holy Spirit or reclassify Jesus Christ as one of the prophets – and you are no more of the Christian faith. Drop semi-periphery ('Troika'), and you are at risk of becoming Wallersteinian apostate.

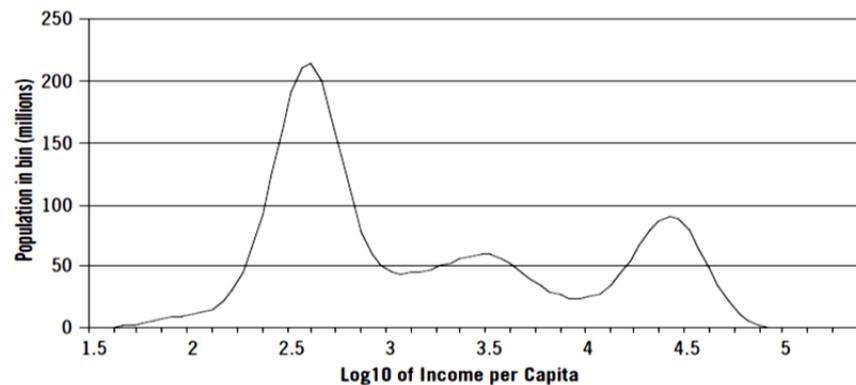
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<sup>2</sup> This is not how Immanuel Wallerstein himself describes the world system analysis, but this does not necessarily mean that he is ultimate epistemological authority in the discussion about what WS analysis is (see Babones 2015 for most recent contribution to this discussion).

Of course, it would be wrong to exaggerate the differences between both research programs. They share at least one 'hard core' assumption: along with the 'real' classes in the national societies, there are 'real' classes in the world system; along with 'real' social structure on the scale of national societies, there is a 'real' social structure on the scale of the world economy. Thus, they both share with the class analytical approaches in the analysis of the stratification of the national (country level) societies, the assumptions that structure matters and class matters. In the third section there will be elaborated the parallel between mega-class and macro-class analysis due to which I will account for the empirical anomalies of the tripartite analysis of the WS. There will be also presented the anomalies themselves.

## 2. Findings of the Empirical Research: Some Anomalies for the Wallersteinian Research Programme

There are two lines of research aiming to test the Wallersteinian trichotomic model of the structure of WS. One of them deals with attribute (income) data. This line of research has two most important contributions. One of them is the famous paper by Giovanni Arrighi and Jessica Drangel (1986). Another one is the work of Salvatore Babones (2005, 2009) on the international structure of income and its implications for economic growth. Their common finding is the trimodal distribution of world population, emerging out of the hologeistic comparison of the national income per capita of the countries (see Fig. 1). The authors consider this finding as the evidence confirming trichotomous WS structure model.

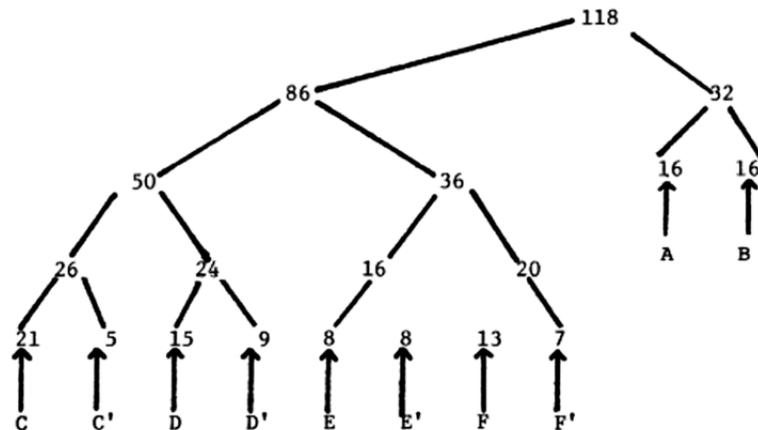


**Fig. 1.** World countries by national income per capita level in 2000

Source: Babones 2005: 48.<sup>3</sup>

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Another line of research uses relational or network data and provides more ambiguous picture. This line started with the famous paper by David Snyder and Edward L. Kick (1979), where they presented and applied their standard tool (CONCOR algorithm) to measure world systemic positions of countries. Applying this tool to four types of international network data (trade flows, military interventions, diplomatic relations, and conjoint treaty membership) circa 1965, they derived 10-block models. Then they collapsed this most specific model into orthodox 3-block model in informal way (see Fig. 2). 'In general, though with some deviations, we interpret the pattern of bonds depicted in the image matrices as a core-semiperiphery-periphery structure in which (1) block C constitutes the core; (2) blocks E through B (in the order shown) are the periphery; and (3) block D, and perhaps also C' and D', are located in the semiperiphery of the world System' (Snyder and Kick 1979: 1010–1114; see also Clark and Beckfield 2009: 9).



**Fig. 2.** Blockmodel 'tree' of hierarchical decomposition of 118 nations circa 1965. Letters designate blocks in 10-block-model

Source: Snyder and Kick 1979: 1109.<sup>4</sup>

In his later research (with Byron L. Davis), comparing global networks and economic growth across two time periods 1960–1965 and 1970–1975, Kick found 11 blocks, collapsing them into 5 'mega-blocks' (Kick and Davis 2001: 1566–1569): 1) capitalist core; 2) socialist semi-core; 3) capitalist semi-core; 4) semi-periphery; 5) periphery.

<sup>4</sup> Republished with permission of the University of Chicago Press from Snyder D., and Kick E. L. 'Structural Position in the World System and Economic Growth, 1955–1970: A Multiple-Network Analysis of Transnational Interactions'. *American Journal of Sociology* 84 (5): 1096–1126, © 1979; permission conveyed through Copyright Clearance Center, Inc.

Since 1989–1991, there is no more socialist semi-core in the WS. However, we still do not have Wallersteinian trichotomy or ‘troika’, but core-semicore-semiperiphery-periphery tetrad. There is an intriguing question, where former socialist semi-core countries have gone? To periphery, semi-periphery, or to capitalist semi-core? Importantly, such ‘deviation’ from the orthodox Wallersteinian trichotomy is not a single exception, but rather typical finding in the research using network data. The work of David A. Smith from University of California, Irvine, conducted with various collaborators, may serve as good example. Thus, in Nemeth and Smith (1985) the blockmodel analysis of the trade patterns in 5 commodity types of 86 non-centrally planned countries identifies 8 blocks, which are collapsed into 4 mega-classes: 1) core; 2) strong semiperiphery; 3) weak semiperiphery; 4) periphery.

Next contribution, providing the cross-sections of the international trade in the global economy in 1965, 1970, and 1980 closes with 5 mega-classes or mega-blocks: 1) core; 2) semiperiphery1; 3) semiperiphery2; 4) periphery1; 5) periphery2 (Smith and White 1992).

Matthew Mahutga (2006) discovered the same number (five) of mega-classes, giving them different names: 1) core; 2) strong semiperiphery; 3) weak semiperiphery; 4) strong periphery; 5) weak periphery. In the very latest contribution published by Mahutga and Smith (2011), the analysis closes with six mega-classes: 1) core; 2) core contenders; 3) upper-tier semiperiphery; 4) strong periphery; 5) weak periphery; 6) weakest periphery.

Formally, all these findings are compatible with Wallersteinian ‘troika’ orthodoxy, because it is possible to collapse these groupings further to get the ‘correct answer’: three. Nevertheless, observing the network research trend to find ever more final or semifinal blocks, it is difficult to avoid following question: do researchers discover more than three mega-classes (and the number of these classes grows in the course of time), because they are using ever better data and analysis techniques, producing ever more accurate picture of the stable reality? Or does the number of mega-classes grow because of the changes in the structure of reality itself: the structure of WS becoming more complex and differentiated? In the following sections the second answer will be substantiated.

However, before proceeding to this task, I would like to discuss another possible motion. This is to drop the question about the ‘real’ number of the CWS classes as inessential and to proceed along the lines of the continuity or seamless-web approach. This is how Christopher Chase-Dunn argues in favour of such approach: ‘For myself the vocabulary of zones is simply shorthand. I don’t see any advantage in spending a lot of time trying to define and empirically locate the boundaries between zones because I understand the core/periphery hierarchy as a complex continuum. Since there is upward and down-

ward mobility in the system there must be cases of countries or areas which are in between zones, at least temporarily. For me it does not matter whether there are “really” three zones, four zones or twenty zones’ (Chase-Dunn 1998: 214).

Actually, several studies have produced continuous measures of the network position in the world. They are used in Mahutga (2006), Mahutga and Smith (2011). They allow just ranking countries according to their ‘coreness’, like the socioeconomic status index measures allow ranking individuals according to their status. There are minor problems in this approach: coreness measures sometimes give counterintuitive country rankings. But this problem is only minor, because such counterintuitive findings can be considered as only the invitations to improve the measures, the data, or both of them.

The major problem is that the accepting the ‘seamless web’ approach we should abandon the most important ‘hard core’ assumption of the WS as distinctive research programme, differentiating it from the neoclassical international political economy. This is the assumption of social structure. Concepts of structure, structural position, class are categorical concepts. Continuity approach allows only for two structural positions: ultimate core (coreness=1) and ultimate periphery (coreness=0). Everything else (almost all cases) becomes transitional or residual category. This may satisfy an advocate of the dependency theory.

The problem is similar to that of the classical Marxism. Karl Marx did not deny that capitalist societies include more than two classes (capitalists and wage workers). He just predicted the simplification of the class structure before the final collapse of capitalism, as traditional ‘middle classes’ of small producers will be destroyed and mainly proletarianize. In reality, new middle classes emerged, with class structure of capitalist societies becoming ever more complex. Similarly, classical dependency theory predicted the polarization between the core and periphery. Reality turned out to be more complex. However, the best way to account for this complexity may be not rejecting class analysis or including all intermediate cases into single ‘semiperiphery’. The introduction of semiperiphery was a progressive theoretical shift in comparison with the dependency theory or modernization theory in the 1960s or 1970s. However, as time goes on, semiperiphery becomes increasingly heterogeneous, and the progress in the WS analysis may need more differentiating class schema to account for ‘new middle classes’ of the CWS. The glimpse of how class (categorical) analysis of social structure of the national societies proceeds constructing such complex schemes may be instructive in search for a ‘theory of the semiperiphery’ as the part of CWS as a research programme.

### **3. Why the Number of the Capitalist World System Classes does Change?**

In the next sections, I will provide the theoretical rationale for research findings which are anomaly for orthodox Wallersteinian view  $N=3$ , where  $N$  is the number of class positions in the WS. According to this view, there is only one intermediate structural position since the very origin of the CWS, and only incumbents (countries) as well as the relative numbers of incumbents in different position changes in the course of time. I will argue that not only the identities and crowdedness of different positions are changing, but also that the number of these positions ( $N$ ) is increasing.

But firstly I would like to explicate the very idea of the theoretical rationale for the number of class categories, using two famous examples from the categorical analysis of social differentiation on the macrolevel (that of national societies): neo-Marxian class theory by Eric O. Wright, and neo-Weberian class theory devised by Robert Erikson, John Goldthorpe and Lucienne Portocarero, known as EGP class scheme (Erikson, Goldthorpe, and Portocarero 1979; Erikson and Goldthorpe 1992). Briefly, such rationale is a theoretical argument, specifying and substantiating the differences between social actors which should be interpreted as the categorical class divisions.

To recall, Marx famously argued that the most important difference is between owners and non-owners of the means of production, their specific identities changing with the modes of production. Wright's class theory is the attempt to account for the empirical anomaly for Marx's class analysis, which is the increase in the numbers of the employed persons whose class membership cannot be accounted using the distinction between the owners and non-owners of the means of production. Wright designs more differentiating class scheme, by taking into consideration two more differences between 'haves' and 'have-nots': that between possessors and non-possessors of organizational assets, and that between the owners and non-owners of the skills valued at the market.

Combining these dimensions, Wright derives twelve classes (Wright 1989: 25). This set includes three classes of the owners of the means of production (bourgeoisie, small employers, petty bourgeoisie) and nine classes of wage laborers. They include three classes of the 'top' possessors of the organization assets (expert managers, semicredentialed managers, uncredentialed managers), differing by their skill assets. On the opposite side, there are three employed labourer classes with no organization assets (no subordinates): expert nonmanagers, semicredentialed workers, proletarians. Proletarians are the class including those who possess no assets: no means of production, no skills, no subordinates. Therefore, they are exploited by incumbents in the superior class positions. In-between there are three 'middle' classes of the possessors of organiza-

tion assets, who have subordinates being subordinates themselves: expert supervisors, semicredentialed supervisors, uncredentialed supervisors.

The strongest competitor of the neo-Marxian class theory is neo-Weberian class theory. I will recall the bare essentials of this approach in more detail, because I will proceed along the Weberian lines while presenting my own theoretical rationale for changing number of the WS mega-classes. So Max Weber famously distinguished three autonomous dimensions of social structuration: wealth or position in the labour market, prestige (status), and political power (Weber 1978 [1922]: 43–46, 302–308, 926–939).

In the first dimension, the members of society can be differentiated into property and market classes; in the second, into prestige (status) groups, with castes and estates as special cases; and in the third, into political parties in the broad sense of groups with unequal power to influence the government's decisions. According to Weber, the class dimension dominates only in capitalist societies: 'where there are no markets, there are no classes' (Kocka 1990: 34). In societies where markets are only a secondary mechanism for the coordination of social action in comparison with other mechanisms (communal bonds, hierarchies of authority, power, *etc.*), class (economic) structuration is overshadowed by and subordinate to the structuration marked by differences in prestige or access to political power.

The unequal distribution of property rights constitutes property classes. These are sets of interrelated positions between the 'haves' and 'have-nots', where the owners of scarce resources (land, capital, ships, housing, slaves, *etc.*) are positively privileged classes, opposing negatively privileged classes who are excluded from control of these resources. The main gap between the different positions on the labour market is between employers and employees. Labour market classes (*Erwerbsklassen*) are fully developed only under capitalism. Slave owners are not the labour market class, but the property class. Slaves are neither the property nor the labour market class, but only a status group (estate). With no civil rights, they are not legitimate legal agents, because they cannot sell, borrow or be hired on their own. Because of legal agency and mobility limitations, the serf peasants are also not a labour market class.

Importantly, Weber's own analysis of labour market classes is incomplete. Drawing a line between employers and employees, he does not set any upper limit to the number of classes. With no such limitation, even the occupations can be considered as classes, because members of each occupation take a specific position in the labour market. EGP theory corrects this defect in Weber's original theory, adding another five distinctions to the basic distinction between employers, employees and the self-employed.

Firstly, jobs differ depending on whether the worker can work efficiently without learning by doing or by additional training in the workplace. In the

latter case, efficient work is contingent on the specific assets of human capital which are created by additional investment by the employer. Otherwise, assets of general human capital, which are transferable between different workplaces, are sufficient. Secondly, occupations differ depending on the difficulty in solving the principal-agent problem: how to make the employee spend the working time in the employer's interest? Thirdly, at the workplace, employees are related as subordinates and superiors, most superiors being subordinates of other superiors. Fourthly, EGP theory takes into consideration the difference between occupations in the agricultural, or more generally, primary sector (including forestry and fisheries), and other sectors of the economy. Finally, the difference between manual and non-manual occupations matters.

Using these six dimensions, neo-Weberian class theory reduces all the variety of occupations in the labour market to eleven classes, each of them embracing the most similar occupations. I will proceed in similar way looking for theoretical rationale to account for the findings of the empirical research about the growing number of the CWS classes. In this account, I will draw upon Weber's ideas about the causes of class divisions. However, this is only one of two theoretical sources which I will use to account for the empirical anomalies of the Wallersteinian research programme. Another one (and the most important) is drawn from this programme itself. This is an essential point: mastering empirical anomalies of a research programme can claim to represent progressive move or shift in its development, if it is enacted using its own conceptual resources as the main source of innovation, while other ideas serve only auxiliary role (see Lakatos 1978).

Does CWS theory have such resources? I will argue that it is indeed the case. Such resource is Kondratieff waves theory. Arguably, the existence of Kondratieff cycles is one of the 'hard core' assumption of the Wallersteinian WS analysis: 'A- and B-phases of Kondratieff cycles seem, therefore, to be a necessary part of the capitalist process. It follows that they should logically be part of its operation from the very beginning of the existence of a capitalist world economy. In the argument of this work, it follows that they should be found from the long sixteenth century forward' (Wallerstein 2011 [1989]: XVI). This statement is very strong. Drop Kondratieff waves, and you are Wallersteinian WS analysis apostate again. I will argue that this basic tenet is still underused resource and show how it can be applied to account for 'anomalous' findings of the empirical research. However, in my analysis mega-classes of the WS are conceived in the Weberian rather than Marxian way.

According to the Wallerstein's own analysis, Kondratieff waves are part of his explanation of the struggles for hegemony in the core of CWS as well as of the vertical mobility from the semiperiphery into the core. During B or descending phases, contenders for hegemony challenge incumbents. Even if they

fail, hegemon can change, as it was in the case of US rise to hegemony as the side-effect of Anglo-German hegemony struggles. Windows of opportunity open for semiperipheric powers to join the core. However, basic trichotomous structure remains unchanged.

Instead, I will argue that:

1) Wallerstein and mainstream WS analysis underestimate the impact of Kondratieff waves on the CWS;

2) Kondratieff waves do change the class structure of World System, multiplying the number of structural positions and mega-class divisions in the CWS;

3) Therefore, much of the current research on the mobility in CWS misperceives or misdescribes the changes in the structure of CWS as vertical mobility in the CWS.

Karl Marx may be right or wrong in his view that in the long run technological change explains most variation in the institutional forms of social life (Lenski 1994). But he was definitely wrong in maintaining that there is only one capitalist mode of production approaching its collapse. Retrospectively, he would have been well-advised to speak about the capitalist mode of production not in the singular, but in the plural. As productive forces develop, thereby making capitalist relations of production and capitalist institutions dated, they are just replaced by another variety of capitalism. The history of modern world since the late 18<sup>th</sup> century can be described as the succession of at least five capitalist modes of production. Alternatively, they can be designated as evolutionary types of technologically advanced (in terms of the world historical time) capitalism (Norkus 2012: 96–107).

The hypothesis of long-term economic cycles ('the long waves') by the Russian economist Nikolai Kondratieff (2004 [1922], 1999 [1928], 1935, 2002) is the best landmark for the analysis of the sequential change of the technologically advanced capitalism. Joseph Alois Schumpeter (1939) has adopted and used this hypothesis in his monumental work *Business Cycles* to develop his own theory of the qualitative change (*i.e.* development) of technologically advanced capitalism. According to Schumpeter, Kondratieff waves surge when several radically new technologies or projects fall into place to make a combination that forms a basis for the appearance of a new branch of industry. For the time being this new branch of technology becomes the driver or the carrier branch for the whole economy, as its products – inputs or technologies of the production process – affect many, if not all of the traditional branches of economy and allow an increase in the total factor productivity.

Kondratieff waves diminish when the new technological paradigm plays out, *i.e.* the radical novelties spread out throughout the economic environment. The mathematical model of this type of diffusion processes is a logistic func-

tion with S-shaped graph (this is the shape of diffusion both of innovations and epidemic diseases, rumours, *etc.*). In the rising phase of Kondratieff wave, carrier branches grow the fastest and generate the highest yield. Their ascent affects other branches of industry, making the products produced by some of them grow obsolete and forcing the producing companies to go bankrupt, while other branches undergo radical changes when they begin using the products as the facilities or input to make their own products. All these changes have the cumulative effect of a shift in the structure of the economy. The supply and demand from the new leading branches of industry leads to a renewal of infrastructure (transport and communications). New consumer needs to come into existence (new supply creates its own demand), and thanks to new consumer goods, transport and communications, the way of daily life itself changes as well.

The average growth rate of the rising phase of the long-term cycle of economic growth is greater than during the decline phase. Importantly, the economy is not stagnant in the decline phase of the long-term cycle. It is just that the short-term cycles forming part of the rising phase of the long-term cycle have long steep phases of recovery and boom, which are quite short and low-pitched during the decline. Whereas short-term cycle recessions and depressions are long and severe within the decline phase of a long-term cycle, they are brief and mild during the rising phase.

A total of five 'long waves' can be identified in the history of technologically advanced capitalism in the CWS core, beginning with the last quarter of the 18<sup>th</sup> century (see *e.g.*, Freeman and Louçã 2001; Korotayev and Tsirel 2010; Korotayev and Grinin 2012; Perez 2002; Grinin and Korotayev 2014). Based on their emblematic products, new progressive technologies or carrier branches, they can be named as follows:

- 1) water-powered machines and the textile industry;
- 2) steam-powered machines, steam ships and railways;
- 3) electricity, electrotechnics and inorganic chemistry;
- 4) motorization, organic and synthetic chemistry;
- 5) computerization and telecommunications waves.

Each of these technological revolutions forms the foundation of a separate capitalist mode of production or evolutionary type of advanced REC. If one follows Marx in considering property relations over means of production as the most important differentiating feature, they can be described as:

- 1) local capitalism of individual and family enterprise owners;
- 2) local capitalism of small and medium-sized private limited liability companies (corporations);
- 3) national capitalism of big private corporations;
- 4) Fordist national capitalism of big private and public corporations;

5) post-Fordist globalized transnational capitalism of investment and hedge funds.

The rising phase of the first wave ended around 1825–1830. The boom phase of the second wave happened in 1850–1873, when Europe and the U.S. were building railroads on a grand scale. The rising phase of the third wave started in the late 19<sup>th</sup> century and relied on the transition from the steam engine to electric power. Accurate estimation of the date when it ended is made difficult by the First World War, with some historians of economy considering the end date of the boom phase to be that of its outbreak. During the war, the economies of many countries (the neutral states and the U.S., in particular) expanded significantly even if in a single-sided fashion, which has led some historians to associate the beginning of the third ‘Kondratieff winter’ with the post-war depression.

Kondratieff’s fourth wave started after WWII, and its rising phase ended around 1971–1973. The seventies and early eighties were the period of the fourth evolutionary capitalism type crisis, which can be compared to the relative recession of Great Britain’s economy that marked the end of the ‘textile age’ in 1825–1844, also to the Long Depression in 1873–1895 and to the period between two World wars with its Great Depression, which started in 1929. The structural adjustment crisis of the fourth Kondratieff wave was over by the early 1990s, when all components of the new technological-economical paradigm were here to make a new carrier branch for entire economy to emerge. This new branch was, of course, information, telecommunication and microelectronic industry.

The onset of new long-time upswing was accompanied and reflected in the public economic discourse by the flood of publications about the ‘knowledge economy’, ‘new economy’, ‘knowledge society’, *etc.* The unbounded optimism about the prospects of the new ventures in the information and communication industries led to the explosion of ‘dot.com’ bubble that collapsed in 2001, when many new enterprises with overvalued stocks crashed even before they marketed their first products. However, the boost in the branches of ‘new economy’ slowed down the overall rates of economic growth in U.S. only for the short time, because the computerization of entire economy was still not finished even in the advanced countries. The intriguing question whether after the outbreak of the world economic crisis in 2008 we already are in the B-phase (some authors poetically name it ‘Kondratieff winter’) of fifth Kondratieff and what will come next? (see Berry and Dean 2012; Devezas 2012; Husson and Louçã 2012; Korotayev and Grinin 2012; Norkus 2013; Grinin and Grinin 2014; Nefiodov and Nefiodov 2014).

#### 4. Ideas for a Neo-Weberian Analysis of the Structure of Capitalist World System

The main difference between Marxian and Weberian approaches in the analysis of social structure is not about the number of classes, but how they conceive class relations. They share relational conception of classes as categories of positions in the structure defined by their relations. According to Marxist view, the relations between classes are those of exploitation: the ownership of the means of production (according to Marx himself) as well as the possession of the organizational assets and skills (according to Wright's extension) enables the owners/possessors to exploit non-owners/non-possessors. According to Marx and Marxists, there is no capitalism without exploitation. According to some Marxists (*e.g.*, Wright), even socialism is not safe from exploitation, because also under socialism there are subordinates and superiors, skilled and unskilled wage workers.

The main theoretical reason to designate the zones or blocks of CWS as classes in the Marxian sense is that their relations can be analyzed as those of exploitation. Classical dependency theory (*e.g.*, Andre Gundar Frank [1969, 1978], Samir Amin [1974, 1976]) conceives the relations between core and periphery in this Marxian way. Wallerstein shares this view with dependency theory, with important addition that while core states are only exploiters and periphery countries only exploited, semi-periphery (middle class of the world system) is both exploiter and exploited (see *e.g.*, Wallerstein 2000). When studying CWS core national societies during the 3<sup>rd</sup> – 5<sup>th</sup> Kondratieff waves, it is usual to draw the distinction between 'old' and 'new' middle classes. I will argue that the same difference should be applied to periphery and semi-periphery, differentiating between the new and the old semi-peripheries and peripheries.

According to Weberian view, there is no real or really existing capitalism without exploitation, while ideal capitalism without exploitation (grounded in the perfectly competitive markets) is possible as a matter of principle. Exploitation is conditional on the monopolistic appropriation of the market opportunities (*Marktchancen*), their usurpation and closure. Under perfect capitalism, there are classes (categories of incumbents of different and interrelated market positions), but there is no exploitation. So although there may be no alternative to capitalism, there may be better or worse varieties of capitalism.

Key concepts in Weberian analysis of class relations are closure and usurpation (Weber 1978 [1922]): 43–46). Closure is the process by which holders of positions providing rents seek to maximise rewards by restricting access to resources and opportunities to a limited circle of eligibles. The incumbent monopolists (or oligopolists) work to exclude competitors, while the competitors struggle to usurp rent-bringing positions. Usurpation is the struggle for entering

closed market positions, which may eventually end in their complete opening. If usurpations fail, classes mutate into status group, and society itself transforms into status society, ceasing to be class society. This Weberian approach is elaborated in the most detail in the work of British sociologist Frank Parkin (e.g., Parkin 1979). Along with Kondratieff waves theory, which is a core part of the CWS analysis as a research programme, I will use it for the analysis of the changes of the structure of CWS.

Of course, there is a big doctrinal purity question, whether such weberianizing interpretation of the mega-classes and class relations within CWS is compatible with the 'hard core' assumptions of CWS. Wallerstein does not describe Weber as important source of inspiration, and considers Marxian tradition as the most important part of the intellectual ancestry of the CWS analysis. However, Robert Brenner famously characterized Wallersteinian WS analysis as 'neo-Smithian' Marxism (Brenner 1977). In the important paper, Randall Collins (1980) disclosed the affinities between Wallerstein's and late Max Weber ideas of capitalism, validating 'neo-Weberian' reading of the Wallersteinian WS theory. I will not expand on this issue, because the exploration of the Weberian elements in Wallerstein's CWS analysis would just simply lead away from the main aim of my contribution.

More importantly for my aim, the most powerful attempt to construct 'a theory of semi-periphery' (Arrighi and Drangel 1986) is unmistakably Weberian. In this theory, Giovanni Arrighi and Jessica Drangel describe monopolization of market opportunities or chances for insiders and exclusion of outsiders as the mechanism of the 'core boundary construction'. They do not use the words 'closure' and 'usurpation'. However, their justly famous description of the core-periphery relations refers to nothing else.

In our view, the use of the term 'surplus' is neither necessary nor helpful in defining core-periphery relations. All we need is to assume that economic actors (irrespective of whether they seek a remuneration for labor-power, assets, or entrepreneurial energies), far from accepting competition as a datum, continuously endeavor to shift, and some succeed in shifting, the pressure of competition from themselves onto other actors. As a result, the nodes or economic activities of each and every commodity chain tend to become polarized into positions from which the pressure of competition has been transferred elsewhere (core-like activities) and positions to which such pressure has been transferred (peripheral activities) (Arrighi and Drangel 1986: 17).

According to Arrighi and Drangel, core of the CWS includes states with high concentration of 'core-like' economic activities. Periphery includes the countries concentrating on only 'periphery-like' economic activities. Semi-periphery states host mixes of core-like and periphery-like economic activities. The problem with this definition is the flavor of tautology. 'It must be stated at the outset that there is no operational way of empirically distinguishing be-

tween peripheral and core-like activities and therefore of classifying states according to the mix of core-peripheral activities that falls under their jurisdiction. 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' (Arrighi and Drangel 1986: 18).

It is not much difficult to understand, why authors are so cautious about specification of the core-like and periphery-like activities. The export of capital may seem most obvious core-like activity. However, oil rent countries like Kuwait, United Arab Emirates, Saudi Arabia are among the important CWS capital exporting countries. Technological innovation may deem as another typical core-like activity. The GDP share (no less than 2–3 per cent) spent for R&D is rather reliable indicator of the 'coreness' or technological frontier position of a country. However, historically and theoretically semiperipheric contenders may trump core incumbents by innovativeness, and now some aspiring countries outside core can approach or exceed the 'R&D expenditure quota' (e.g., China, Slovenia). On the other hand, reputed core countries can decrease their R&D spending (e.g., U.K., Italy) or let their higher education system deteriorate by underfinancing (see World Bank 2016).

Happily, Arrighi and Drangel themselves provide the hint, how the specification problem can be solved. '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 and Drangel 1986: 18). I would like just to follow this hint by proposing to use Kondratieff wave theory as the guideline to identify core-like products and techniques for each specific time period. The core-like products and activities characteristic for some period can be found just by asking, which Kondratieff wave and which phase of it (A or 'Kondratieff summer'; B or 'Kondratieff winter') were there at that particular time period. To find out which activities and products are core-like at particular time, we need just to know the phase of the development of technology at the technological frontier at the point of time or period of interest.

I will continue with the series of Weber-style definition schemes of the key structural positions in the CWS. I name them 'schemes' because they include variable N referring to the order number of the actual Kondratieff wave as well as indexical expressions 'actual', 'future', 'recent'. A definition scheme becomes the full-fledged definition after the substitution of N and indexical expressions by the proper names connecting it to world historical time. The terms 'core', 'periphery', 'semiperiphery' have unmistakably spatial designation. Actually, they refer not to specific space areas, but to structural positions. However, they have spatial load, suggesting that social structure is always spa-

tialized: 'core' may move from place to place, but there is a place where core is located. Structure is always spatially embedded (cf. Babones 2013).

My elaboration aims to temporalize the class structure of CWS by embedding it into the world historical time. Core can cease to be core by being superseded by 'new' or 'young' core, which first leaps new Kondratieff wave, usurping the advantages of the 'first comer' (cf. Giedraitis *et al.* 2012). So 'moving in time' means becoming 'old', 'outdated', 'superseded', 'outmoded' or 'traditional', while core is where most globally new or advanced activities concentrate. Globally new things are new in the world historical sense: they have the power to make already existing things outdated, even if these things are still new in physical sense (freshly made). Speaking in the Arrighi-Drangel 'activities mix' terminology, 'core' is the structural position where most new or advanced activities are concentrated. 'Core' at  $N$  is world historical 'outdater' of the 'Rest': that power which makes the rest of CWS to 'Rest'. Periphery hosts the oldest and most outdated activities. While core hosts creative aspects of Schumpeterian 'creative destruction', the periphery is the place where destruction prevails (Korzeniewicz and Moran 2009: 74). In-between there are mixes of 'new' and 'old' activities, which differentiate according to how much 'newly old' or 'old old' things they include.

So *core* of the CWS are structural positions occupied by the states successfully claiming the monopoly or oligopoly of the *actual* ( $N$ ) core-like economic activities/world market positions, clustered in their territories, and having best chances to usurp *future* ( $N+1$ ) core-like activities.

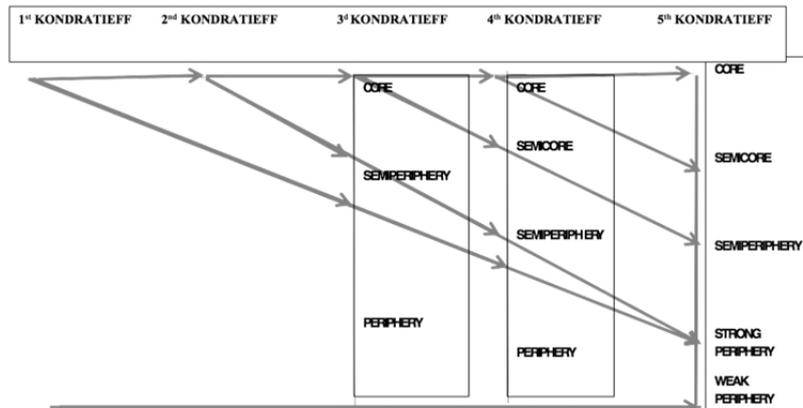
*Periphery* are structural positions occupied by the countries excluded from the participation in the *actual* core-like activities/world market positions and hosting clusters of purely peripheric or *very old* (first two Kondratieff wave times) core-like economic activities.

*Middle positions* of the CWS are taken by states, hosting core-like activities characteristic for the former Kondratieff waves, *i.e.* traditional industries ( $N-1$ ,  $N-2$ ., where  $N$  is the order number of the actual Kondratieff wave). With each new Kondratieff wave, the number of middle structural positions grows.

It is a special research problem, which I am leaving for another occasion, whether the number of middle structural positions in the CWS available at each particular point in time, stands in the relation of the one-to-one correspondence with the number of the former Kondratieff waves. As far as we assume that the CWS presently is on its 5<sup>th</sup> wave, the straightforward application of my idea would imply that by now the total number of CWS mega-classes is 6 (core, periphery, and 4 [5-1] middle classes). However, there is no complete unanimity about the number of long cycles since Industrial revolution in the late 18<sup>th</sup> – early 19<sup>th</sup> century. More importantly, I would not like to play number game, but take into account the historical facts and understand them. The existence of Kondratieff waves is not definitively established by quantitative research

(it would be premature to expect this with  $N=5$ ), but it is nearly impossible to neglect them writing economic history. So according to economic historians, during the first Kondratieff wave, only one CWS core country (Great Britain) did industrialize. But it was not the only CWS core country at the time of the first Kondratieff wave. All CWS core countries became industrial during the second Kondratieff wave (between 1848 and 1896).

Arguably, CWS semi-periphery started to differentiate internally into 'old' and 'new' middle classes only after the Second Industrial revolution (latter half of the 19<sup>th</sup> century – 1920), which made the technological application of science (the source of 'Solow residual' or 'Romerian growth') the main driving force of the economic growth in the CWS core countries. During the third Kondratieff wave, there was strong industrialization drive in the semi-periphery. The successful industrialization of Russia (USSR) is the most important case in point. However, at the same time industrialization as such ceased to provide the entrance ticket to CWS core. After the successful industrialization, newly industrializing countries repeatedly had a bitter discovery that they only host carrier industries from the former Kondratieff wave. So the correct formula for finding the number of middle structural position (MSP) is  $N-2$ , which implies that the CWS at the time of the current fifth Kondratieff wave (or CWS 5.0) includes (besides core and periphery) three middle class positions, while in the CWS 4.0 (1945–1993) there were two 'middle classes'. Fig. 3 shows the relation between the structure and history of the CWS as described above.



**Fig. 3.** The relation between the history and structure of the CWS. Vertical lines stand for structure of the CWS at specific time points, horizontal lines – for transitions from one Kondratieff wave to another, inclined lines – for sedimentation of the history in the newly emerging ranks or layers of the CWS structure

The model of the (mega-class) structure of the CWS as of 1990–2015 or during the A-phase of the 5<sup>th</sup> Kondratieff wave is as follows:

*Core* includes states in monopolist or oligopolist control over the 5<sup>th</sup> Kondratieff wave core-like activities and carrier high tech industries (mainly ITC), and with best chances to become leaders in the next technological revolution, launching the 6<sup>th</sup> Kondratieff wave.

*Semicore* contains countries with competitive advantages in the 4<sup>th</sup> Kondratieff wave (1945–1970 ‘high tech’), carrier industries, struggling to usurp the 5<sup>th</sup> KW activities, as well as displaying potential to participate in the 6<sup>th</sup> Kondratieff waves core-like activities.

*Semiperiphery* comprises states that display competitive advantage in the 3<sup>rd</sup> Kondratieff wave type carrier industries (Second Industrial revolution type ‘high tech’). Capital-intensive simple light and heavy industries are leading export sectors in their economies.

*Strong periphery* states host economic activities clustering around 1–2 Kondratieff waves carrier industries (‘high tech’ from the times of the First Industrial Revolution). Labour intensive simple light and heavy industries are leading sectors in their economies.

*Weak periphery* countries host purely peripheric activities (*i.e.* they are still unindustrialized). They have disarticulated economies with traditional agricultural production and enclaves of modern primary sector industries. Two strata or tiers can be distinguished within weak peripheries. One of them includes countries with exportable natural resources. Benefiting from the resource rent, they may be not poor in terms of income per capita. Another strata includes very poor, international aid dependent countries with no exportable resources. In addition to foreign aid, emigree remittances are essential for settling their balances of payment.

I abstain from designating them as two different classes because of the reasons of theoretical logic, because my argument provides only the reasons for the internal structural differentiation of the semi-periphery (CWS ‘middle class’) in the world historical time. Table 1 shows how my terminology is related to that of Mahutga and Smith 2011.

**Table 1.** Relations between the theoretically grounded (Neoweberian-Schumpeterian) and empirical (Mahutga and Smith 2011) analysis of the structure of the CWS in 2000

Mahutga and Smith 2011	My proposal
1. Core	1. Core
2. Core contenders	2. Semicore
3. Upper-tier semiperiphery	3. Semiperiphery
4. Strong periphery	4. Strong periphery
5. Weak periphery	5. Weak periphery
6. Weakest periphery	

Next three tables provide the theoretically grounded (top-down) interpretation of their empirical (bottom-up) analysis of the CWS structure using relational world trade data in 2000. The reason for the choice of this particular contribution is that it is the most recent and encompassing analysis of the CWS structure, grounded in the relational data. Table 2 (6×6) summarizes the country identification by CWS rank in 1965 and 2000 according to Mahutga and Smith themselves. In the Table 3 (5×5) ‘weak’ and ‘very weak’ periphery positions are collapsed into single ‘weak’ periphery positions. Table 4 (4×5) collapses ‘strong periphery’ and ‘weak periphery’ rows, leaving the number of columns unchanged.

This last table is the most important, because it provides application of my argument about the impact of the Kondratieff waves on the structure of the CWS. According to this argument, ‘middle class’ of the CWS differentiates internally with each new wave. Thus, in 1965 (at the closing time of the fourth Kondratieff wave) there were only two intermediate positions (semicore and semiperiphery) between the core and the periphery (represented by rows). In the 2000s (at the time of the fifth Kondratieff wave) there were already three intermediate positions (semicore, semiperiphery, strong periphery) between core and weak periphery (represented by columns). In all tables, rows represent distribution of countries between the positions in the ‘departure’ or ‘outflow’ year 1965, while columns are ‘arrival’ or ‘inflow’ positions in 2000.

**Table 2.** Mobility in the CWS 1965–2000: 6×6 classes model

	Core	CCont	UTSP	StrongP	WeakP	VWP	N	%
Core	9 (81 %)	2	0	0	0	0	11	11.7
CCont	1	10 (83 %)	1	0	0	0	12	12.8
UTSP	0	9	6 (31.5 %)	3	1	0	19	20.2
StrongP	0	0	1	12 (50 %)	10	1	24	25.5
WeakP	0	0	1	1	10 (77 %)	1	13	13.8
VWP	0	0	0	0	3	12 (80 %)	15	16.0
N	10	21	9	16	24	14	94	100
%	10.6	22.3	9.5	17.0	25.5	14.9	100	

*Data source:* Mahutga and Smith 2011: 263. CCont – core contenders, UTSP – upper tier of semiperiphery. StrongP – strong periphery, WeakP – weak periphery, VWP – very weak periphery

Diagonal cells are ‘inhabited’ by the countries with no changes in the CWS position in 1965–2000. Percentages indicate which part of the inhabitants in 1965 remained in the original position by 2000, *i.e.* were ‘stayers’. The only way out of the very top is to move down, and the only way out of the very bottom is to go up. Thus, the cells to the left from the diagonal host the countries which moved up, and those to the right contain the downwardly mobile cases. According to Table 2, upper tier semiperiphery and strong periphery were most

in stable positions, the former providing best chances of upward mobility (9 countries moved up), and the latter harbouring most perils of downward mobility (10 countries moved down).

In contrast, both peripheric positions (weak and very weak periphery) and core positions are relatively stable. Namely, 12 from 15 countries in the very weak position (80 per cent) in 1960 remained here by 2000. From 13 incumbents of the weak periphery position, 10 (77 per cent) were the stayers. On the very top (in the core), 9 from 11 incumbents in 1965 (81 per cent) remained here in 2000. This means a lot of stability in comparison with the upper tier of semiperiphery, where from 19 incumbents only 6 (31.5 per cent) were the stayers, the remainder moving up to core contenders (9 cases) or down to weak (3 cases) or very weak (1 case) periphery. The overall picture gives some support for classical dependency theory, which emphasized (in the way reminiscent of classical Marxism) the instability of the 'middle positions' and asserted the tendency of polarization of structure. This is what Marxists understand under the change of social structure under capitalism.

The comparison of row and column marginals provides further support for such interpretation. While in 1960 19 countries (20.2 per cent) belonged to the upper tier of semiperiphery, and 24 (25.5 per cent) to strong periphery, by 2000 their numbers decreased to 9 (9.5 per cent) and 16 (17.0 per cent) correspondingly. The core contenders and weak periphery groups expanded at their cost, increasing from 12 (12.8 per cent) to 22.3 per cent and from 13 (13.8 per cent) to 24 (25.5 per cent) correspondingly. Somewhat out of tune with the classical dependency theory (but in tune with its later versions; see *e.g.*, Cardoso and Faletto 1979) the number of upwardly mobile countries (14) is relatively significant, not differing much from that of the downwardly mobile countries (18). Only one country (Spain) was successful to join the core of CWS during the period under consideration. This may be interpreted as support for the 'middle income trap' hypothesis (see Eichengreen *et al.* 2012, 2014), which in its turn can be interpreted as the implication of the Weberian thesis of the closure of the positively privileged class positions.

**Table 3.** Mobility in the CWS 1965–2000: 5×5 classes model

	Core	SemiC	SemiP	StrongP	WeakP	N	%
Core	9 (81 %)	2	0	0	0	11	11.7
SemiC	1	10 (83 %)	1	0	0	12	12.8
SemiP	0	9	6 (31,5 %)	3	1	19	20.2
StrongP	0	0	1	12 (50 %)	11	24	25.5
WeakP	0	0	1	1	26 (93 %)	28	29.8
N	10	21	9	16	38	94	100
%	10.6	22.3	9.5	17.0	40.4	100	

*Data source:* Mahutga and Smith 2011: 263. SemiC – semicore, SemiP – semiperiphery, StrongP – strong periphery, WeakP – weak periphery.

Merging of the weak periphery and very weak periphery positions (see Table 3) helps to transpire two important facts about the mobility in the CWS. Firstly, by 2000, weak periphery countries (38 cases or 40,4 per cent) were near to absolute majority, their relative number increasing since 1960 (from 28 cases or 29.8 per cent). Secondly, the upward mobility from the 'bottom' is indeed very difficult task, with only two success stories – Cyprus (to strong periphery) and Saudi Arabia (to semiperiphery). The absolute and relative numbers of countries in the weak periphery did increase at the cost of those in strong periphery. From 24 incumbents of this position only one country (Chile) moved up, the remainder differentiating into stayers (12 cases and downward mobility cases [11 cases]). This indeed means that strong periphery is rather unsafe position, providing small chances of the upward mobility and large risk of moving down.

**Table 4.** Mobility in the CWS 1965–2000: 4×5 classes model

	Core	SemiC	SemiP	StrongP	WeakP	N	%
Core	9 (81 %)	2	0	0	0	11	11.7
SemiC	1	10 (83 %)	1	0	0	12	12.8
SemiP	0	9	6 (31.5 %)	3	1	19	20.2
Perip	0	0	2	13	37	52	55.3
N	10	21	9	16	38	94	100
%	10.6	22.3	9.5	17.0	40.4	100	

*Data source:* Mahutga and Smith 2011: 263. SemiC – semicore, SemiP – semiperiphery, StrongP – strong periphery, WeakP – weak periphery.

It may not be wise to dramatize these findings, as far as the Mahutga's and Smith's sample includes only the half of the world population, with very deplorable underrepresentation of the communist and former communist countries. Obvious excuse for their omission is the very absence of many former communist countries on the political world map in 1965. They emerged in 1990–1992 as several composite political bodies (communist ethnofederations) dissolved, complicating the life of researchers who need for their conclusions research designs involving the analysis of long time series. The message of my paper is that there may be another complication: if polities split, why classes cannot? This possibility is explored in Table 4. The difference in the number of rows and columns means that between 1965 and 2000 the structural change in the CWS took place: periphery did split into two world 'mega-classes': weak periphery and strong periphery.

Weak periphery is 'old' or 'traditional periphery', which includes countries exporting primary products as they are described in the ideal typical way in the dependency theory tradition, or just 'failed states' with strong 'push' type emigration. In the CWS at the fifth Kondratieff wave (CWS 5.0), strong periphery

includes late industrializing countries hosting industries of the First Industrial revolution profile. This means that they are separated from the CWS countries, riding fifth Kondratieff wave, by the three Kondratieff waves' wide gap. For semiperiphery countries, this gap is only two Kondratieff waves gap long, and semicore countries are just behind the actual Kondratieff wave. The rough indicator to differentiate between periphery and semiperiphery countries is the presence or absence of the unified national electric grid. Vladimir Lenin famously defined Communism as Soviet power plus electrification. Actually by 2000, the still incomplete electrification indicates peripheral capitalism.

According to 5×5 classes model, there was rather significant downward mobility in CWS, with nearly half of (11 from 24) strong periphery countries joining weak periphery in 1965–2000. According to 4×5 model, real change involved the differentiation of the 'periphery without adjectives' into strong or new (industrialized) periphery and weak or old periphery. The exploration whether this interpretation is compatible with Mahutga and Smith data<sup>5</sup> would need the case-oriented analysis, scrutinizing the list of states which they classify as strongly, weakly, and very weakly peripheral, and inquiring their economic histories in 1965–2000. This would explode the space of single paper. Instead, I will end by two points in favour of the idea of the 'strong' change of the CWS structure and empirical implications of the proposed grounding of the analysis of the CWS structure in the long waves theory.

## 5. Conclusions, Suggestion for Further Research and Forecasts

1. Dependency theory and received world system analysis may underestimate discontinuity in the development of capitalism. The changes in the CWS core, caused by technological revolutions may puncture economic change in the way which was described by Marx as change of successive modes of production, each of them characterized by specific type of 'productive forces', 'relations of production', and class structure. Such changes take place in the CWS core countries, best place to jump and surf next Kondratieff wave. However, the rise of new Kondratieff wave has impact on the whole CWS, moving outdated carrier industries out the core and creating new tiers of the positions in the international hierarchy of the division of labour.

2. The analysis of the contemporary structure of the WS may be enriched by distinguishing between the absolute (or structural) and relative (or net) mobility in the CWS. Much of the current research on the mobility in the CWS may misperceive or misdescribe changes in the structure of the CWS as upward mobility (cf. Erikson and Goldthorpe 1992: 54–64).

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<sup>5</sup> Actually, their country rankings are 'data' only with big reservations, because they are outputs of the very complicated and sophisticated processing of real 'raw' data.

3. There should be a rough correlation between the CWS positions of countries as measured by Mahutga and Smith (2011) using relational data and the data about comparative advantage or competitiveness in the industries from different Kondratieff waves.

4. Instead of unconditional convergence predicted by neoclassical economists as the final outcome of globalization, there will be a multiplication of the structural positions in the CWS, with the CWS 'middle class' both growing in relative terms and internally differentiating. This 'middle class' includes industrial countries stuck in the middle income trap, hosting former carrier industries of the past Kondratieff waves.

5. There may be cycles of convergence and divergence, related to Kondratieff waves, as described in the famous Kaname Akamatsu 'flying geese' model: while in the rising or A-phase divergence prevail over convergence, in the 'falling period' the convergence forces take upper hand (see Tausch 2014). However, the group of the 'leading geese' or genuinely innovative countries, hosting carrier industries of the new rising Kondratieff waves, remains remarkably stable since the times of the Second Industrial Revolution in the late 19<sup>th</sup> century (see Babones 2013). This implies the existence of 'glass ceiling', separating the core of the CWS from the Rest, which did not become less permeable in the course of time. In fact, free markets work as most powerful inequality reproducing and increasing institutions both on national level and global level. While their unequalizing tendencies can be locally tamed in the core countries by the redistribution performed by their strong welfare states, there are no and cannot be such counter-balancing mechanisms on the global level in the WS, until it remains capitalist.

6. By 2040 (at the time when coming sixth Kondratieff wave will approach its peak), there will be  $6 - 2 = 4$  middle mega-classes in the CWS.

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