



TEXTO PARA DISCUSSÃO Nº 517

**THE ROLE OF PERIPHERY IN THE CURRENT TRANSITION TOWARDS A NEW PHASE
OF CAPITALISM:**

introductory questions on the changes of the centre-periphery divide

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**UNIVERSIDADE FEDERAL DE MINAS GERAIS
FACULDADE DE CIÊNCIAS ECONÔMICAS
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**THE ROLE OF PERIPHERY IN THE CURRENT TRANSITION TOWARDS A NEW PHASE
OF CAPITALISM:
introductory questions on the changes of the centre-periphery divide ***

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ABSTRACT

Metamorphoses of capitalism (Furtado, 2002) - a transition to a new phase of capitalism - impact the North-South relationship or the centre-periphery divide. Those changes in the North-South relationship are part of a broader reconfiguration of the global economy. One subject to be investigated is how far those changes in the South may affect the North itself - are there "reciprocal effects" working? There is a question about how current changes in the periphery of capitalism now impacts the capitalist core and advanced economies: this might be a new phenomenon - the boomerang effect (Marques, 2014). This manuscript, therefore, reviews evidences on the changes in the periphery, their impact upon the center and tries to include those changes and impacts within the metamorphoses of global capitalism. Therefore, metamorphoses of capitalism also affect the nature of the divide centre-periphery (Furtado, 1978).

Key words: centre-periphery; metamorphoses of capitalism; development and underdevelopment

RESUMO:

Metamorfoses do capitalismo (Furtado, 2002) - uma transição para uma nova fase do capitalismo - impactam a relação Norte-Sul ou a divisão centro-periferia. Essas mudanças na relação Norte-Sul são parte de uma reconfiguração mais ampla da economia global. Um assunto a ser investigado é até que ponto essas alterações na periferia podem afetar o centro – há "efeitos recíprocos" em operação? Há um novo fenômeno - o “efeito boomerang” (Marques, 2014)? Este manuscrito, portanto, revisa as evidências sobre as mudanças na periferia, seu impacto sobre o centro e tenta incluir essas mudanças e impactos no âmbito das metamorfoses do capitalismo global (Furtado, 1978).

PALAVRAS CHAVE: centro-periferia; metamorfoses do capitalismo; desenvolvimento e subdesenvolvimento

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INTRODUCTION

Celso Furtado's works on underdevelopment as a structural phenomenon of global capitalism, originated in the world impact of the British industrial revolution, are a major contribution for the understanding of the dynamics of the system as a whole (Furtado, 1978). They are one of Furtado's long-lasting contributions to economic thought.¹

As Celso Furtado advanced his interpretation on underdevelopment, the political implications for countries at the periphery were elaborated in specific policies for development (see Furtado 1968 and 1987). Therefore, Celso Furtado may be interpreted as one theoretician of catch up processes. As such, it is possible to locate him in the history of economic thought as a third generation investigator of development and catch up: List (1841) would be in the first generation and Preobrajensky (1926) in the second.

Furtado's position in this important topic of the history of economic thought in itself helps the subject of this manuscript - to identify changes in global capitalism and the role (and definition) of its periphery. A conservative thinker, List's (1841) influential work may be seen as typical of a first phase when the emulation of British industrial revolution was the issue for European countries such as France and Germany - then in the process of national unification.² Under the dynamics of the Russian Revolution, Preobrajensky (1926) is an example of a second generation elaboration, when the reflection on catch up took place in a world where the technological leadership was moving to the United States and the gap between the leading and the backward country was larger, the tasks more complex and the political mobilization broader.³ A reformist, Celso Furtado's work (1987) learned with the previous experiences (Germany, Japan, Russia) and he wrote during a new phase of capitalist development, with new technological and political challenges, in a post-war world under a clear hegemony from the United States. In this phase, in an increasingly decolonized periphery, countries even farther behind were trying to catch up, or at least reduce the gaps vis-à-vis more developed countries - bigger challenges.

Therefore, the elaboration of Celso Furtado - and the different challenges and points of view vis-à-vis List and Preobrajensky - shows three deep changes: first, leading countries rise and fall and different phases of capitalism take place; second, the tasks, policies and tools for catching up changes over time, from Europe to less developed regions of the world; third, the economic and political challenges for backward countries become more complex.

Celso Furtado had a very privileged stand point to understanding those changes, and he did contribute to our understanding of the dynamic nature of global capitalism. First, Furtado (1978, p. 21) discusses the transition from one phase of capitalism ("mercado atomizado") to another ("capitalismo organizado"). Second, Furtado (1978, chapter 1) evaluates a new phase, with the emergence of

¹ Excellent evaluations of Celso Furtado's contributions are available to the interested reader. Today this literature deserves a careful review, given its size and scope. One example of this high quality long list is Szmrecsányi (2005).

² Using Gerschenkron (1952) elaboration, List may have contributed to one prerequisite for a catch up - the intellectual environment for late industrialization.

³ Since the Japanese catch up between 1868 and 1905 may be one of the sources of the revolutionary dynamics within Russia, Preobrajensky work certainly is influenced by a new scenario that is a consequence of Japanese fast industrialization: the Japanese victory in the war of 1905 would not have been possible without the Meiji's revolution from above (Skocpol, 1979).

transnational corporations and their impact on "space and power" of a globalizing economy - the "transnationalization of the production introduces important changes" in the previous economic framework (p. 29). Third, 35 years later Furtado (2002) identifies a new level in the globalization process that challenges "national systems" and that leads to a growing "interdependence among economic systems". In this analysis Furtado puts forward a concept that is essential for the understanding of a dynamic and flexible economic system: "metamorphoses of capitalism", that permanently and persistently redefines the challenges for development and the nature of periphery, since the international division of labour is a key component of the divide centre-periphery. In this new "historical framework", Furtado identifies a key change, since in this new phase "social exclusion" becomes the main problem in "poor and rich societies", because "the organization of production process at world level necessarily leads to a huge income concentration" (2002, p. 6).

Those contributions of Celso Furtado define the starting point and the objective of this manuscript: an introductory investigation on current changes of global capitalism, taking the periphery into account. This investigation is organized in three sequential questions: first, what are the current metamorphoses at the centre?; second, what are the changes in the periphery?; and third, how those changes affect each other? Each question is dealt in one section, and the concluding section integrates those topics to discuss the changes in the centre-periphery divide - an important topic in the present metamorphoses of capitalism.

I. TRANSITION TOWARDS A NEW PHASE?

Metamorphoses of capitalism (Furtado, 2002) show the long term flexibility of the capitalist system as a whole. From the point of view of this manuscript, Furtado's elaboration may be integrated theoretically with other approaches, to understand this long term systemic flexibility.⁴ This flexibility may be understood through the lens of an open-ended and long lasting struggle between factors and counteracting factors that shape the ups and downs of the rate of profit (Marx, 1894, Part III). The long term dynamics of capitalism has been investigated by scholars focusing in the technological dimension - long waves of capitalist development (Schumpeter, 1939; Freeman & Louçã, 2001) -, in money and power - systemic cycles of accumulation (Arrighi, 1994) -, and in financial instability - "episodes of severe financial instability" that often trigger "institutional changes" (Minsky, 1986, p. 45).⁵ Those investigations show how capitalism as a system has over time reshaped itself. In common those approaches stress the role of crises throughout this process of shaping and reshaping the whole system. This process, of course, is not smooth: institutional matching and mismatching are part of the process,

⁴ A tentative effort to integrate those approaches to investigate metamorphoses of capitalism was attempted in a previous work (Albuquerque, 2012).

⁵ Those approaches suggest that capitalism, after the British industrial revolution, has passed through different phases: five, according to the long wave approach (Freeman and Louçã, 2001); two, according to the systemic cycles of accumulation approach (Arrighi, 1994); three, according to an interpretation of imperialism and its ages (Callinicos, 2009). Minsky (1986) concentrates on the transition from the capitalism before the 1929 crises and its post-crisis reorganization. For other periodizations of capitalism and other elaborations on the role of crises in those phases, see Albritton (2001).

and key components of those mismatching that anticipate institutional changes are the state (Jessop, 2002) and the global divide between the capitalist core and its periphery (Furtado, 1978, 2002).

Those works provide the historical and theoretical background to survey the role of crises in the metamorphoses of capitalism, as crises may be seen as turning points between phases of capitalism. Those reflections suggest two points.

First, crises are moments of adjustment for capitalism. Crises are part of the capitalist dynamics, they grow out of the inner system's logic as a rebalancing tool. A costly rebalancing tool, in social, human and economic terms, but a very effective restructuring tool. The creation of institutional mismatches is part of capitalist dynamics - mismatches that grow out of its technological dynamics, source of unequal development with other dimensions of the system such as finance, state, and geopolitical arrangements. Crises are at the pinnacle of those institutional mismatches.

Second, crises trigger institutional responses. In the beginning - during and after the initial panic - there are rescue operations. Even those rescue operations already trigger changes in the system - unintended or unplanned changes. Over time, sometimes as consequence of limitations of initial rescue operations, sometimes as consequence of institutional and political learning, structural reforms might be introduced, dealing with previous institutional mismatches. Those combined institutional answers - part unintended and unintentional, part unplanned and part politically designed - reshape capitalism: a new phase arises. Those changes involve both the emergence of new "varieties of capitalism" and broad geographical movements of capital - therefore, the economic decay of one country or region, even of a leading country, might not be a system breakdown, on the contrary, it might be an expression of capitalist flexibility.

The starting point to investigate the eventual transition towards a new phase is the crisis of 2007-2008 and the rescue operation to contain it. This rescue operation has impacted contemporary capitalism with unintended consequences that might be molding features that may be seen in the next phase: 1) growth of the size of states (measured by public expenditures) with a corresponding new level of interplay between states and markets; 2) acceleration of the rise of East Asia; 3) a persistent rise in the level of internationalization of capital⁶ - this is the structural transformation that has been highlighted by Furtado (1978, 2002); 4) the emergence of East Asia and the level of internationalization of capital disrupt previous international status quo and indicate important geopolitical problems (see Kissinger, 2014).

However, there seem to be no structural reforms in the post-crisis agenda. The international scenario - with the international mismatch between internationalization of capital and international governance at the background - might be still a blocking factor for the elaboration, coordination and implementation of those reforms. The present conjuncture can also be the beginning of a learning process of global elites to shape this new agenda.

However, this hole in the sequence crisis-rescue operations-structural reforms-new phase does not block further (unintended) steps away from the last variety of capitalism. Of course it is not possible

⁶ Jessop (2010, p. 68) describes this new issue, as he identifies the moment "when the world market became sufficiently unified that it was both possible and necessary to write a history of world capitalism rather than to focus on the dynamics of a plurality of more or less autonomous space economies distributed across the globe"

a return to solutions based in one single (even the new leading) national state. The reason for this is the level of internationalization already achieved - interdependence does not take a step backwards.

The end result of this preliminary analyses is that, on the one hand inherent dynamics of capital and unintended consequences of post-crisis rescue operations are shaping elements of a new phase, but, on the other hand, the lack of structural reforms - similar to New Deal in 1929 post-crisis - shows, that until now, the planned and intended elements for a new phase are not shaping the new phase. Over time this is a key element that may change, as elites' learning process go ahead - or new surges in economic and political crises push them to act.

The resulting conjuncture probably is best defined by Arrighi's concept of "systemic turbulence" - a period that may be long, when this transition takes place (remember that the last transition took 75 years to conclude - 1870-1945). This puts forward a new issue: what are the specificities of this current "systemic transition"? At least three specific characteristics may be identified. First, given the level of internationalization of the economy, Arrighi's sequence of leading nation-states may be over. The next hegemon may be at least a coordination of nation-states, not a single one, a more globalized hegemon - this could be one way to solve the mismatch between internationalization of the economic and the lack of international governance. Second, recent technological progress combined with the internationalization of capital and its power to shape a new international division of labor might give room to another new possibility of systemic transition, breaking Arrighi's classic sequence. With the intensification of the "technological application of science", it could be possible to think of a division between a country that is the "world's workshop" and another that is the "world's laboratory" - therefore the sequence would not be only between a "world's workshop" and "world's bank", as in previous transitions. The process of labor repositioning, now with its polarization between intellectual labor and manual labor at global scale, might open room for US, Europe and Japan to preserve its position as "world's laboratory" as the world's workshop stays at East Asia. Certainly a more complex route - but an example of new possibilities for this transition. Third, the global capitalist economy is more heterogeneous today - the end of the USSR and the rise of capitalist China combine a globalized economy with more varieties of capitalism (King et al, 2005). Fourth, this increased heterogeneity involves a more intra-differentiated periphery that, for example, is headquarter of a growing number of global firms (Silva, 2014), process that might be already influencing the current reconfiguration of capitalism - a "boomerang effect" might be taking place now (Marques, 2014) - this is the subject of the next two sections.

Those specificities of the current "systemic turbulence" indicate the need of further research - and the limits of analogies with past transitions to the understanding of contemporary capitalism.

Finally, the internationalization of capital as the "dominant factor" in the current transition puts forward an important change in the framework within which takes place the struggle between the tendencies and countertendencies to the fall of the profit rate. Now, as capitalism involves the whole world - the periphery is capitalist, not anymore a world with a lot of non-capitalist areas, as during the life of Rosa Luxemburg -, there is less space for escape of capital towards areas where the competition may be less intense.

II. LONG-TERM CHANGES WITHIN THE PERIPHERY

There is a long term dynamics of the periphery, related to metamorphoses of capitalism and to the internal dynamics of peripheral countries.

In the first phase - and first structure of international market, to use Mandel's (1974, chapter 1) periodization, or in the first age of imperialism, to use Alex Callinicos' (2009, chapter 3) periodization - the division was simple: on the one hand, there were industrialized countries at the centre, on the other hand there were agricultural and natural resource's countries at the periphery. A phase of expansion of capitalism beyond Europe and North America, through the persistent inclusion of non-capitalist regions (Luxemburg, 1912). Bukharin (1917, Chapter 4), who seems to be the first to use the term "periphery" in this context, describes this structure: "It follows that world capitalism, the world system of production, assumes in our times the following aspect: a few consolidated, organized economic bodies ("the great civilized powers") on the one hand, and a *periphery* of undeveloped countries with a semi-agrarian or agrarian system on the other." (emphasis added). The nature of FDI, then mostly directed towards peripheral countries, was "resource seeking" (Dunning, 1995). Of course, the periphery was not completely homogeneous, as the first wave of capital expansion hit countries and regions in very different levels of previous development - a comparison between North of Africa, Middle East, India, China, South Africa and Latin America provides a good reference - and different connections with the capitalist centre - formal and informal colonies, independent countries. The international division of labour was also based upon the division between industry (basically at the centre) and agriculture and natural resources (as the main products of the periphery).

In the second phase, the periphery became more heterogeneous, with the achievement of some level of industrialization. Underdevelopment is affected by changes at the centre, as a persistent and a changing polarity modernization-marginalization became one feature of this structural phenomenon. This process might be related to what Trotsky (1930) earlier, discussing czarist Russia, identified as the "process of uneven and combined development".

Each technological revolution that took place at the centre (Freeman and Louçã, 2001) reshaped the economic and industrial landscape at the periphery, with a new dynamics of emerging and declining sectors that redefined peripheral economies. In this process, the nature and level of industrialization achieved were, in themselves, sources of differentiation within the periphery: a differentiation between the rest and the remainder, according to Alice Amsden (2001). Furtado suggests a differentiation between levels of underdevelopment, with a category of "high level underdeveloped countries": countries, such as India, Mexico, Brazil, for example, that were able to internalize part of the capital goods industry between the 1950s and the 1980s (Furtado, 1986). In this phase, the heterogeneity was so broad, that two countries - South Korea and Taiwan - were even able to overcome underdevelopment, according to Celso Furtado (1992).

During this phase, countries in Africa (South Africa, Egypt), in Asia (India, China, South Korea, Taiwan) and in Latin America (Mexico, Argentina, Brazil) have built at least part of the institutional arrangements crystalized in national systems of innovation (Freeman, 1995). Innovation systems at the periphery opened a new stage in the dynamics centre-periphery, as peripheral countries began to develop absorptive capabilities to deal with the technological revolutions that emanate from the centre and to

join international flows of science and technology. Those new scientific and technological capabilities (a new source of heterogeneity within peripheral countries), now located at some but not all countries at the periphery, with their impacts on the creation of universities and other high education institutions, push new changes in the international division of labour. It is important to highlight that in these changes part of the initiative was with the periphery. These changes are related to other new phenomena - the emergence of not only global production networks with nodes at the periphery, but also global innovation networks, with R&D activities at the periphery (UNCTAD, 2006; Ernst, 2006).

This process of limited industrialization of the periphery is a long process, since industrialization efforts from within those economies may be identified since late XIXth century. The end result of this process was the emergence of new varieties of capitalism - a type of capitalism not well discussed in the literature - for instance, Coates (2000) discusses only developed countries, the centre.

The specificities of capitalist dynamics at the periphery is another long-lasting theoretical contribution from Celso Furtado (1978): underdevelopment, the polarity modernization-marginalization, a specific pattern of income concentration, the lack of endogenous technological progress, the weakness of capital goods industries even in the most industrialized peripheral countries, and the institutional and power connections with the centre (dependence as a structural feature) - an "indirect access" to industrial civilization (1978, p. 46).

The impact of the British industrial revolution and the subsequent technological revolutions upon the periphery could not be homogeneous, giving the initial diversity of levels of economic and political development. The way that those technological shocks were received and absorbed by those existing societies - the "laws" of "uneven and combined development"- could produce more heterogeneity at the periphery: new "varieties of capitalism".

The nature of industrialization during the post-war period did show those differences. At least five different types of capitalism may be indicated at the periphery. First, India (Drèze and Sen, 2000) - a country where the polarity modernization-marginalization is extreme, since India has sophisticated important firms in sectors such as chemistry, pharmaceuticals, automobile, software, and good connections with scientific institutions at the centre, but still has a large poor population. In a more recent period, India - in contrast with China - has improved her services sector, in sophisticated sectors such as software. Second, East Asian countries (Amsden, 1989, Wade, 1990) - a pattern of industrialization influenced by the Japanese double catch up: state-led dynamic export-led process, with active insertion in the international division of labour, including the development of innovation systems strong enough to support the entry in high-tech industries - this trajectory was able to overcome underdevelopment in two small countries (South Korea and Taiwan), and it seems to be difficult to replicate. Third, China (Naughton, 1997) as a new type of state-led capitalism, able to combine the size of her internal markets, previous investments in education and health, and some of the lessons from Japan, South Korea and Taiwan to become the world's workshop. Fourth, resource rich countries, such as South Africa and oil-rich countries, such as the Gulf countries - two different trajectories. One is South Africa (Fine et al, 1996), as an economy controlled by a mineral-industrial complex, able to from this build a sophisticated financial system that connects her to the leading financial centres and to other African countries. Other is the Middle East and North of Africa (MENA) region, where the nature and the structure of ownership oil reserves establishes a very specific linkage with leading economies and

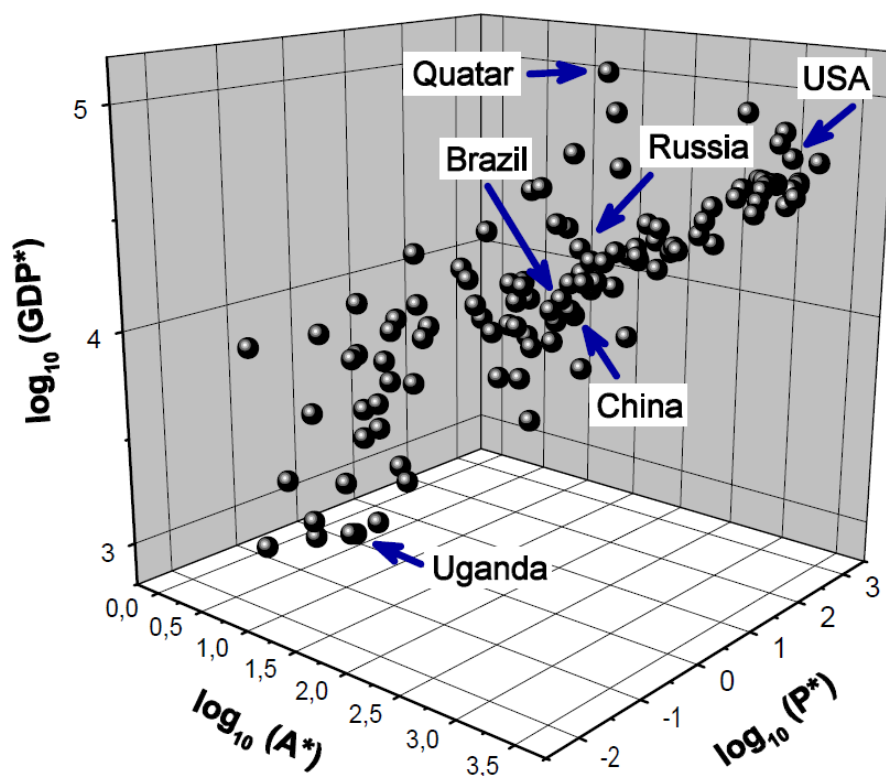
shape a specific variety of capitalism - a variety of "patrimonial capitalism" (Achcar, 2012, pp. 67-87). Fifth, a Latin American variety of capitalism, born out of specific dynamics that started with colonial exploration of natural resources, passed to local production of agricultural products for European markets and reached the phase of import substitution (Furtado, 1970). However, in contrast to the Japanese-type of strategy (Okhawa and Kohama, 1989), Latin American industrialization was not able to implement industrial policies long-term and flexible enough to enter phases of export substitution and secondary import substitution.

This short summary of a mosaic of peripheral varieties of capitalism highlights how the heterogeneity of the periphery had increased over time - for different reasons. This mosaic of varieties of capitalism at the periphery, however, has been built under the influence of the British Empire until the First World War (Ferguson, 2003) and under the leadership of United States during the XXth century (Panitch and Gindin, 2012) - therefore there might be an hierarchy between those varieties of capitalism at the periphery and the others at the centre.

How can this increasing differentiation and heterogeneity be empirically illustrated? From previous works, a systematization of data on wealth of nations, science and technology is available (Ribeiro et al, 2006). GDP per capita, patents and indexed scientific papers are indicators that help to get a snapshot of different countries. The correlation between technological capability of each country and its wealth is a point that has a similar interpretation from Celso Furtado and from neoschumpeterians (Albuquerque, 2007).

Graphs 1, 2 and 3 organize the data.

GRAPH 1
Wealth of nations, scientific and technological production
(2012)

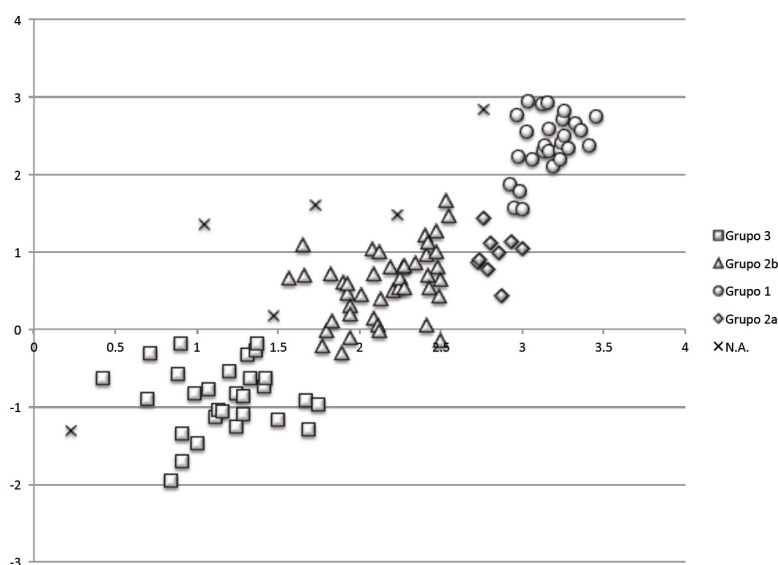


Source: World Bank, USPTO and ISI, authors' elaboration (updating Ribeiro et al, 2006).

Graph 1 shows the correlation between those three dimensions. Graph 1 may be read as a clue that countries that have enough technological capabilities - that have endogeneized their technological dynamics - generated wealth that posited them as rich countries. Certainly there are positive feedbacks operating between wealth and science and technology - a feature of development. Graph 1 shows that there are exceptions to this relationship, as the case of one the richest countries in MENA shows: Qatar has a high GDP per capita (higher than USA) but a relatively weak S&T production for that income level (lower than USA and around the same level of Brazil and China). As discussed earlier, those countries have their wealth dependent upon their oil reserves and on the way they are integrated in the global economy to explore those resources and use the financial accumulation generated by the sale of those resources (Achcar, 2012).

The heterogeneity of the periphery in 2012 is shown in Graph 2 (the x-y axis of Graph 1). The data on patents and scientific papers identify three groups (and two sub-groups): one of them may be classified as the centre (group 3) and the other two as the periphery (groups 1 and 2). The dispersion of countries between groups 1 and 2 shows how heterogeneous the periphery became - one product of metamorphoses of capitalism.

GRAPH 2
Division of countries in three main groups ("regimes of interaction"):
Centre (group 3) and Periphery (groups 1, 2A and 2B)
(2012)



Source: USPTO and ISI, authors' elaboration (updating Ribeiro et al, 2006).

Graph 3 highlights the growth of this heterogeneity of the periphery (data for 1974 and 2012) organizing figures that include the trajectories of selected countries from different regions⁷. Heterogeneity in itself, within the regions, is a variable for comparing different regions.

Latin America, for instance, seems to be a more homogeneous region, as the range of the selected countries is more concentrated - no successful catch up, but almost all countries selected are in the second group of countries (the intermediate level, or the leading underdeveloped countries).⁸

Asia is the most heterogeneous region, since it includes countries that were able to catch up (to go beyond the threshold of the third group, the developed countries) and countries that are in the lower end of the intermediate group - and in 1974 there were countries in group 1 (South Korea, among them).

The Middle East and North Africa (MENA) region also is very heterogeneous, but no country joined the third group - although countries such as Qatar and Kuwait have a GDP per capita similar of developed countries. Graph 3 shows how disconnected, in those cases, are the wealth of those nations and their S&T capabilities.

Sub-Saharan Africa is also heterogeneous, since it includes countries in the first group and South Africa in the second group - as Brazil, India, China and Iran.

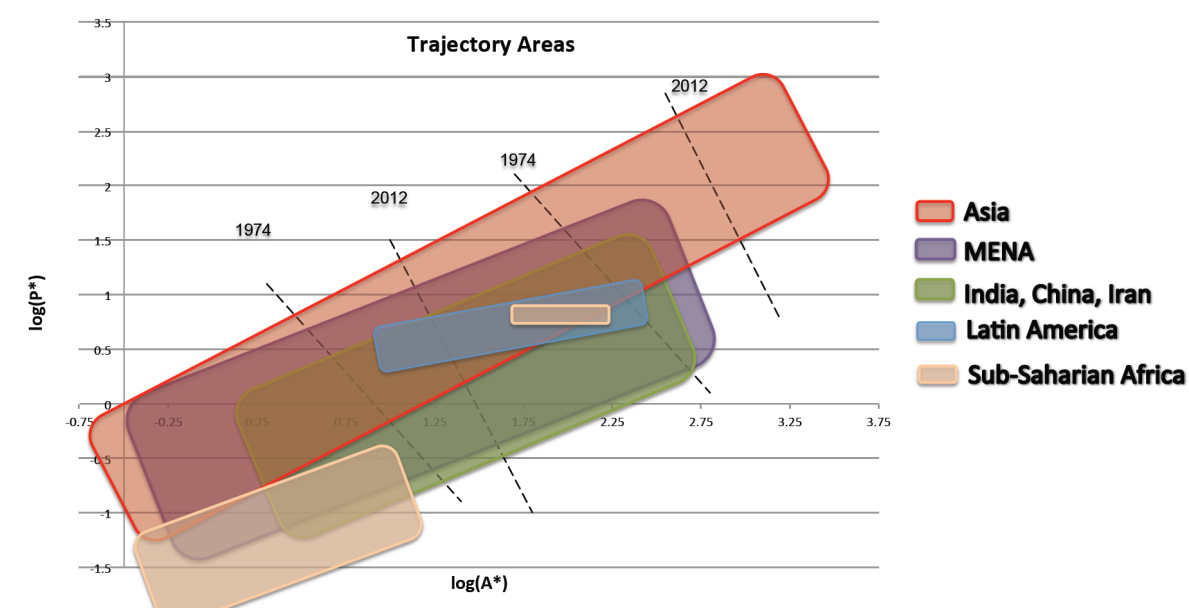
Graph 3 also highlights how difficult it is to join the centre - schematically represented in Graph 3 by the overtaking of threshold that divides the group of countries at the centre to the group of leading

⁷ For an explanation of thresholds, countries' trajectories and the tools used to prepare those graphs, see Ribeiro et al (2006).

⁸ Suzigan (2001) presents an evaluation of the Brazilian industrialization process, the successes and failures of industrialization by import substitution, and how this process was critically interpreted by Celso Furtado.

peripheral countries - only South Korea and Taiwan were able to do this in the post-war period. The dynamic idea represented in Graph 3 is that overcoming underdevelopment is a moving target - developed countries, with their leading positions in science and technology, always push ahead the frontiers of the capitalist centre.

GRAPH 3
Space range of scientific and technological production of different peripheral regions, and the 1974 and 2012 thresholds between three groups of countries



Source: USPTO and ISI, authors' elaboration.⁹

Graphs 2 and 3 also introduce a discussion about the relevance of a centre-periphery divide in the end of the XX century: although progress has been made by the leading peripheral countries, they still lag behind the centre, showing that catch up is a difficult process (*The Economist*, 13 September 2014).

There are other forms to explain how the divide centre-periphery is still important, but how it is permanently reshaped by the changes that affect both sides of this divide.

Ester Santos (2014) investigated the changes in the international division of labour and how this had affected the flows of technology transfer: the leadership of countries in the centre is preserved, while the rents related to technological increase over time.

Jefferson (2007), investigating R&D outsourcing, suggests that the movements related to GPNs and GINs only reshape the international division of labor while preserving the technological hierarchies.

⁹ The countries selected by region are as follows: 1) Asia: South Korea, Taiwan, Malaysia, Philippines, Indonesia and Thailand; 2) MENA: Egypt, Jordan, Kuwait, Morocco, Qatar, Saudi Arabia, Tunisia and UAE; 3) India, China and Iran; 4) Latin America: Mexico, Argentina, Costa Rica and Brazil; 5) Sub-Saharan Africa: South Africa, Nigeria and Uganda.

According to him, “[j]ust as the phenomenon of FDI and R&D offshoring leads to spillovers that induce Chinese firms to establish rudimentary operations, the same pattern of offshoring is also motivating the United States and other OECD MNEs to upgrade and diversify their R&D operations in order to maintain control over the development and deployment of critical technologies” (Jefferson, 2007, p. 213).

UNCTAD (2013) investigates a phenomenon important within the current phase of globalization - GVCs - that can be seen also as an expression of dynamics changes in the international division of labour: on the one hand, manufacturing skills are spread across various countries in the periphery - not anymore agrarian countries -, on the other hand, the revolution in ICTs allows firms at the centre to coordinate their production process spread by those diverse countries and continents. In the GVCs the hierarchies of the whole process - innovation, design and production - are very clear.

In sum, although reshaped, renewed, and within a new international division of labour, the divide centre-periphery survives - hierarchies are preserved and redefined.

In a current phase - in Callinicos periodization, after the end of Cold War (post-1991) - at least three new important changes may be clearly seen.

First, the end of USSR in itself created a new variety of capitalism, "patrimonial capitalism" according to King et al (2005) - in a trajectory that might be becoming one more peripheral variety.¹⁰ The economic nature of capitalist Russia is certainly very complex, but according to our data, Russia might be part of the periphery now (in Graph 2, Russia would be in the same sub-group of Brazil, India, and South Africa: 2B).

Second, the emergence of transnational corporations with headquarters at the periphery (UNCTAD, 2006; Silva, 2014).

Third, an increase in GDP from peripheral countries such as China, India, Brazil, Russia, reaching a level that makes the *Financial Times* (08 October 2014) proclaim a "new G7" (China, India, Russia, Brazil, Indonesia, Mexico and Turkey), that has overtaken the "old G7" in GDP PPP. There are huge controversies regarding the meaning of PPP measures. The reference to this *Financial Times* proclamation is just to stress that a tectonic change is in the making. Even in PPP terms, ten years ago the "old G7" kept a safe leadership. The point here is that size matters and this may be identified looking to what happened after the 2007-2008 crisis: there was an international conjuncture with a "two-speed recovery" (BIS, 2012, p. 1) - the recovery of the global economy was, as never before, dependent on the growth levels of the "global South". This might be a clue of broader changes (UNDP. 2013).

¹⁰ The end of USSR shows the failure of one of the three forms of access to industrial civilization discussed by Furtado (1978, pp. 44-45). The other two were Japan (successful, pp. 43-44) and the Latin American (the indirect). China was seen as a special case (p. 111), and since the 1970s reforms it may be investigated as another - a new one? - form of access to "industrial civilization".

III. HOW THE PERIPHERY AFFECTS CURRENT RECONFIGURATION OF GLOBAL CAPITALISM

After the identification of those long-term changes within the periphery, there is an important preliminary question: does the divide centre-periphery, as elaborated by Celso Furtado, make sense today?

The positive answer is supported by three basic arguments.

First, as the evaluation of Graph 2 in section II suggests, it is necessary to take in account the dynamics of capitalism at the centre: technological revolutions renew technological and scientific leadership, create new gaps between leading countries and the rest, and put forward new challenges for late-comers. Late-comers may eventually be successful in the entry of existing technological paradigms, but as new technological revolutions take place, they may once more be late-comers, now for the newly created technological paradigm. A new catch up process should take place, therefore.

Second, the dynamics of capitalism at the centre adds new problems to countries at the periphery to generate endogenous technological change. There are technological revolutions at the centre, and also new structural features of global capitalism that may add challenges for peripheral countries such as the international networks of production and innovation.

Third, based on the dynamics explained above, hierarchies are preserved and renewed - probably the most important issue might be the international division of labour and its persistent changes: who defines this division of labour? What countries shape changing international division of labour and what countries have to take it as given and try to ex-post adapt to it? Even the emergence of transnationals with headquarters at peripheral countries shows how the hierarchical nature of the centre-periphery divide is remade: Leandro Silva (2014) has shown how the nature of transnationals is deeply related to the stage of formation of their home innovation systems. Therefore, the level of maturation of innovation systems (broadly summarized at Graph 1 and 2) is a strong constraint to the scope, technological sophistication and reach of transnational firms from the South.

Fourth, the global dynamics of capitalism has in the last decades included more countries in the periphery - Russia after the end of USSR is a new comer to this group, according to our data, Russia is in the Graph 2 sub-group 2B.

Since this requalified centre-periphery is still a key feature of global capitalism, the question now is how this so transformed periphery - more heterogeneous, larger, with sophisticated capabilities accumulated - impacts the dynamics at the centre of the system?

The economic size of the periphery matters, the weight of peripheral economies (their share in the Gross World Product - GWP) impacts more intensively the overall dynamics of the system - for good or bad. In the recent post-crisis phase, the periphery was an important source of vitality. Both in general terms, according to the "two-speed recovery" approach, and in more specific terms, for some transnational corporations profits in the global South were important for balancing their accounts. This is an important difference vis-à-vis the post-1929 conjuncture.

As seen in section I, the international expansion of capital, a more global capitalism, has as corollary fewer "non-capitalist regions". This changes the global dynamics of the system, as the competition between capitals now takes place almost everywhere. As competition among the individual capitals goes global, there are not anymore "foreign regions" open to be capitals to escape from domestic competition. Therefore, this change may hinder the operation of foreign regions as source of a strong counter-tendency to the fall of the rate of profit. In this sense, there are not outlets for domestic surplus capital - the outlet for one capital may be the home of another capital. Therefore, new patterns of global capitalist competition.

The proliferation of a mosaic of new nucleuses of capitalist accumulation - and new varieties of capitalism -, more dispersed now than before, also contributes for shaping a new pattern of global competition. Competing capitals in all continents, with specific interests related to its accumulation logic - that may establish a more unstable and volatile international framework: this may be another source of institutional mismatch, as discussed in section I.

The combination of expansion of capital with the inclusion of more countries directly under the network of global markets creates a global labour market (R. Freeman, 2007). The inclusion of Indian, Chinese, and Russian workers in this global market - the "doubling of global labour market", according to R. Freeman (2007) - affects working conditions everywhere, including the US and Europe. This global labour market is also relevant in sophisticated areas such as science and engineering fields - global innovation networks involves scientists and engineers available in peripheral countries (Ernst, 2006).

The industrialization of part of the periphery, the capital accumulated in those countries, although under the structural limits determined by the condition of underdevelopment, were able to push domestic capital beyond their borders with the creation of transnational corporations. Transnational corporations with headquarters in the South have impact on the centre, illustrated by a Chinese firm (Lenovo) buying a division of an American firm (IBM notebooks division), in 2005 (*The Economist*, 12 January 2013), and an Indian firm (Tata) acquiring a British firm (Jaguar), in June 2008 (*The New York Times*, 30 August 2012). Although the economic and political significance of this new phenomenon should be further investigated, at least this feature also changes the nature of capitalist competition.

Those changes indicate a number of new features of current global economy, where the dynamics is still broadly defined at the centre, but with a less unidirectional determination. Certainly this more powerful role of the periphery is a new feature of global capitalism - the "boomerang effect" is operating (Sylvia Marques, 2014).

IV. CONCLUDING REMARKS: CHANGES IN THE CENTRE-PERIPHERY DIVIDE

The previous sections show how the periphery has changed over time (larger size and gross wealth, limited industrialization, formation of innovation systems - although still immature -, a mosaic of varieties of capitalism - peripheral capitalisms -, with different combinations of the polarity modernization-marginalization, an increasing heterogeneous group of countries), but all preserve the two defining features of underdevelopment: lack of endogenous technological dynamics and huge social inequality. Metamorphoses of capitalism (Furtado, 2002) make and remake the centre-periphery divide:

a dynamic and changing divide, as everything else in capitalism. In sum: periphery today is not anymore a set of agricultural countries, but include countries that produce airplanes and sophisticated software programs. The moving threshold presented in Graph 2 may be just one way of illustrating this changing divide.

Capitalism, therefore, is still defined by this divide - which points for the importance and permanence of Celso Furtado's major contribution.

The centre-periphery divide has changed because today the periphery is potentially more influential than before - it matters given its size, its increased technological capabilities, and the absorptive capabilities that accelerate technological transfer, the multifarious ways that it may be connected to the centre (a result of the increasing sophistication of peripheral innovation systems).

The centre-periphery divide has changed because now inequalities - increasing levels of inequality - are not anymore a problem specific from peripheral countries. Piketty (2013) has shown this increase in inequality and the level achieved at countries such as USA, France, and United Kingdom. The globalization process has introduced a new problem related to migration to the centre - what is the status of 11 million undocumented US immigrants (*The New York Times*, 20 November, 2014), given the lack of voter rights and problems to join trade-unions and to implement a full set of citizens' rights, living under the threat of deportation? This may indicate that today, countries at the centre are assuming characteristics that earlier were typical of peripheral countries - and this was pointed by Celso Furtado (2002, p. 2): in this new phase "social exclusion" becomes the main problem in "poor and rich societies".

A new feature of the centre-periphery divide, a consequence of the importance of size of peripheral economies, is that a peripheral country - China - might be by 2020 the world's largest GDP. This may have implications for the overall dynamics of capitalism, as if, on the one hand, China will become the larger GDP, on the other hand, it still is (and probably will continue to be in the near future) a poor nation, according to data on GDP per capita. This mismatch might be an element of new characteristics of the emerging new phase of capitalism: the larger economy of the world is not a technological or scientific leader, the larger economy is not the laboratory of the world. But China is large enough to push a "tectonic change" in global economy (NIC, 2012), to demand a strategic reaccommodation in the international order (Kissinger, 2014).

The clearest change in the centre-periphery divide is related to the level of technological and scientific capabilities required to overcome underdevelopment: the periphery is much more sophisticated than it was in thirty or a hundred years ago, but it is still a periphery. However, this feature has consequences for the centre too, as it has to make new efforts to preserve the leading role in science and technology.

And, finally, the most important change in the centre-periphery divide is the "boomerang effect" (Sylvia Marques, 2014): the periphery has power enough to influence the dynamics at the centre, as section III describes - although it does not have enough power to join the centre.

This diagnosis on the persistence and changes of the centre-periphery divide is an evaluation of one important limit to global capitalism: this system is not capable to overcome this divide. On the contrary, as this manuscript discusses, it has reshaped and redefined this critical divide.

This specific feature of global capitalism - the renewal of the divide centre-periphery - adds one problem to the post-crisis agenda.

The current metamorphosis of capitalism is leading to a greater social exclusion (both at the centre and at the periphery) and to a "larger income concentration" (Furtado, 2002, p. 6). There is this historic incapacity of capitalism and its metamorphoses to overcome the divide centre-periphery puts forward a political issue. This puts forward an old question from Celso Furtado (1987): to conform or to reform?

Those who do not want to conform may see another reason why it is necessary to elaborate a global alternative to capitalism. Again, a topic that is not unfamiliar to Celso Furtado, a critic of capitalism at the centre - inter alia, because the orientation of technological progress in capitalist societies runs against creativity (Furtado, 1978, p. 77).

Therefore, it is necessary an international agenda for global reform - a collective and an international elaboration. But, two topics may be presented: first, a step towards global citizenship - the democratic right of freedom of movement -, second, new global institutions - to overcome poverty, to organize a global welfare system, to coordinate a global system of innovation, and to reorient the economy towards low carbon technological change.

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