

Gemma Cairó-i-Céspedes & Juan Carlos Palacios Cívico (2022) Beyond core and periphery: the role of the semi-periphery in global capitalism, *Third World Quarterly*, 43:8, 1950-1969, DOI: 10.1080/01436597.2022.2079488

BEYOND CORE AND PERIPHERY. THE ROLE OF THE SEMI-PERIPHERY IN GLOBAL CAPITALISM

GEMMA CAIRÓ-i-CÉSPEDES (corresponding author)

Professor, Faculty of Economics and Business, Universitat de Barcelona
Av. Diagonal 690, 08034 Barcelona (Spain)

gcairo@ub.edu

ORCID: 0000-0001-9818-4722

JUAN CARLOS PALACIOS CÍVICO

Professor, Faculty of Economics and Business, Universitat de Barcelona
Av. Diagonal 690, 08034 Barcelona (Spain)

jcpalacios@ub.edu

ORCID: 0000-0001-6661-8135

Bibliographical notes:

Gemma Cairó-i-Céspedes, PhD in International Economics and Economic Development, is professor of World Economy at the University of Barcelona. She has published in reviews as *Progress in Development Studies*, *Asian Survey*, *Feminist Economics*, *Canadian Journal of Development Studies* and *Revista de Economía Mundial* among others. She is the editor and co-author of the book *Economía Mundial. Deconstruyendo el capitalismo global* published in Edicions UB in 2020. She is member of the Editorial Board of *Revista de Economía Crítica/Journal of Critical Economics*. She has been advisor of the governmental council CTECS (*Labour, Economic and Social Council of Catalonia*).

Juan Carlos Palacios, PhD in International Economics and Economic Development, is professor of Development Economics and International Economic Policy at the University of Barcelona. He has published in reviews as *Growth and Change*, *Development Policy Review*, *Revista de la CEPAL*, *Papeles de Europa* and *Revista de Economía Crítica* among others. His main research areas are: economic and social inequality, development, economic growth, development cooperation, Cuban economy and democracy and transitional justice. Likewise, he has published several book chapters and participated in international conferences on such topics. Related to his areas of specialization, he has participated in the *Cuba-European Union Expert Exchange Program* and collaborated with the *Ibero-American General Secretariat (SEGIB)*.

ABSTRACT

Capitalist globalization has shown the need to define the semi-periphery as a new category that transcends the traditional core-periphery division. This paper aims to characterize this new category and understand the role it has in the reorganization of the production process, in addition to the effects this specific participation has on the global economy. Building on previous theoretical developments, this paper aims to analyse and identify these specific features, examining them through a set of economic, social, and technological variables by applying principal component and cluster analyses. As a result, the empirical analysis identifies a group of countries that have not been able to turn their current or recent economic dynamism into higher levels of socioeconomic development.

KEYWORDS: semi-periphery, globalization, development, principal component analysis.

INTRODUCTION

The transformation of the world economy under capitalist globalization has led to a rise in prominence of the semi-periphery. The aim of this paper is to analyse the relevance of the semi-periphery as an analytical category and to explain the changes in the world system in terms of the emergence of these countries and how they differ from the core and periphery. In addition, the features of the capitalist development taking place in these countries will be defined. This article should be understood as the continuation of a previous contribution on this topic, which appeared as a seminal paper highlighting the need to recover the semi-periphery category by testing the role of some peripheral countries in the changing patterns of world economy dynamics (Martínez Peinado and Cairó-i-Céspedes 2014).

The study of the semi-periphery as a tool to analyse the changes that are transforming the world economy is an attempt to improve on the conventional approach to emerging countries, referred to using the acronym BRICs (Goldman Sachs 2003). This approach is often focused on growth performance and increasing participation in global trade and financial market integration (Duttagupta and Pazarbasioglu 2021), but it is not clear how to measure this emergence beyond economic growth rates (Winters and Yusuf 2007; Nayyar 2008; World Bank 2011; United Nations Development Programme-UNDP 2013). Differently, the approach to the semi-periphery enables a deeper insight into the capacities of these countries to translate economic dynamism linked to globalization into structural change leading to domestic development.

The starting point is to consider that global capitalism, as a process of the internationalisation of production, has signified a key change: the transnationalisation of capitalism, that is, a transition of the system from a nation-state phase to a new transnational phase of capitalism (Robinson and Harris 2000; Arrighi 2001). While in the nation-state phase the world was linked by commodity and financial flows in an integrated international market, in the transnational phase the global social connection is an internal one springing from the globalisation of the production process itself and the supranational integration of national productive structures (Robinson and Harris 2000, 16). Globalisation has implied the active incorporation of semi-peripheral countries in the global value chains as leading manufacturers in a new division of labour which, under the conditions of peripheral Fordism, has allowed some semi-peripheral countries to detach from their former role as commodity-based exporters.

To this effect, the semi-periphery would reflect the *transition* that the world economy is experiencing under globalisation (Martínez Peinado 2000). We consider two main implications of this transformation of the capitalist system. First, the internationalisation of production across borders involves a reconfiguration of the world manufacturing map, responding to changes in the global distribution of both the production process and value generation.

Concretely, what arises in the semi-periphery is a range of specific economic activities and sectors linked to the global value chain, which can be seen by the increasing dominance of core activities (those with a high degree of technological progress) developing rapidly within these countries while they remain predominantly highly underdeveloped regions in capitalist terms. In geographical terms, it could be regarded as the blurring of the North-South divide by moving towards a geography characterised by the proliferation of land *enclosures* dominated by export processing zones, tourist resorts, financial centres, and extractive mining zones, among others, which are disconnected from their immediate surroundings while becoming integrated in the global economy (Sidaway 2012, 52). In other words, the traditional core-periphery divide is becoming increasingly blurred in national terms but continues to exist, if not deepen, in global terms, signifying a dissociation from its national character. As some have pointed out, the concepts of core and periphery, or North and South, are increasingly not geographic *per se* as much as they are social class in nature, given that the global economy creates new variations, specialisations and asymmetries that cut across nations and regions (Burbach and Robinson, 1999; Robinson and Harris 2000; Arrighi 2001).

Second and consequently, capitalist globalisation has suppressed the traditional way in which national development takes place since the (national) capitalistic circulation process $M-M'$ has become a new (global) $M-M'$. In the nation-state phase of the Fordist form of capitalism, the realisation process was assured by demand capacity inside national boundaries due to the social contract between capital and labour. However, under globalisation there is an increasing separation of the processes of exploitation and realisation. Due to the progressive weakening of this link, most countries have faced increased difficulties in guaranteeing the social welfare of their citizens, associated with job creation, better salaries, and public spending capacity. Thus, the rising autonomy of capital from its territorial anchorage inevitably leads to an erosion of social schemes by progressively delinking the (national) development path from the national level and state control (Husson 2013, 195).

It remains to be seen how the ongoing slowdown of the globalization process will affect global rules and countries' strategies, considering the declining trade elasticity of growth and lower activity in global value chains, which are related to some structural factors such as the shift from manufacturing to services, the diminishing advantages in terms of labour costs, and the slowing of tariff reductions (Hurley, Storrie, and Peruffo 2016) (Arslan et al. 2018) (Enderwick and Buckley 2020). This so-called "deglobalisation" could be considered a new phase of international economic relationships rather than the end of an era; a phase now characterised by digital globalization, within a framework of political resistance, where the semi-periphery will focus policies on the domestic sphere rather than the international one, thus counterbalancing hyperglobalization (Mallaby 2016) (Rodrik 2019).

Bearing in mind these changes, the current research aims to meet the proposed goal by combining theoretical and qualitative analysis of the semi-periphery with the use of quantitative methodologies (Principal Component Analysis and Cluster Analysis), enabling us to classify the selected economies into core, peripheral, and semi-peripheral economies during the period 2010-2016. Following Vidal Villa (1987), Hair, Anderson, Tatham and Black (1999) and Carballa, Durand and Knauss (2016), the current research combines both quantitative and qualitative methodologies, synthesizing the original information in a set of components, easing the understanding of a multivariate phenomenon, and classifying the selected countries in a more rigorous way.

The sample is made up of the thirty most populated¹ countries in the world and includes at least five countries from each of the largest continents². The rationale behind this selection is twofold. On the one hand, to ensure the relevance of the countries included in the sample³ and, on the other, to avoid the overrepresentation of any group (core, peripheral, and semi-peripheral), thereby avoiding narrowing down the analysis to economic-based criteria (such as GDP or per capita GDP) or to one specific region, given that geography has been historically relevant in the conformation of core and peripheral countries.

For this purpose, we first offer an overview of the literature on the concept of semi-periphery based on two main theoretical approaches, world systems and core-periphery analysis. Next, we analyse the main theoretical and empirical characteristics that enable us to define semi-peripheral countries and differentiate them from core and peripheral ones through the analysis of their productive, trading, and financial performance. On this basis, we aim to contrast these differences empirically by combining principal component and cluster analyses. Finally, we present the main conclusions of the paper.

THEORETICAL APPROACH TO THE SEMI-PERIPHERY: WORLD SYSTEMS ANALYSIS AND CORE-PERIPHERY APPROACH

The starting point for our theoretical analysis of the semi-periphery as an analytical category is the core-periphery approach developed originally by the ECLAC and the dependency school in the 1950s to explain the historical process of uneven development in the world economy. Notably, both the systemic analysis developed by the world systems approach and the dichotomous nature of the process of accumulation developed by the core-periphery school serve as the theoretical background to explore the concept of semi-periphery.

Wallerstein's contribution to the study of social change was the analysis of the modern world system that he describes as being rooted in history and featuring a hierarchy of core and periphery economies ordered according to their capacity to retain surplus gains and the level of capitalist development. In Wallerstein's world systems approach there are three main theoretical considerations, which

are useful for our analysis of the semi-periphery (Wallerstein 1974, 348-349). First, the modern world system is characterised by an extensive division of labour, where the range of economic activity is not evenly distributed around the world, magnifying, and legitimising the ability of some groups to exploit the labour of others, and consequently receive a larger share of any surplus value. Second, Wallerstein considers that capitalism is an economic system in which economic factors operate within an arena larger than any that can be totally controlled by a political entity. Third, the world system incorporates new peripheries to the outer ring to be exploited by the core states, which in turn transforms these new economies and makes them dependent on the needs of the world system following the expansionist inner logic of capitalism. In this world system hierarchy Wallerstein considers the *semi-periphery* as an intermediate category between core and periphery, depending on the state of progress of productive forces, although this does not mean that this category should be considered as residual. On the contrary, he defines the semi-periphery as a necessary structural element in a world economy (Wallerstein 1974).

Similarly, Gereffi and Evans (1981), following the world systems approach, conclude that the task of defining the countries belonging to the semi-periphery implies both a definitive structural position in the international division of labour and a historical process of development leading from the periphery to the semi-periphery, a process they consider as being dependent on the core and linked to transnational capital. More specifically, world systems analysis considers that some countries can change their position in the world economy and this change is linked to the economic cycle of growth and stagnation in the world system and its political cycle of rivalry and hegemony (Terlouw 2018, 84)⁴.

Another economist who explored this new category of semi-periphery was Arrighi, who followed Wallerstein's world-systems analysis under dependency theory, emphasizing the concept of the semi-periphery with regard to the core-periphery relationship delinked from national economies; that is, conceiving the semi-peripheral zone according to the economic activities embedded in commodity chains beyond state boundaries (Arrighi and Drangel 1986, 11). Therefore, depending on the kind of activities developed by any country in the global value chain, and the surplus obtained, the mix of core activities and peripheral activities will define the position of each country in the (unequal) world system. To the extent that productive globalisation has extended across the world through technology transfer and outsourcing processes, most semi-peripheral countries appear as economies including a mix of both kind of activities, core and peripheral, in their economic performance. In the case of the semi-periphery, what Arrighi defines is the *nature* of this intermediate position in the world system, which in fact depends on the mix of activities (understood as a specific combination of high value-added activities along with lower value-added tasks) in the national economy, allowing him to consider these semi-peripheral economies as an "intermediate" state constituting a distinct structural category by itself.

Furthermore, this intermediate position in the world system is expressed as a sort of permanent position in it, which in turn impedes them from moving up to a core position⁵.

To the extent that the concept of the semi-periphery alters, in productive and industrial terms, the core-periphery dichotomy by introducing a new category able to reflect an intermediate (structural) position of some developing countries in the world economy under the logic of the capitalist system, the question that now arises is the character of national development of these semi-peripheral countries in terms of their pattern of capitalist accumulation. The starting point of the original core-periphery analysis was to consider the degree of technical progress of the economies and later to analyse sectoral asymmetries within the economy combined with the core and peripheral position of countries in the world economy (Di Filippo 1998, 177). The characterization of core and peripheral features of capitalist development based on social production conditions, (related to the productivity growth and price fixing) was one of Prebisch's central contributions, expressed in his hypothesis of the downward trend of terms of trade of primary product-based economies and their incapacity to fully absorb productivity gains and transform them into higher salaries.

Following Prebisch's contribution, it was Samir Amin who went further in developing the concepts of core and periphery economies by considering how progress (technical change) is translated to real salaries expressed in an autocentric or extraverted accumulation process, respectively. When defining the nature of the autocentric accumulation process Amin concludes that it is the social division of labour (in capitalist economies) that governs the level of development of the productive forces (the overall productivity) just as it governs the distribution of social income (Amin 1976, 73). It is the concept of *articulation* defined by Amin that allows him to conceptualise the difference between the autocentric and extraverted process of accumulation based on the existence of an objective relationship between the rewarding of labour and the level of development of productive forces. It is the capacity of an economy to retain surplus gains and distribute them to the rest of the economy through both the sectoral articulation and generation of a domestic market that is the main feature defining core countries based on autocentric accumulation. In contrast, in the case of developing countries this articulation is mostly absent (*disarticulation*) due to a heterogeneous development of productive forces -normally advanced in exporting sectors and less developed in the rest of the economy- which in turn limits the capacity to create a domestic market⁶. In this regard, while the core perform a pattern of accumulation where increases in productivity have no drains, that is, they can be translated into technical improvement and better salaries, in the case of peripheral countries, and in spite of their increasing productivity level, it is more difficult to retain these benefits at the national level because there is the need to compete in the global economy through lower costs and especially lower salaries (Di Filippo 1998)⁷.

Globalisation has allowed the expansion of technical progress from the core to the periphery basically through the exports of technological inputs and the direct investment process in developing economies, which has led to productivity gains. This is mainly the case of semi-peripheral economies. Concretely, this productivity improvement thanks to the spread of global technology has reached only specific sectors and regions of the semi-periphery, which has allowed some industrial and high-skilled activity in services to improve technologically and to gain competitiveness in world markets while based on low salaries. In fact, the salaries paid to workers linked to exporting industrial sectors in the periphery are fixed in reference to average local salaries rather than the average salary in core countries, so labour productivity in globalized circuits are converging more rapidly than actual salaries (Di Filippo 1998, 182). The sectoral productivity differences observed in semi-peripheral countries that arise amid the disarticulation feature of extraverted accumulation is understood by mainstream economics as the paradox acting on most of these countries; that is, the (productivity) convergence process within the advanced sectors is accompanied by a divergence in the economy as a whole, leading to a perverse pattern of growth that reduces structural change (Rodrik 2011).

Apart from the degree of national articulation and related sectoral gap productivity of the economy, there are other factors which can also characterise the autocentric-extraverted divide as distinctive forms of capital accumulation to define core (and periphery) countries, such as: i) the degree of financial autonomy or dependency of an economy with regard to the international financial system; ii) the outward-looking position of the modern sector; iii) the role of the local elites in the process of capital accumulation, in mainly running non-productive activities linked to international trade; iv) the capacity of a country to export capital mainly through foreign investment; v) the level of transnational capital existing in the national economy; vi) the role of the state in the assumption of regulatory and welfare functions; vii) the degree of income inequality in the population.

In conclusion, the world systems analysis and core-periphery approach has led to the concept of the semi-periphery as an analytical category to explain the historical process of the world system structure in accordance with the position that these intermediate countries occupy in the hierarchy of the world economy, depending on the international division of labour linked to capitalist globalisation.

FEATURING THE SEMI-PERIPHERY

With full globalisation in the 1990s, the world economy saw the rise of some peripheral economies, which started to experience high economic growth while considerably improving their average per capita incomes and material living conditions. The economic dynamism of the semi-periphery in relation to the core economies led to the consideration that a new era of convergence was beginning,

in the sense that the differential growth rates among developing and developed countries were showing a weakening in the great North-South division. Clearly, the increasing gap in growth rates between the two groups (Figure 1) explained economic growth convergence at the end of the 20th century since the great divergence from the 19th century. The consolidation of the internationalisation of production, beyond trade and financial globalisation, in addition to the increase in investment rates in the semi-periphery, were the leading forces driving this change which was translated into productivity gains in these economies compared to slow productivity growth in core countries. In any case, despite the delinking of long-term growth trends between rich and poor countries, it has been empirically demonstrated that there remains a strong cyclical link between them⁸ (Dervis 2012; Lakner and Milanovic 2013).

Figure 1 near here

We can define some of the main features of the semi-periphery by observing both the external dimension in relation to the growing participation in the world economy and the internal one with regard to changes in their domestic economy.

i) The rapid economic growth of the semi-periphery since the 1990s linked to deepening globalization has transformed these countries both internally - with a significant upsurge in national income - and externally, becoming one of the major players of the world economy, increasing its shares in both global production and world exports. While developing countries as a whole have increased their share in global output, in the case of some of these countries, such as Brazil, China and India, this figure is higher, with an increase in their participation in the world economy from 5.5% in 1980 to 20% in 2018. The rapid increase in the average per capita income in semi-peripheral countries is historically unparalleled. While per capita income of most of semi-periphery economies has more than doubled since the 1990s, in the case of India per capita income is today up to four times that of the 1990s, while in China it is twenty times (UNCTAD, 2019).

ii) Semi-peripheral countries have increasingly become target destinations for foreign direct investment by core multinationals and have been a major recipient of outsourcing manufacturing processes due to the reduced costs involved in low and medium technology industries and their capacity to develop core activities traditionally located in core economies. The growing role of developing countries as foreign direct investment (FDI) recipients since the 1990s reached its peak in 2018 when the share of developing economies in global FDI was at 54%, which is considered an historical record (UNCTAD 2019). The presence of semi-peripheral countries among the top 20 host economies was high and remained

unchanged, highlighting the position of China, Brazil, India, Mexico, Indonesia, Vietnam, Korea, and Russia.

iii) Semi-peripheral countries have taken a leap forward by expanding abroad by way of both their own domestic capital through their transnational corporations and by way of state enterprises or government agency contracts and agreements with other countries⁹. The semi-periphery has become a leading player in foreign investment, especially with the aim of controlling and exploiting natural resources located mainly in peripheral countries to guarantee energy supplies and to ensure their national food self-sufficiency. The increasing economic interdependence between the periphery and the semi-periphery has led to the adoption of different practices beyond a straightforward commercial relationship, including bilateral investment agreements related to land grab or to the exploitation of mineral resources. Trade between developing countries has increased from 8% of global exports in 1990 to 21.4% in 2016 (World Trade Organization-WTO 2018).

iv) The increasing level of national inequality in most countries of the semi-periphery is the clearest expression of the asymmetric distribution of the benefits of rapid growth. While an upwards trend in income inequality can be seen from the early 1990s to the late 2000s in most countries around the world, in the case of developing countries, the Gini Index registered a considerable increase, from 38.5 to 51.5 (World Bank 2016). In fact, in global terms, the decrease in global inequality¹⁰ since the 1990s due to the increase in real income of the poor in Asia, shows an asymmetric distribution of that growth as a result of the high and rising inequality within countries where the richest 1% in the world have captured twice as much growth as the bottom 50% of the global population since 1980 (World Inequality Lab 2018). The so-called “emerging middle class” can be seen as an expression of this unequal process of capitalist development in semi-peripheral countries, based on a two-sided process: successful involvement in the global economy by the more dynamic regions while delinking these growing transnational sectors from the rest of the economy. As explained previously, the differential productivity levels in the economy and subsequent gaps in income are central features of semi-peripheral countries.

v) Apart from the traditional trend of peripheral economies having structural debt (mainly theorized by the structuralist school), new asymmetries in the relation between core and peripheral countries have arisen in the last decades. One of them with the highest cost for peripheral countries is probably the specific form financialization has adopted in these countries, defined in several works as *subordinate financialization*. According to Lapavistas (2016), following the financial liberalization (carried out in 1970s) and the consolidation of the dollar as the hegemonic currency, net capital flows reversed the direction previously shown, thereby allowing the current account deficits of developed countries (most noticeably that of the US) to be financed with the trade surplus of developing countries¹¹. This change can largely be explained by the decision of main exporting peripheral countries to accumulate foreign reserves with the aim of

offsetting the growing macroeconomic instability derived from financial liberalization and the pursuit of extra profits through exchange rate volatility and interest rate differences. Moreover, the openness to foreign banks in developing countries has helped deepen the subordinate nature of the financialization process in these countries. While not conditioning their economic growth, these macro-prudential policies represent a new external restriction for some peripheral and semi-peripheral countries by increasing their dependence on core countries (Kaltenbrunner and Paineira, 2015) and limiting their capacity to achieve higher levels of autocentric development.

EMPIRICAL ANALYSIS

DIMENSIONS, VARIABLES AND DATA

Drawing from the aforementioned theoretical developments, the empirical characterization of semiperipheral countries seems to go beyond the traditional differentiation between core and peripheral countries (based on the international division of labor) to rest on three fundamental elements: capacity to generate added value, capacity to retain this value, and economic dynamism. In this regard, while core and peripheral countries could be defined by their capacity to generate and retain added value (high in the first case and low in the second case), semi-peripheral countries could be characterized not only by their higher (and more volatile) economic dynamism (resulting from their larger participation in Global Value Chains), but also by an intermediate position in terms of both generating surplus (in combining high and low value-added activities) and retaining it (due to the dual condition of economies that are simultaneously dependent on core countries and dominant with respect to other peripheral neighboring countries).

The following variables and indicators are considered to operationalize the aforementioned elements and to approximate the capacity of countries to generate aggregate value and technological development, to retain and distribute this value, and to capture the three main spheres of economic dynamism (productive, trade, and financial)^{12,13}.

- *Technological Component of the Aggregate Value (TCAV)*: calculated as the average ratio, between 2010 and 2016, of high-tech and mid-tech aggregate value to total aggregate value (World Bank, nd).
- *Research and Development (R&D)*: calculated as the average ratio, between 2010 and 2016, of R&D expenditure to total GDP (World Bank, nd)

- *Labor Productivity (LP)*: calculated as the average GDP per person employed, between 2010 and 2016, in constant 2017 PPP dollars (World Bank, nd)
- *Wages (W)*: approximated by the average monthly earnings, between 2010 and 2016, in cash and in kind, paid to employees. Data are expressed in U.S. dollars as the common currency, after correcting them by using purchasing power parity (PPP) rates for private consumption expenditures (ILOSTAT, nd; OECD, 2017)¹⁴.
- *Inequality (INE)*: measured by the average Gini Coefficient between 2010 and 2016 (World Bank, nd).
- *Health Care (HC)*: calculated as the average ratio of Health expenditure to total GDP between 2010 and 2016 (World Bank, nd).
- *Educational Attainment (EA)*: measured by the average Education Index, between 2010 and 2016, calculated by the United Nations Development Program (UNDP) (UNDP several years).
- *Relevance of Foreign Direct Investment (RFDI)*: calculated as the average ratio of Foreign Direct Investment (inflows) to Gross Fixed Capital Formation between 2010 and 2016 (UNCTAD, several years; World Bank, nd).
- *Level of Foreign Reserves (R)*: measured by the average ratio of total reserves, excluding Gold (IMF, nd), to GDP in current US dollars between 2010 and 2016 (World Bank, nd).
- *Productive Performance (PP)*: calculated as the Compound Annual Growth Rate of the ratio of the GDP of country “i” to the world GDP between 2010 and 2016 (World Bank, nd).
- *Trade Dynamism (TD)*: calculated as the Compound Annual Growth Rate of the export market share of each country between 2010 and 2016 (World Bank, nd).
- *Investment Dynamism-Inflows (IDI)*: calculated as the Compound Annual Growth Rate of stock inflows of Foreign Direct Investment in current US dollars between 2010 and 2016 (UNCTADSTAT, nd).
- *Investment Dynamism-Outflows (IDO)*: calculated as the Compound Annual Growth Rate of stock outflows of Foreign Direct Investment in current US dollars between 2010 and 2016 (UNCTAD, several years).

EMPIRICAL IDENTIFICATION OF CORE, PERIPHERAL AND SEMIPERIPHERAL COUNTRIES

To identify the semi-periphery as a structural element of the world economy with specific and defining features, we will try to differentiate it empirically from both core and peripheral countries by combining a principal component analysis (PCA) with a cluster analysis.

Although it does pose some methodological difficulties and inherent weaknesses¹⁵, PCA can synthesize a large volume of information and make it easier to interpret and compare complex and multidimensional phenomena, in allowing for the understanding of the structure and interrelations between the observed variables and the provision of an adequate representation of the information using a smaller number of variables (known as components). This methodology is especially useful when analyzing multivariate and abstract phenomena. In this particular case, it is especially appropriate since it does not assume *a priori* dependency relationships among variables and it allows for the classification of countries based on the overall consideration of a set of indicators¹⁶. Regarding the cluster analysis, its use is mainly justified as a way of avoiding the arbitrariness of classifying countries based solely on their positive or negative scores or on the researcher's criteria.

The first step of the PCA analysis consists of evaluating the interdependence of the variables considered, by obtaining a matrix that expresses the variability and correlation among them. Both the strong correlations (higher than 0.5) and the values of the KMO (higher than 0.5) and Bartlett's sphericity tests (lower than 0.05) confirm the proper use of the PCA analysis in our case (see Tables A.1 and A.2 in Appendix A).

The derived components (shown in Table 1) are extracted, so the first explains most of the variance (48.17%) in the original variables, while the latter explains most of the remaining variance (17.66%), and so on.

Table 1 Total explained variation

Component	Initial eigenvalues			Sums of the squared saturations of the rotation		
	Total	Percentage variance	Cumulative percentage	Total	Percentage variance	Cumulative percentage
1	5.780	48.166	48.166	5.780	48.166	48.166
2	2.119	17.656	65.822	2.119	17.656	65.822
3	1.400	11.668	77.491	1.400	11.668	77.491
4	0.843	7.026	84.516			
5	0.586	4.887	89.403			
6	0.471	3.927	93.329			

7	0.279	2.328	95.657
8	0.212	1.770	97.427
9	0.142	1.180	98.607

Source: own elaboration

The extraction of components follows Kaiser's criteria (consisting of extracting components with eigenvalues higher than one) because it is more objective than directly establishing the number of components to be extracted. As a result, three components are extracted, explaining 78% of the original variance.

The results of the component matrix provide information about the composition of each component by showing how much each original variable contributes to them¹⁷. To reduce the number of variables that are loading on each component and to ease the interpretation of the factorial solution (shown in Table 2), the initial results are rotated using the varimax method¹⁸.

	C1	C2	C3
TCAV	,809	,026	,298
R&D	,876	-,055	,268
LP	,844	-,380	-,123
W	,919	-,215	-,046
INE	,296	,071	,312
HC	,800	-,193	-,419
EA	,819	-,337	-,135
RFDI	-,133	,130	-,787
R	-,327	,222	,648
PP	-,389	,731	,103
TD	,109	,755	-,030
IDI	-,220	,892	,026
IDO	-,225	,894	,076

Source: own elaboration

Once the factorial analysis is applied, we can see that the selected variables are grouped around three main components¹⁹. In the case of the first component, six variables are grouped together: Technological Component of the Aggregate Value, Research and Development, Labour Productivity, Wages, Health Care and Educational Attainment; in turn, the second component includes four variables: Productive Performance, Trade Dynamism, Investment Dynamism-Inflows and Investment Dynamism-Outflows; while the third component contains two variables: Relevance of Foreign Direct Investment and Level of Foreign Reserves. The low loadings of inequality and its poor communality (see Table A.3 in Appendix A) indicate that this variable should be removed as it does not

sufficiently correlate with the rest of the variables considered and does not seem to be properly explained by the model.²⁰

Bearing in mind that variables that load in the same component are strongly correlated, the previous results allow for a theoretical interpretation of the extracted components and the subsequent differentiation between core, peripheral, and semi-peripheral countries:

- The first component (C1) could be interpreted as describing the level of *autocentric development*. On including productive and technological development variables and private and public consumption variables in the same component, the PCA analysis suggests that both the generation and the appropriation of surplus must be understood as belonging to the same process. In this regard, the results shown in Table 2 seem to approximate the concept of autocentric development in the sense that the productive structure and technological development of countries is linked to their capacity to retain surplus. Based on the specialized literature, core countries should show high scores in this factors, semi-peripheral countries intermediate scores, and peripheral countries low scores.
- The second component (C2) could synthesize the *economic dynamism* of countries. Notably, all the considered variables of economic dynamism are loading on this second component, thus confirming that globalization must be understood as an integral process that connects the productive, trade, and financial spheres. Given that the literature describes the semi-periphery as a set of dynamic economies that have difficulties converging to the level of autocentric development achieved by the core countries, it is to be expected that semi-peripheral countries show a certain level of economic dynamism.
- The third component (C3) could illustrate the level of *financial dependence* of countries given that the Relevance of Foreign Direct Investment and the Level of Foreign Reserves are both included in it. The correlation between these two factors is worth noting given that in the literature both are described as obstacles to achieving higher levels of autocentric development because they hamper the retention of surplus value (in the case of a large presence of foreign capital) or they impede the use of foreign reserves to finance imports to improve economic and social development. However, the negative correlation between these two variables (given that C3 is positively correlated with the Relevance of Foreign Direct Investment and negatively correlated with the Level of Foreign Reserves) impedes the global interpretation of this factor²¹, forcing us to analyse them separately.

Figure 2 shows the factorial score for all the countries analysed for C1 (autocentric development) and C2 (economic dynamism).

Figure 2 near here

As we can see in Figure 2, the representation of factor scores allows for ordering countries according to their level of autocentric development (C1) and economic dynamism (C2)²². More specifically, the results plotted in this figure show that the USA is the most autocentric economy of the sample, while three Asian countries (Vietnam, China, and the Philippines) are the most dynamic. We can also find economies like Egypt or Iraq that are neither dynamic nor autocentric. Regarding the European countries in the sample, we can also find geographical differences, with Central and Western European countries (Germany, France, United Kingdom, Italy, and Spain) scoring between 0.5 and 2 in C1 and Eastern European countries (Poland, Turkey, Ukraine, and Russia) scoring between 0.5 and -1.

As we saw previously, both Dependence on Foreign Capital and Level of Foreign Reserves can be hampering autocentric development because of the difficulties in retaining surplus value. To test this possible negative correlation, in Figure 3 C1 is plotted against these potential sources of financial extraversion.

Figure 3 near here

The results plotted in Figure 3 show that C1 is negatively correlated with both Relevance of Foreign Direct Investment and Level of Foreign Reserves. Bearing in mind that correlation does not entail causation, the results could be suggesting the possibility of explaining the extraverted development of peripheral and semi peripheral countries through their financial dependence.

Next, to classify the countries examined (according to their similarities) and to contrast the empirical existence of semi-peripheral economies as a separate group, a hierarchical cluster analysis was applied to the scores plotted in Graphs 2 and 3. To facilitate the interpretation and to ensure that all the clusters are statistically different from each other, the clusters include at least two countries and show a minimum rescaled distance of four.

The results of the cluster analysis allow the countries to be classified in four different groups (see Appendix B), which can be identified with high, high-middle, low-middle, and low scores in each component or variable plotted in Figures 2 and 3. Table 3 summarizes the results of the cluster analysis.

Table 3 Classification of countries according to their scores

Variable	<i>Low</i>	<i>Low-middle</i>	<i>High-middle</i>	<i>high</i>
----------	------------	-------------------	--------------------	-------------

C1	Egypt, Pakistan, Tanzania and Iraq	Poland, China, Turkey, Mexico, Brazil, Philippines, Vietnam, Argentina, Thailand, Russia, South Africa, Colombia, Ukraine, Morocco, Kenya, India, and Indonesia.	France, Japan, UK, Canada, Italy and Spain	United States, Germany and Rep. Korea
C2	Italy, Spain, Japan, Turkey, Argentina, Russia, Ukraine, South Africa	Rep. Korea, Pakistan, Colombia, India, Poland, Thailand, UK, Mexico, Indonesia, Morocco, Germany, France, Egypt, Iraq, Canada and Brazil	Philippines, United States, Kenya and Tanzania	Vietnam and China
<i>Relevance of Foreign Direct Investment</i>	Japan and Rep. Korea	Germany, Thailand, Russia, United States, Kenya, Morocco, Philippines, Iraq, France, South Africa, China, Indonesia, Turkey, Pakistan, India, Italy	Spain, Poland, Egypt, Argentina, Tanzania, Canada, México	Vietnam, Brazil, United Kingdom, Ukraine, Colombia
<i>Level of Foreign Reserves</i>	Pakistan, Argentina, Egypt, United Kingdom, Canada, Spain, Italy, France, Germany and Unites States	Brazil, India, Mexico, Ukraine, Vietnam, Colombia, Turkey, Tanzania, South Africa, Indonesia and Kenya	Iraq, Philippines, Rep. Korea, Japan, Russia, Morocco and Poland	Thailand and China

Source: own elaboration.

The information shown in Table 3 enables core countries (with high or high-middle levels of autocentric development), semi-peripheral countries (with low-middle levels of autocentric development and high or middle levels of economic dynamism), and peripheral countries (with low levels of autocentric development) to be distinguished. Based on this criteria, nine countries could be classified as core countries (the USA, Germany, the Republic of Korea, Japan, France, UK, Canada, Italy, and Spain), twelve as semi-peripheral (Vietnam, China, the Philippines, Kenya, India, Thailand, Mexico, Morocco, Poland, Colombia, Brazil, and Indonesia), and four as peripheral (Tanzania, Pakistan, Iraq, and Egypt)²³. Table 3 also shows a fourth group of economies which, according to their autocentric development, could be classified as semi-peripheral economies but were low dynamic in the period analysed (Turkey, Argentina, Russia, Ukraine, and South Africa). However, the semi-peripheral nature of these countries could be justified because of their high dynamism in recent years²⁴. Indeed, their volatile behaviour could be understood as one of the outcomes of the instability of foreign investment flows and illustrative of the key role semi-peripheral economies have had in the process of productive globalization due to their lower salaries and their capacity to absorb foreign investments productively.

It is worth noting that most core countries show low or low-middle levels of Foreign Direct Investment in their capital formation²⁵. In turn, the empirical results also point to remarkable differences between regions: while all Asian countries (except for Vietnam) show low or low-middle weights of Foreign Direct Investment, all Latin American countries in the sample show high or high-middle levels in this variable. In this respect, the longer colonization of Latin American countries or the historical aversion to the westernization of Asian countries could explain these regional differences. Regarding the level of foreign reserves, it is remarkable that all the core countries except for the Asian core countries of Japan and the Republic of Korea present high or high-middle levels of foreign reserves. Thus, once again we see regional differences since Asian countries are overrepresented in the group of countries with high or middle-high levels of foreign reserves. This result could be partially explained by the reaction of Asian countries to the financial crisis of 1997, which was geared to reducing the macroeconomic instability derived from the previous financial liberalization. In summary, the difficulties of most Asian and Latin American semi-peripheral countries to transform their economic dynamism into higher levels of autocentric development could be explained by the need to accumulate foreign reserves in the first case, and the large presence of foreign investment in the second.

CONCLUSIONS

The aim of this paper was to explore the concept of the semi-periphery as a valuable category to describe in a more complex and systemic way how capitalist globalization is reshaping both the world economic map and the internal dynamics of developing countries. To do so, a quantitative analysis was carried

out to empirically differentiate semi-peripheral countries from both core and peripheral ones.

The empirical results of the principal component and the cluster analyses allowed the semi-periphery to be differentiated from the core and the periphery in identifying a group of countries which, despite their current economic dynamism, have not been able to attain high levels of autocentric development over the period of the study. In this regard, one of the main structural factors that characterizes semi-peripheral countries is their inability to turn economic dynamism into higher levels of socioeconomic development.

In fact, this inability is the expression of the extraverted nature of the capitalist path of development in these countries. Among other factors, this incapacity could derive from the simultaneously volatile and dependent nature of this economic dynamism and be more linked to the needs of global capital than to the actual processes of autocentric accumulation. In this respect, the dependence on external markets that still characterize the semi-periphery pattern of growth would imply that despite its prominent emergence in the world economy, the semi-periphery is unable to guarantee the complete and structured process of development in the way it is understood in rich countries.

The principal component analysis allows socioeconomic development (approximated in this research by private and public consumption) to be linked to a country's productivity (and the technological variables that increase) rather than to the rapid growth of GDP or trade and financial flows. Meanwhile, the effects of globalization on the level of inequality of developed countries help us to understand why inequality no longer seems to be a structural feature of peripheral (and semi-peripheral) countries. In turn, the factorial aggregation also shows that productive, financial, and trade variables are strongly correlated and must be understood as part of the same process of globalization. In fact, the dynamism of the semi-periphery is related to the crucial role these countries have in the ongoing globalisation process as a production outsourcing node linked to global value chains. Furthermore, the relevance of the semi-periphery lies in the fact that the core-periphery divide is blurred due to the nature of capitalist globalisation, which cuts across nations. That is, the dissemination of technology opens new spaces of surplus value generation around the globe, developing isolated poles of development that do not necessarily correspond to the national economy as a unit.

The empirical analysis also seems to suggest that financial dependence (both on FDI and on foreign reserves) could be impeding these countries' progress. The extraverted features present in these economies are maintained despite high growth, even recurring if we consider the performance of the semi-periphery since the 1990s. Therefore, the aforementioned inability of semi-peripheral countries to become part of articulated capitalist development is the price they must pay for being included in the global circuits of capital at the expense of the welfare of millions of people.

REFERENCES

- Amin, S. 1976. *Unequal development*. England: The Harvester Press.
- Arrighi, G. 2001/02. "Global capitalism and the persistence of the north-south divide." *Science and Society* 65 (4): 469-475.
- Arrighi, G. and Drangel, J. 1986. "The stratification of the world economy: an exploration of the semiperipheral zone." *Review: a journal of the Fernand Braudel Center for the Study of Economies* 10 (1) : 9-74. New York: Historical Systems and Civilizations.
- Arslan, Y., Contreras, J., Patel, N. and Shu, Ch. 2018. "Globalisation and Deglobalisation in Emerging Market Economies: Facts and Trends." *BIS Paper*, no. 100: 1–25.
- Asian Development Bank 2010. "The rise of Asia's middle class." *Key indicators for Asia and the Pacific 2010*. Manila: Author.
- Bond, P. and Khadija, S. 2013. "La cumbre de los BRICs" [BRICs Summit]. *Sin Permiso*, March.
- Burbach, R. and Robinson, W 1999. "The fin de siècle debate: globalization as epochal shift." *Science and Society* 63 (1): 10-39.
- Carballa, B., Durand, C. and Knauss, S. 2016. "Uneven development pattern in Global Value Chain." *The SASE 28th Annual conference*, Berkeley, June 24-26.
- Dervis, K. 2012. "Convergence, Interdependence and Divergence". *Finance and Development* 49 (3).
- Di Filippo, A. 1998. "La visión centro-periferia hoy." [Core-periphery vision today] [Special issue]. *Revista de la CEPAL*, October 175-185.
- Duttgupta, R. and Pazarbasioglu, C. 2021. "Miles to go. The future of emerging markets." *Finance and Development*, June.
- Enderwick, P. and Buckley, P.J. 2020. "Rising Regionalization: Will the Post-COVID-19 World See a Retreat from Globalization." *Transnational Corporations* 27 (2): 99–112. <https://doi.org/10.18356/8008753a-en>.
- Ferreira, F. H., Lopez-Calva, L. F., Lugo, M. A, Messina Granovsky, J. S., Rigolini, I. P. and Vakis, R. 2013. *Economic mobility and the rise of the Latin American middle class*. Washington: World Bank
- Gereff, G. and Evans, P. 1981. "Transnational corporations, dependent development and state policy." *Latin American Research Review* 16 (3): 31-64.

Goldman Sachs 2003. "Dreaming with BRICs. The path to 2050." *Global Economics Paper*, no. 99.

Hair, J. F., Anderson, R. E., Tatham, R. L. and Black, W. C. 1999. *Análisis multivariante*. Madrid: Prentice Hall Iberia.

Hurley, J., Storrie, D. and Peruffo, E. 2016. *ERM Annual Report 2016: Globalisation slowdown? Recent evidence of offshoring and reshoring in Europe*. <https://www.eurofound.europa.eu/publications/annual-report/2017/erm-annual-report-2016-globalisation-slowdown-recent-evidence-of-offshoring-and-reshoring-in-europe>.

Husson, M. 2013. *El capitalismo en 10 lecciones* [Capitalism in 10 lessons]. Madrid: Viento Sur- La Oveja Roja.

International Labor Organization-ILO 2016. Global Wage Report 2016/17. *Wage inequality in the workplace*. <https://www.ilo.org/global/research/global-reports/global-wage-report/2016/lang--en/index.htm>

International Labor Organization-ILO 2020. *Global Wage Report 2020–21: Wages and minimum wages in the time of COVID-19*. <https://www.ilo.org/global/research/global-reports/global-wage-report/2020/lang--en/index.htm>

ILOSTAT nd. *Statistics on wages*. <https://ilostat.ilo.org/topics/wages/>

IMF nd. *International Reserves and Foreign Currency Liquidity Dataset*. Available at <https://data.imf.org/?sk=388dfa60-1d26-4ade-b505-a05a558d9a42>

Juncal, S. E. 2018. "El bloque BRICS: ¿Instrumento para el desarrollo de los países emergentes?" [BRICS: a development instrument for the emergent countries?]. *Revista de Economía Crítica* 25 (1).

Kaltenbrunner, A. and Paineira, J. P. 2015. "Developing countries' changing nature of financial integration and new forms of external vulnerability: the Brazilian experience". *Cambridge Journal of Economics*, 39: 1281-1306. <https://doi.org/10.1093/cje/beu038>

Lakner, C. and Milanovic, B. 2013. "Global Income Distribution. From the fall of the Berlin Wall to the Great Recession." *Policy Research*, Working Paper, no. 6719. Washington: World Bank.

Lapavitsas, C. 2009. "Financialisation embroils developing countries." *Papeles de Europa*, 19: 108-139.

Lapavitsas, C. 2016. *Beneficios sin Producción*. Madrid: Traficantes de Sueños.

Levy, E. 2013. "Latin America's middle-class mirage." *Project Syndicate*, September

Mallaby, S. 2016. "Globalization Resets." *Finance and Development* 53 (4): 7–10.

Martínez Peinado, J. 2011. "La estructura teórica Centro/Periferia y el análisis del sistema económico global. ¿Obsoleta o necesaria?" [The theoretical structure core/periphery and the analysis of the global economic system: obsolete or necessary?]. *Revista de Economía Mundial* 29: 27-57.

Martínez Peinado J. and Cairó-i-Céspedes, G. 2014. "La semiperiferia como necesidad del capitalismo global. Una aproximación a través del análisis factorial." [The meaning of semi-periphery for global capitalism: factor analysis testing]. *Revista de Economía Mundial* 38: 235-272.

Moyo, S. and Yeros P. 2013. "Scramble, resistance and a new BRICs non-alignment strategy." Accessed 15 September 2017 <https://www.pambazuka.org/governance/scramble-resistance-and-new-brics-non-alignment-strategy>

Nayyar, D. 2008. "China, India, Brazil and South Africa in the World Economy. Engines of Growth.", Discussion Paper no. 5, United Nations University-Wider.

OECD 2017. "Average Wage", in Pensions at a glance 2017: OECD and G20 indicators, OECD Publishing, Paris. doi: https://doi.org/10.1787/pension_glance-2017-28-en

Reddy, N. 2015. "BRICS after the Durban and Fortaleza summits." In *BRICS-An Anti-Capitalist Critique*, edited by Bond, P. and García, A., 274-278. London: Pluto Press.

Robinson, W. and Harris, J. 2000. "Towards a global ruling class. Globalization and the transnational capitalist class." *Science and Society* 64 (1): 11-54.

Rodrik, D. 2011. "The future of economic convergence." *National Bureau of Economic Research*, Working Paper no. 17400, September.

Rodrik, D. 2019. "Globalization's Wrong Turn." *Foreign Affairs* 98 (4).

Salehizadeh, M. 2007. "Emerging Economies' Multinationals: Current Status and Future Prospects." *Third World Quarterly* 28 (6): 1151-66. <https://doi.org/10.1080/01436590701507586>.

Sidaway, J. D. 2012. "Geographies of development: new maps, new visions?" *The Professional Geographer* 64 (1): 49-62. <https://doi.org/10.1080/00330124.2011.586878>

Terlouw, K. 2018. "World systems analysis." In (eds) *Handbook on the geographies of globalization*, edited by Kloosterman, R.C. et al., 84-95. Cheltenham: Elgar.

UNCTAD 2019. *World Investment Report 2019*. United Nations.

UNCTADSTAT nd. *Foreign direct investment: Inward and outward flows and stock*.

<https://unctadstat.unctad.org/wds/TableView/tableView.aspx?ReportId=96740>

UNDP 2013. *2013 Human Development Report. Rise of the South: Human Progress in a Diverse World*. NY: Author.

UNDP nd. *Human Development Data Center*. <http://hdr.undp.org/en/data>

Vidal Villa, J. M. 1987. *Evolución y cambios estructurales en la economía mundial 1960-1980*, Madrid: Fundación Banco Exterior, Colección Investigaciones.

Wallerstein, I. 1974. *The modern world system I*. NY: Academic Press.

Winters, L.A. and Yusuf, S. 2007. *Dancing with Giants: China, India, and the Global Economy*. Washington: World Bank and Institute for Policy Studies.

World Bank 2011. *Multipolarity: The New Global Economy*, Global Development Horizons 2011. Washington: Author.

World Bank 2016. *Taking on inequality*. Washington: Author.

World Bank nd. *World Development Indicators database*. Washington, DC. <http://data.worldbank.org>.

WTO 2019. *World Trade Statistical Review 2019*. Geneva

¹ Uganda was removed from the sample because of the lack of information.

² Argentina, Brazil, Canada, China, Colombia, Egypt, France, Germany, India, Indonesia, Iraq, Italy, Japan, Kenya, Mexico, Morocco, Pakistan, Philippines, Poland, Republic of Korea, Russia, South Africa, Spain, Tanzania, Thailand, Turkey, Ukraine, United Kingdom, United States and Vietnam.

³ They account for more than 70 per cent of the global population and nearly 80 per cent of global GDP in 2017 constant dollars (World Bank, nd).

⁴ In fact, traditionally the analysis of the semi-periphery has focused on the “ascendant” members of the semi-periphery as those coming from lower positions in the hierarchy of the world system. However, there is another less common way to identify members of the semi-periphery based on the decadence and decline, in part, of some core countries, as could be the case of Spain and Portugal (Gereff and Evans 1981, 57).

⁵ As Arrighi and Drangel point out “precisely because of the relatively even mix of core-peripheral activities that fall within their boundaries, semi-peripheral states are assumed to have the power to resist peripheralization, although not sufficient power to overcome it altogether and move into the core” (1986, 12)

⁶ That is why the “national” adjective must be reserved for the autocentric economies in the sense that only in these advanced countries can the economy be considered a “structured economic space” where progress is diffused from industries that can be regarded as poles of development (Amin 1976)

⁷ This can also be expressed in the following terms (Martínez Peinado 2011): the former (core economies) have a productive capacity linked to a consumption capacity while the latter has only the productive one due their dependency of external markets.

⁸ Dervis (2012) explains it in terms of “cyclical interdependence”, which in our analysis is considered as an asymmetric one.

⁹ This has meant the expansion of their own multinationals, even though there are still noticeably less than in rich countries (Salehizadeh 2007)

¹⁰ Which includes income inequality within countries and between countries

¹¹ Foreign reserves accumulation and net capital flows decreased during and after the 2007-2009 crisis, but the underlying trend was restored after 2009 (Lapavitsas, 2009).

¹² To remove the effect of different scales, all variables are standardized as follows: $Z_i = \frac{x_i - \bar{X}}{S}$, where \bar{X} stands for the mean and S for the standard deviation.

¹³ Wages and Labor productivity are approximated by indicators that allow for international comparisons by considering the differences in relative prices between countries. Since the rest of the variables are approximated through growth rates or ratios between series nominated in the same currency, these differences are not a major issue.

¹⁴ Since data on PPP wages for Iraq and Colombia are not available in either ILOSTAT (nd) or in OECD (2017), they are calculated by correcting nominal wages (ILO, 2016; 2020) using the PPP conversion factor, private consumption (LCU per international \$) (World Bank, nd)

¹⁵ Given the apparently *ad hoc* nature of their computation and the results' sensitivity to weightings, to the aggregation criteria used, and to the choice to include or exclude variables from the statistical analysis, it is worth noting that PCA can lead to misleading conclusions. Consequently, researchers have to be cautious and transparent when using this methodology and interpreting its results.

¹⁶ The individual analysis of variables would not only be intractable (due to the difficulty of classifying a sample of 30 countries using 13 different indicators) but also inappropriate, in that neglecting the interaction between the variables considered would impede the identification of complex phenomena that cannot be directly observed (like the autocratic development) and could potentially explain this interaction.

¹⁷ The value of the coefficient ranges from 0 to 1. Coefficients close to one indicate a strong relationship between that variable and the factor. Coefficients close to zero show a weak relationship. The sign (positive or negative) denotes the direct or inverse relationship between variables and components.

¹⁸ This rotation method minimizes the number of variables with high saturations in each factor.

¹⁹ Following the standard rule, only loadings higher than 0.5 (in absolute terms) are considered as relevant.

²⁰ The next set of results are based on the rotated component matrix after excluding inequality (see table A.4 in Appendix A).

²¹ The value in one variable could be compensated by the value in the other variable.

²² As all the variables loading both components are positive, higher scores stand for higher levels in both components.

²³ It must be noted that the greatest distance in C1 (between the centroids of the clusters) is the one that separates countries with low-middle levels from countries with high and high-middle levels (see Graph 2), which could be describing the difficulties semi-peripheral countries have in achieving higher levels of autocratic development.

²⁴ For instance, the annual growth rate of all the countries of this fourth group was noticeably higher, on average, than the annual growth rate of the world economy from 2003 to 2009.

²⁵ In the case of the United Kingdom, the high presence of Foreign Capital could potentially be mainly explained by the capacity of the City of London to attract financial investments.