

The Commodification of Mobile and Internet Communications under State Socialism in Cuba

by

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Abstract

Current processes of commodification in Cuba's mobile and Internet communications surface in the form of an incongruent relationship between the (relatively high) prices for accessing these amenities, provided by a state-owned company, and the (relatively low) salaries of the state-employed workers. While criticizing state-led commodification, this thesis de-naturalizes the idea of communication commodities as private goods, and historicizes the articulation of commodification under state socialism in Cuba. It argues that, on the side of the state socialist management, the commodification of wireless and Internet communications is a state-led strategy for capturing hard currency from the sphere of circulation. Specifically, these processes of commodification are related to transnational value circulation processes such as remittances (income transfers sent to Cubans from family or friends living overseas), and to local commodification processes such as the TRD scheme (state-run hard currency stores) deployed by the socialist state to capture hard currency from remittances since the economic crisis in the 1990s. The research attempts to offer an explanation for commodification on the basis of Political Economy of Communication (PEC) scholarship, however empirical work demonstrates the inability of some of the PEC frameworks developed in the Global North to address commodification under state socialism given its historical complexity. As a result, the analysis grows beyond the proposed framework to suggest the integration of theories on imperialism and political economy from the periphery in future research in order to contribute to the development of a Political Economy of Communication under State Socialism. Finally, the thesis suggests the potential for grassroots-based decommodification of communications in Cuba in the form of state/civil society alliances which could counteract the existing pressures towards commodification that spring from the capitalist and imperialistic relations of production, distribution and exchange that characterize the telecom sector on a global scale.

Keywords: Political Economy of Communication; Marxism; State Socialism; Telecommunications; Wireless Communications

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Chapter 1.

Cuba's Mobile and Internet Contradiction

Prices for wireless communication and Internet access in contemporary Cuba are an emerging issue that reflect a deep contradiction. Even though a state-owned company provides these services, hiring a cell phone line is more than the median monthly nominal salary of the state employed population (which represents 71% of the country's employed population¹). In theory, a state employed worker would have spent all the monthly pay after 88 minutes of mobile calling; and a similar situation would have happened after 30 hours of Internet connection (ETECSA, 2017a, 2017b; ONEI, 2017a, p.11, 13).

Seen through the lens of a Marxian political economy framework², this issue indicates at least three contradictions associated with an ongoing process of commodification. First, exchange-values have become the principal means through which the social provision of use-values is organized. Second, prices surface as the expression of the highly mediated and divergent relationship between the value-creation process through human labour and the actual realization of value through market exchange. Third, there is the overarching possibility of capital circulation determining the role and functioning of commodities and money in the telecom sector of socialist Cuba (Marx, 1990; Harvey, 2010, 2014; Mosco, 2009; Prodnik, 2012).

The generalization of the commodity form in the telecom sector of state socialist Cuba is a contradictory process. Both Marxian scholars and mainstream economists highlight that, under the Cuban socialist project, universal access and egalitarian distribution characterize the social provision of health and education and the delivery of basic food products via the state (Pérez Villanueva, 2012; Carranza et al, 1996; Green, 1996). Furthermore, even full employment was a guaranteed right until the economic

restructuring that followed the collapse of the Soviet bloc in the 1990s (Ludlam, 2012; Green, 1996). Overall, these have been described as forms of social provision based on use-values in the historical context of the Cuban Revolution (Green, 1996). However, in the case of wireless communications and Internet access, there is an incongruity today between their high prices, controlled by a state monopoly, and the weak purchasing power of the state-employed working class. According to official statistics, the median monthly nominal salary in Cuba for the year 2016 was 740 Cuban Pesos (CUP) (ONEI, 2017a, p.13). The only company which provides telecommunications and wireless services in Cuba, the currently state-owned ETECSA (the Spanish acronym for Cuban Telecommunications Enterprise), has established its prices in another currency that also circulates in the country as the internal equivalent to the dollar, the Cuban convertible (CUC) (Mesa-Lago & Pérez-López, 2013, Vidal, 2012; ETECSA, 2017a, 2017b, 2017c). Following an exchange rate of 24 CUP to one CUC, the median monthly nominal salary equals 30.8 CUC (ONEI, 2017a, 13; Vidal, 2012). Hiring a line for mobile communications costs 30 CUC plus an initial mandatory credit of 10 CUC, which is one quarter more than the median monthly nominal salary (ETECSA, 2017c). Moreover, the cost for a one-minute phone call between 7 a.m. and 10:59 p.m. is 0.35 CUC, thus 30.8 CUC would just buy 88 minutes for mobile calling (ETECSA, 2017a). As for the Internet, an hour of access currently costs one CUC, therefore the entire median monthly nominal salary equals thirty hours of Internet connectivity (ETECSA, 2017b). This comparison illustrates how processes of commodification surface at the moment of realization of value in the marketplace. It seems that monetary gains and exchange values are determining the social uses of the services for mobile and Internet communications in contemporary Cuba.

In a historical comparative perspective, the current situation contradicts the initial transformations that the telecom system experienced after the triumph of the Revolution led by Fidel Castro in January 1959. Affordable and widely distributed telephone services were among the achievements of the working class with the development of the state socialist model in Cuba (Nichols & Torres, 1998; Recio, 2014). At the time of the Revolution, U.S. capitalist investors controlled more than one-third of the country's public utilities. Specifically, they dominated domestic and international telecommunications and controlled 90% of electrical generating capacity (Pericás 2014; Nichols and Torres

1998). In this context, telephone services exhibited prices only affordable to certain wealthy sectors of the Cuban society (Recio, 2014; Pericás 2014). Also, its territorial distribution was highly uneven; in 1958, 73% of installed telephone services were in the capital, Havana, where only 20% of the population resided (Hoffmann, 2004; Nichols & Torres, 1998). However, the telephone system was among the first sectors fully nationalized by the emerging state socialist project. Revolutionary interventions (also called “temporary” takeovers) in the Cuban Telephone Company started as early as March 3rd 1959, with its full nationalization announced by Fidel Castro to a cheering crowd on August 6th 1960. These nationalizations included US\$132.9 million in assets which pertained to the U.S.-based International Telephone and Telegraph company (ITT), and US\$267.6 million from Cuban Electric (a subsidiary of Boise-Cascade) (Ritter, 2011; Nichols & Torres, 1998). After the nationalizations, prices for fixed-lines became affordable for the majority of the population, and the telephone system’s territorial distribution grew to reflect its social use value rather than its commercial value. By 1982, the number of telephones nationwide had nearly doubled, with only 56% of new services installed in the capital, and the rest in the provinces (Recio, 2014; Nichols & Torres, 1998).

The introduction of wireless and Internet communications in Cuba occurred in the midst of the crisis and economic restructuring associated to the collapse of the Soviet bloc in the 1990s. These sub-systems within the telecom sector have not been structured following the same logic as in the previous thirty years. The relationship between prices and median monthly nominal salary presented above indicates the generalization of the commodity form in the state provision of mobile and Internet access.

From a class perspective, the provision of communication services at high prices when compared to wages diminishes the discretionary income available to labour, and therefore serves to extract/capture value from the working class (Harvey, 2014). In other words, Cuba’s public telecommunications system does not ensure a satisfactory social wage for the working class, as it did before. Developed since early 1960s for the Cuban case by revolutionary leader Ernesto Che Guevara, the concept of social wage entailed a set of alternative instruments designed to limit the role of value under Cuban socialism

(Green, 1996; Ludlam, 2012). These measures included the provision of free health care and education, the subsidization of basic goods, and the stipulation that employment and income were guaranteed independently of one another (Green, 1996; Ludlam, 2012). Moreover, Cuba is constitutionally declared as a “socialist state of workers” (*Constitution of the Republic of Cuba*, 1976). However, changes within the state socialist model after 1990 have taken a step back with regards to the privileges once won by the workers.

In this sense, various Cuban scholars, bloggers and official journalists document the existence of social dissatisfaction and discontent regarding the government’s policies for Internet and mobile communications (Recio, 2014; Abd'Allah-Alvarez, 2014; Figueredo, 2016). Researcher Milena Recio (2012) identifies an overall lack of communication between the Cuban authorities and the population in the design of the policies for social access to the Internet. At the same time, criticisms and suggestions for improving these services have emerged in online forums and blogs (Recio, 2014; Abd'Allah-Alvarez, 2014), and in sessions of the *Asamblea Nacional del Poder Popular* (National Assembly of the Popular Power), Cuba’s Parliament (Figueredo, 2016). Recio (2012) provides rich ethnographic details about some of the political tensions arising from this situation:

One should only remember the unprecedented meeting held by the current Deputy Minister of Communications Wilfredo Gonzalez with a group of bloggers at the headquarters of the Ministry on the same day of publication of the Resolutions... which established the Nauta service [for public access to the Internet and to national networks in Cuba] with *prices highly questioned as excessive*. That same afternoon... González invited some "revolutionary" bloggers to give them first-hand explanations, probably considering the emerging communication capacity of these actors in the Internet... and anticipating the flood of predictable criticism (Recio, 2014, p.364; emphasis added).

It is interesting to note that, while not all the debates are about prices, they do tend to be identified as a key issue by scholars, journalists and citizens³. The fact that prices become the field for political struggle is not surprising. According to Harvey (2010, p.240), instead of the value form of the commodity or the value of labour power, it is their *representation* in money form (prices, wages) what provides a field for social action. Precisely, the present project starts by noticing the incongruent relationship between

prices and median monthly nominal salary in the social provision of mobile and Internet services in contemporary Cuba to further inquire about the structural processes that shape this contradiction.

On Commodification, Communication and State Socialism

As argued in the previous section, commodification, or the process of transforming use value into exchange value (Mosco, 2009) determines the provision of wireless and Internet services in contemporary Cuba. In the field of political economy of communication (PEC), empirical studies about commodification analyze the complex processes through which public (tele)communications systems with social commitments to universal access, public interest and public service have been transformed into commercial endeavors that provide access and services to those who can afford it (Garnham, 1986; Mosco, 2009).

In *The Political Economy of Communication*, Vincent Mosco states that “one of the keys to Marxian analysis is to deconstruct the commodity to determine what the appearance means, to uncover the social relations congealed in the commodity form.” (Mosco, 2009, p.129). When theoretically deconstructing the commodity form and its role in the capitalist mode of production, several dimensions are of interest for an empirical study. Mosco analyzes the commodity form in communication industries in terms of the commodification of labour, content and audiences (2009, pp.127-141). This can include commodification processes at work in production (labour power, and the means of production), and in circulation (realization of surplus value). Although Mosco considers the processes of production and exchange (realization of surplus value), he does not literally mention the study of the overarching circulation processes in which the commodification of communication industries could be embedded. However, the proposition is implicit when Mosco elaborates on the dimensions in which commodification relates to communication, envisioning that “commodification processes at work in the society as a whole penetrate communication processes and institutions, so that improvements and contradictions in the societal commodification process influence communication as a social practice” (2009, p.130). Also, when defining the object of study of political economy research, Mosco remarks that, “given the interest in

situating communication within a general political economic analysis, it is useful to start from the general process of commodification and examine how it relates to communication” (2009, p. 131). Overall, in both fragments there is the implicit notion of the embeddedness of communication industries in societal commodification processes, which suggests the possibility of considering relationships between overarching value flows and the commodification of communications systems. Based on Mosco’s propositions, and on the empirical findings, the present research emphasizes the role of the commodity form in value circulation processes. I will argue that, in the Cuban case, authorities’ interest in capturing value from the sphere of money circulation has been a key reason for the ongoing commodification of mobile and Internet services.

Departing from the role of the commodity in the realization of surplus value in the marketplace, I choose not to analyze the dimension of commodification as a process of production. Instead, I will focus on the dimension of commodification as a process that is embedded in the circulation (and expansion) of value. This focus is justified by the conceptualization of capital as both a process of production and circulation of value (Marx, 1990, 1992; Harvey, 1990). It is important to clarify then that the commodity form analyzed in this project corresponds to the Internet and wireless services. This thesis will not address the commodification of labour power, nor the process of production of the commodity (e.g., how the value of the telecom commodity is determined). When possible, it will explore the historical determinations of the exchange and (socially constituted) use values of the telecom commodities. However, departing from the above-referred interest in studying commodification in the context of broader commodification processes within the society (Mosco, 2009), my focus is to analyze the commodification of wireless and Internet services in its embeddedness in overarching value movements. These flows often transcend the national state-managed economy to encompass international and global movements of value. The specific ways in which Cuba articulates these dynamics could be reflecting the disciplinary effects of the capitalist value form (Harvey, 2010), imperialistic expansion and control over the telecommunications environment (Schiller, 2006), and the generalization of capitalist scenarios of haves and have nots even in what portends to be a state socialist project.

Specifically, this project illuminates the political and economic processes that have historically influenced the current commodification of wireless and Internet communications services in Cuba. In the construction of the theoretical framework, I corroborated the challenge illustrated by Mosco in that the term commodification has not received substantial explicit treatment in political and economic thought (Mosco, 2009, p.132). In this sense, a secondary objective of this research is to systematize and enrich the existing conceptualization of commodification offered in the field of PEC. Specifically, I use Marx's propositions in *Capital* to systematize the background theory behind the existing definitions, and to elaborate in greater depth the significance of commodification for processes of value circulation. This approach is not sufficiently covered in the literature on the PEC, or at least not as demanded by my object of study. Moreover, in the context of the Cuban academia, critical political economy has not often been used as a theoretical framework for communication research (Muñoz & Olalde, 2012; Olivera & Salas, 2006; Benítez, 2004). In Cuba, the epistemological link of the discipline of communications studies with *capitalism* seems to be in 'contradiction' with the political and ideological discourse on Cuba as a *socialist* system (Constitution of the Republic of Cuba, 1976).

Precisely, half way between theory and history this project encountered the epistemological issue of defining the relevance of Marx's framework in *Capital* for analyzing a state socialist experience. Marxian conceptualizations about state socialism define it as a post-market political-economic system for the management of capital relations based on state ownership of property, command mechanisms for surplus-value extraction, and a state-planned strategy for accumulation (Green, 1996; James, 1986). In this regard, market capitalism is defined as a different political-economic system for the management of capital relations, based on private ownership of property, and the market as the primary mechanism for determining productive goals, prices and wages (Green 1996, p.vi). However, Marxian critiques of state socialist systems do not take these systems' claims to be a socialist alternative to capitalism at face value (see Green, 1996, for the Cuban case; Mészáros, 2000, and James, 1989, for the Soviet experience). In my view, a Marxian approach to real experiences of socialism should always question the extent in which commodities, money and labour power are being

effectively mobilized as part of social relations of production that function as an alternative to, or in opposition to, capital.

It is important to clarify that a critique of state socialism as a political and economic project, in Cuba or in other parts of the world, is not an objective of this thesis. The main problem identified in Marxian critiques of the Cuban case is that they fail to bring together critiques of actually existing socialism and theories on imperialism. This means that there is little balanced theorization about the 'failures' of state socialism in the context of the imperialistic boycotts, pressures and constraints under which the Cuban state socialist project emerged (this is especially the case in Green, 1996). Nevertheless, some of the notions found in this area of the literature are useful in order to characterize the country's political economy in Marxian terms. These sources are also helpful for framing the processes of commodification at work in the society and in the telecom sector. For example, they establish that, in the Cuban Revolution, historical forms of social provision based on use values have included universal access (such as with health and education) and egalitarian distribution (such as with the food rationing system) (Green, 1996; Carranza et al, 1996). To some extent, these historical examples exemplify processes of de-commodification of previously commodified sectors.

However, while this study is at arm's-length from critiques of state socialism, its findings connect with some of the debates sustained in this area. They might show some of the implications of having forms of value production and circulation under state socialism that are similar to those of the capitalist mode of production (James, 1989; Green, 1996). In other words, a study on commodification in the Cuban socialist project might add empirical elements to discussions about whether the transition to socialism or communism should entail not only the transformation of the class relation between capital and labour in production, as Green (1996) suggests, but also the transformation of circulatory processes related to commodification, monetization, and the trading of labour services so that they no longer operate in support of capital accumulation (Harvey, 2013). When possible, this thesis will highlight how the specific processes of commodification of the Cuban telecom sector express some of these broader debates.

The Cuban Telecom Sector as per the Background Literature

Previous research about Cuba's telecommunications is relatively rich in political and economic information about the history of this sector. However, none of the texts consulted explicitly frames the analysis in the field of critical political economy (and/or Marxism), and commodification is not a category in use in these texts.

As for the most frequent topics, several sources analyze the history of foreign ownership and control that characterized Cuba's telecommunications from 1851, with the introduction of the telegraph, until the triumph of the Revolution in 1959 (Nichols and Torres, 1998; Hoffmann, 2004; Recio, 2014). At the same time, the literature contrasts the period of state ownership that followed the nationalization of the telecom system against the partial privatizations in the hands of foreign investors of mid-1990s (Nichols and Torres, 1998; Hoffmann, 2004; Recio, 2014). Such a shift in the government's approach to telecommunications is associated with Cuba's re-articulation of the socialist model and its partial reintegration into the capitalist world market due to the collapse of the Soviet camp⁴ (Nichols and Torres, 1998; Hoffmann, 2004).

Meanwhile, the period that started with the re-statization of the telecom sector in 2011 has received less coverage. Specifically, the fact that re-nationalization did not mean an ease of the commercial character of the sector has barely been analyzed—on the contrary, commodification has been accentuated since 2011. Also, there are no significant debates about the desired role of a telecom provider that was transformed into a public asset after being partially privatized in mid-1990s.

Regarding international communications and the introduction of the Internet in 1996, the majority of the literature emphasizes the U.S.'s belligerent actions against Cuba as a determinant constraint (Valdés & Rivera, 1999; Uxó, 2009; Nichols and Torres, 1998; Hoffmann, 2004; Recio, 2014). After the collapse of the Soviet bloc, U.S. administrations hailed increased communication as a prime means to promote regime change on the island (Valdés & Rivera, 1999; Uxó, 2009; Recio, 2014). As a result, Cuba's policymaking prioritized control in order to avoid the use of the Internet as a tool for subversion (Uxó, 2009; Hoffmann, 2004; Recio, 2014).

Most sources also argue that the Cuban government promoted international connectivity to the Internet in large part to foster the country's economic reinsertion in the mid-1990s, but restricted individual access at the domestic level (Valdés & Rivera, 1999; Hoffmann, 2004; Recio, 2014). Hoffmann (2004) summarizes the government's approach to Information and Communications Technologies (ICT) as one that actively promotes major programs such as the 'Informatization of Society' while emphasizing control and restricting individual Internet use.

In this regard, Uxó (2009) argues that the Cuban government has implemented a collectivistic model of social appropriation of ICTs; the objective of which is not universal access, but universal services. Therefore, the priority is to promote forms of public access in facilities such as workplaces and educational centers, instead of increasing individual (private) connections⁵ (Uxó, 2009). However, Hoffmann (2004) considers that the main priority in Cuba's telecommunications policy after the 1990s has been not so much achieving universal services, but rather improving technological facilities for those who either promise hard currency earnings (foreign personnel, organizations and businesses established in the island) or are closely linked to the official structures of the socialist state. Furthermore, Valdés & Rivera (2004) mention the government's early decision to charge more for access in order to control the Internet. But in these texts observations remain at the level of observed fact, and are not theorized in the context of alternative or oppositional forms to the preeminence of exchange values. In other words, the authors do not question a scenario of commercialization versus universal services.

Departing from this background, the present project critically draws on existing approaches to explain the current commodification of wireless and Internet services in Cuba. Historical information has been collected and analyzed on the basis of definitions of commodification and theoretical contributions from PEC and Marxism. Moreover, wide-ranging literature from the fields of mainstream economics and Marxian political economy is employed in order to triangulate information, consider other historical events, criticize existing interpretations, and address the embeddedness of the Cuban telecom sector within the national and global economy. In summary, my research objective is 1) theoretically framed with contributions from the field of the PEC and Marxism, and 2)

methodologically addressed on the basis of a critical review of existing literature about Cuba's telecom and wireless systems.⁶

The following chapters begin by elaborating the analytical category in question (commodification) using Marxism and contributions from PEC. The third chapter, Telecommunications in Cuba, addresses the history of the Cuban telecom sector to inquire about the relationship between partial privatizations (1994-2011) and the underlying process of commodification observed today. This chapter also considers issues of ownership and control of the Internet by U.S.-based corporations, and how this has determined the services that a nation-based telecom enterprise is able to provide. Starting from the observation that the system became fully state-owned again in 2011, but commodification remained, the fourth chapter, Commodification of Mobile and Internet Services, explores another set of processes related to the broader management of the state socialist economy that have influenced the commercialization of mobile and Internet services. This chapter explores the commodity form as a state-led strategy for capturing value from the sphere of money circulation, considering that this realm has been significantly infused by hard currency entering the domestic economy since the 1990s in the hands of tourists, or in the form of remittances (cross-border income transfers sent to Cubans by family members and friends living overseas). The thesis concludes by exploring the main political and economic processes determining the commodification of telecom and wireless services in contemporary Cuba, and offers a brief assessment of the social implications of commodification from the lenses of PEC and Marxism.

Chapter Notes

¹ According to official statistics, the overall employed population in Cuba for the year 2016 was of 4591,1 thousands of workers, while the state employed population was of 3262,0, which represents 71.0505... % of the total employed. (ONEI, 2017a, p.11).

- ² Political Economy emerges in the eighteenth and nineteenth century concerned with the modes of (re)production of the early capitalist societies (Mosco, 2009; Wasko et al, 2014). Among its founding figures, Adam Smith, David Ricardo and John Stuart Mill, Smith's contributions were particularly relevant. He analyzed how to organize economic life and balance markets against State intervention, while addressing questions about the constitution of the good society. (Wasko et al, 2014). In the second half of the nineteenth century, Karl Marx developed a critique to this 'classic political economy', leading to what is known as critical political economy. Marx pointed out the exploitative logic of the capital by comparing it with other political and economic organizations (Mosco, 2009).
- ³ For the past years, prices for Internet and wireless services have been widely discussed in the comments section of the government's website Cubadebate. This online media has become the main platform for announcing new services or changes associated to the Cuban telecommunications company ETECSA. In addition, commentators identified as 'representatives of ETECSA' reply to the enquiries, suggestions and criticisms of other participants. See, for example, the following links:
- <http://www.cubadebate.cu/noticias/2016/12/19/etecsa-rebaja-precios-del-servicio-nautay-da-a-conocer-nuevos-servicios/#.WIFfiVUrLcs>;
 - <http://www.cubadebate.cu/noticias/2016/07/06/ministro-de-comunicaciones-sobre-informatizacion-el-pueblo-necesita-mas-fotos-y-videos/#.WIFKNFUrLcv>;
 - <http://www.cubadebate.cu/noticias/2016/08/17/etecsa-informa-sobre-afectacion-del-servicio-de-internet-desde-salas-de-navegacion-y-areas-wifi/#.WIFg3VUrLcs>.
- ⁴ The main problem with this research, especially with Nichols and Torres (1996), is that the analysis somehow naturalizes the inevitability of market relations in the Cuban telecom sector. In other words, these relations appear as the natural ones deriving from issues of foreign implantation and control of the Cuban telecom infrastructure, and from the 'failures' of the state socialist mode of production to ensure a more autonomous reproduction and growth of its telecom system.
- ⁵ Overall, Uxó argues that the economic imperatives have been subordinated to the political ones in the design of the policies for the Internet in Cuba (2009, p.126). I consider this is an inaccurate affirmation from a political economy perspective. It assumes a reduced view of the economic by means of solely associating it with market logics of commercialization and individual consumption. This leaves little room for considering the necessary economic dimensions of the state socialist management of the Internet access in Cuba.
- ⁶ Specifically, the main technique for data collection was documentary research. This involved extensive surveys of books and academic articles of Cuban and foreign scholars (written in English or Spanish), but also of party and government documents, and press reports. It also included extracting data from the official website of the Cuban telecommunications company ETECSA, and consulting official statistics in relation to telecommunications and employment published by the ONEI (Cuba's National Office for Statistics and Information - ONE, for its acronym in Spanish).

Chapter 2.

Commodification and Communication

Following the definitions offered by the field of Marxian political economy, commodification is conceptualized in this research as a set of social processes in which exchange-values become the principal means through which the production and/or social provision of use-values is organized (Harvey, 2014; Mosco 2009; Fuchs, 2012; Prodnik, 2012). In the context of Internet and wireless communications in Cuba, this means analyzing the extent in which public telecommunications services with social commitments to universal access, public interest and public service have been transformed into commercial endeavors that provide access and services to those who can afford them.

Vincent Mosco conceives of commodification as one of the three main processes that make up the starting points for political economy research, “thereby guiding us on how to apply political economy to the world of communication” (2009, p.127). Mosco defines commodification as “the process of turning use values into exchange values, of transforming products whose value is determined by their ability to meet individual and social needs into products whose value is set by their market price.” (Mosco, 2009, p.132). As for the commodity in itself, it is “the particular form that products take when their production is principally organized through the process of exchange” (Mosco, 2009, p.129). Furthermore, Christian Fuchs (2012) identifies commodity/commodification as an important Marxian category for critical Internet studies, and defines commodification as “the transformation of a social relationship into an exchange relationship between buyer and seller” (p. 401). Both definitions are derived from Marx’s labour theory of value, the departing point for his analysis of the capitalist mode of production. In what follows, commodification will be conceptualized using Marx’s theorizations in *Capital*. Later on,

several dimensions of the concept will be expanded in order to adapt it to my empirical research.

A brief note about using Marx's theory

In using Marx's theory to elaborate on Cuba's political economy and its telecommunications system, it is essential to consider the historical character of the more technical definitions often made in the literature, such as: value is socially-necessary labour time (Marx 1990, 129; Harvey 2010, 23), or capital is a process in which value valorizes itself (Marx 1990, 252-255; Lee, 1993, 60; Harvey 2010, 88). In the first volume of *A Companion to Marx's Capital*, David Harvey warns about misreading Marx's value theory as a fact of nature, or a universal norm to which we must comply (2010, 46)¹. Rather, Marx conceives value as a social construct arising out of a particular mode of production:

“The value-form of the product of labour is the most abstract, but also the most universal form of the bourgeois mode of production; by that fact it stamps the bourgeois mode of production as a particular kind of social production of a historical and transitory character. If then we make the mistake of treating it as the eternal natural form of social production, we necessarily overlook the specificity of the value-form, and consequently of the commodity-form together with its further developments, the money form, the capital form, etc.” (Marx, 1990, p.174, n. 34, emphasis added).

The quote illustrates that Marx de-naturalizes the capitalist value-form and its further developments, the commodity form and the capital form, as proposed by the bourgeois political economists, to grant them a historical and transitory 'character' (a term that indicates Marx's ontological viewpoint). It is within this historical and transitory ontology that the definitions in the following sections are elaborated.

The contradictory determinations of the commodity form: use and exchange value.

In volume I of *Capital*, Marx identifies the dual character of the commodity as springing out of an economic process of exchange: it is set for exchange by a seller (therefore, it has an exchange value), while it also has a use value that makes it wanted,

needed or desired by a buyer (Marx, 1990, p.179; Harvey 2010). Use-values are broadly defined by Marx as “the usefulness of a thing” (1990, p.126). They constitute the qualitative and heterogeneous character of commodities (Harvey, 2010). On the other hand, as exchange values in the marketplace, Marx noticed that commodities are quantified and homogenized towards ensuring their commensurability in the process of exchange (Marx, 1990, pp.126-127; Harvey, 2010). The commodity itself is subjected to contradictory determinations, since “all commodities are non-use-values for their owners and use values for their non-owners” (Marx, 1990 p.179).

In Marx’s analysis of the capitalist mode of production, he considered that the commensurability of commodities relies on the fact that they are “the residues of the products of labour... as crystals of this social substance, which is common to them all, they are values – commodity values” (Marx, 1990, p.128). This formulation is coherent with the labour theory of value already developed by classical political economy at the time Marx was writing (although his critique substantially complemented the previous formulations). In Marx’s view, “labour . . . as the creator of use values, as useful labour, is a condition of human existence which is independent of all forms of society”. Useful labor is “an eternal natural necessity which mediates the metabolism between man and nature, and therefore human life itself”. (Marx, 1990, p.133). Therefore, the labour theory of value is based on the consideration that human labour has the capability of producing use values.

Overall, value appears as a socially constructed category that makes all commodities commensurable in the process of exchange (Harvey 2010). For Marx, the tendency to equate the value of an article to “the amount of labour socially necessary, or the labour-time socially necessary for its production” is historically specific to capitalism (Marx, 1990, p.129). Exchange values are “the necessary mode of expression, or form of appearance, of value” (Marx 1990, 128); the necessary representation of the human labour embodied in commodities (Harvey, 2010, p.18). Exchange values appear as ‘necessary’ because, as Harvey notices, it is impossible for a buyer to see or measure the human labor embodied in the commodities in the supermarket; what the person can find out are those exchange values (2010, p.18). In other words, Marx saw that the exchange values of the commodities in the marketplace express a specific set of social

relations congealed in the commodity. This is what makes them commensurable in the process of exchange; therefore, a specific set of social relations determines the value of the commodity.

To characterize commodification as a social process, we then need to consider this 'triumvirate' (as Harvey calls it) of value, use value and exchange value (Harvey, 2010, p.24). These are the dimensions explicitly addressed in the definition of commodification as proposed by Mosco (2009), Harvey (2014) and Fuchs (2012). However, as a historical process, commodification also entails what Marx calls "the further developments" of the commodity form: the money form and the capital form (Marx 1990, 174, n. 34).

The commodity form and its further developments: the money form and the capital form

Marx's logical argument is that, with the proliferation and generalization of exchange relations, a universal equivalent emerged and took the form of a tangible money-commodity that acted as a measure of value and as the means of circulation of commodities² (Marx, 1990, p.188). Specifically, money is "the commodity which functions as a measure of value and therefore also as the medium of circulation, either in its own body or through a representative" (1990, p.227). Both functions entail several contradictions. While the origin of the money form is that of the universal equivalent for exchange, the proliferation of exchange relations also creates the need for money in order to advance the production of commodities for the market (Marx, 1990, pp.227-234; Harvey 2010). This contradiction is solved as money becomes the means of payment (in the form of money of account, credit money) (Marx, 1990, p.233). Therefore, apart from buyers and sellers, a new social relation arises: that of creditors and debtors. However, from the debtor-creditor relation also emerges the need of money not only as the medium, the lubricant, of the circulation process, but also the very end. When the debtor-creditor relations are configured, "the indebtor only sells commodities in order to be able to pay. The value-form of the commodity, money, has become the self-sufficient purpose of the sale, owing to a social necessity springing from the conditions of the process of circulation itself" (Marx, 1990, p.233). Therefore, the basic principle for the

existence of a social relation in which money is put in motion in order to obtain more money, crystallizes out of the circulation of commodities (Marx, 1990, p.233; Harvey, 2010). The circulation of commodities and money creates a terrain for the emergence of capital as a process and a social relation in which value is set in motion with the express purpose of its valorization (Marx, 1990; Harvey, 2010).

The forms in motion

The commodity and money forms discussed in the previous sections entail the existence of exchange dynamics and of an overarching process of circulation. The motion of commodities and money is essential in Marx's theory about the capitalist mode of production. Harvey states that "*Capital*... reveals a Marx who is always talking about movement and the motion—the processes—of, for example, the circulation of capital" (2010, p.12). This is because, for Marx, capital is not a thing, but a process—a process, specifically, of the circulation of values (Marx, 1990, pp.198-256). These values are congealed in different things at various points in the process: in the first instance, as money, and then as commodity, before turning back into money-form. (Harvey, 2010, p.88)

Assuming the generalization of both the commodity form and the representation of value (money), the analysis of these forms in circulation starts with Marx's deconstruction of what he calls the "social metabolism" and the "metamorphosis of commodities" through exchange (Marx, 1990, pp.198-199; Harvey, p.63). With all exchanges now mediated through money, exchange becomes a transaction in which value undergoes a change of form, and it is important to note that this is different from the "C-C" or commodity-to-commodity movement of bartering (Harvey, 1990, p.63). By intertwining historical observations and logical assumptions, Marx identifies two forms of circulation of commodities and money advanced by human agents. Simple commodity circulation originates in a chain of exchanges of commodity into money, money into commodity, labelled the "C-M-C" relation [commodity-money-commodity]. The objective of this form is to procure different use-values, although mediated by the money form (Marx, pp.199-200; Harvey, 1990, p.76). On the other hand, the capital form of

circulation is when the representation of value (money), becomes the aim and objective of circulation (Harvey, 1990, p.63).

As illustrated in the section above, with the generalization of exchange relations, there is also the possibility of the emergence of the capital form of circulation. Marx identifies three socially constituted agents that had advanced this process by the time he was writing *Capital*: merchants, interest-bearing or usurers, usurers (who offered loans in exchange for interest payments), and industrial capitalists (Marx, 1990; 1992). In this process, money is thrown into circulation in order to obtain more money, which is called surplus value. Departing from an “M-C-M” form of circulation [money-commodity-money], the logical argument is that there is no purpose in engaging in such transactions if the money obtained at the end is the same as at the beginning. In Marx’s words, “the value originally advanced... not only remains intact while in circulation, but increases its magnitude, adds to itself a surplus-value, or is valorized... and this movement converts it into capital” (1990, p.252). The formula for capital then is “M-C-M+ Δ M”, with “ Δ M” accounting for an amount of surplus value extracted that expresses the valorization of value, the aim and objective of this form of circulation:

Now, in the circulation M-C-M, value suddenly presents itself as a self-moving substance which passes through a process of its own, and for which commodities and money are both mere forms. But there is more to come: instead of simply representing the relations of commodities, it now enters into a private relationship with itself, as it were. It differentiates itself as original value from itself as surplus value... Value therefore now becomes value in process, money in process, and, as such, capital. (Marx, 1990, p.256).

Marx concludes that “M-C-M+ Δ M” is the general formula for capital, “in the form in which it appears directly in *the sphere of circulation*” (1990, p.257, emphasis added). This conceptualization of capital as value in motion that assumes different forms in the sphere of circulation is essential for gathering historical evidence about processes of commodification. According to Marx, “if we pin down the specific forms of appearance assumed in turn by self-valorizing value in the course of its life, we reach the following elucidation: capital is money, capital is commodities” (Marx, 1990, 255; emphasis added). By reversing this proposition, one could assume the significance of considering that, under a specific set of social relations of production and circulation, commodities *are* capital. Therefore, an analysis of the commodity form should look at its complex

movements within the circuit of capital, and its transformations in relation to the other form that value adopts in the course of its valorization as capital—the money form.

In order to complete this brief overview of Marx's theory of the capitalist mode of production and the role of commodification in it, it is necessary to move from the sphere of circulation, where commodities and money appear as already given, to the actual process of production of value and surplus value.

From circulation to production

Marx's interest in elucidating the origins of surplus value brings him to the labour process in which the commodity is produced. When capital appears directly in the sphere of circulation ($M-C-M+\Delta M$), it is the sale of the commodity (C) which 'magically' seems to produce the surplus (ΔM) in comparison to the money initially invested (M). However, one of Marx's fundamental contributions is the observation that surplus value is not created through circulation but rather is the result of a social relation of production.

When deconstructing the capitalist process of commodity production, Marx notes that it is based on the consumption of labour power and the means of production, in a process controlled by an agent (the capitalist) that acquires them as commodities in the marketplace. His fundamental theorem is that, under this mode of production, surplus-value originates from the difference between what labor gets for its labor-power as a commodity and what the laborer produces in a labor process under the command of the capitalist (Harvey, 2010, p.125). In short, the capitalist organizes a system of production in which the workers produce more value than what is paid out in wages. Therefore, surplus value originates from unpaid labour time. This leads to Marx's key critique of the bourgeois tradition of political economy: the capitalist process of production does not adhere to the liberal rules of the exchange of equivalents, and thus it is exploitative. In other words, capital as a social relation is exploitative because it is based on the production of unpaid labour time.

Furthermore, Marx's theory of surplus value assumes that it is created in the realm of production of industrial capital (Marx, 1992; Harvey, 2010, 2013). This is different from merchant and interest-bearing forms of capital. The general formula for

capital is expanded in order to show the sphere of production, while still illustrating capital as an overarching process of circulation of values. The resulting circuit looks as follows (Marx, 1992; Harvey, 2010, 2013):

$$M - C \begin{cases} \nearrow LP \\ \searrow MP \end{cases} \dots P \dots C' - M + \Delta M$$

Capital is a process in which an initial amount of money (M) is put into circulation in order to purchase commodities (C), labour power (LP) and means of production (MP). The production process (P) consumes these elements to produce commodities (C') that should be sold for more than originally invested (M + ΔM). As explained in the previous section, the addition is called surplus value, which should be invested to expand the accumulation of capital (Marx, 1990, 1992; Harvey, 2010, 2013; Mosco, 2009).

Marx considered that this was the determinant form of capital in a fully developed capitalist mode of production. In terms of adapting this formulation to an empirical study, one would have to consider the extent to which a particular business or branch of the economy is organized in this circuit in order to increase profits and expand investments, as well as to observe whether there is private appropriation and/or social redistribution of profits.³

One element to consider in conceptualizing commodification is the role of the commodity in the circuit of capital. In the course of its movement (or valorization) as capital, value accrues to either the money or the commodity form at different stages in the process. In other words, the commodity is one of the forms that takes on value in its circulation as capital. However, in comparison to the other form of value (the money-form), the commodity has the specific function of being the bearer, not only of value as socially necessary labour time, but also of surplus value (unpaid labour time). Since capital is determined by the production and expansion of surplus value, the role of the commodity is essential in terms of the realization of surplus value (at least in the circuit of industrial capital)⁴ (Marx, 1990; Harvey 2013; Lee,1993).

In addition to the generalization of the commodity form in the means of production, labour power and wage goods are a precondition for the expansion of

capital. In other words, in a fully developed capitalist mode of production it is necessary for labour power and means of production to appear as commodities in the marketplace to foster the production process, and for wage goods to be at the disposal of the workers in order to ensure the reproduction of the labour force (Marx, 1992; Harvey, 2013).

Overall, commodification, as the process of production of use-values based on their exchange-values, (re)produces the need for the existence of a universal equivalent (money) whose contradictions, along with those of the commodity, can account for the crystallization of capital as a social relation. Furthermore, the contradiction between the social power of money and the possibility of its private appropriation (Marx 1990, pp.229-230) creates a terrain for the emergence of social inequalities.

Furthermore, commodification requires that social production adhere to the value-form, “a universal form of the bourgeois mode of production” (Marx 1990, p.174). Through this form, human labour ends up being expressed in value and measured by its duration (socially necessary labour-time). However, such measurement is only expressed in the magnitude of the value of the product, formulas that, as Marx put it, “bear the unmistakable stamp of belonging to a social formation in which the process of production has mastery over man, instead of the opposite” (1990, p.173).

Mosco points out that by peeling back what Marx called the “onion skin” of the commodity’s appearance we discover “a system of production” (2009, p.131.) Following the arguments presented in the previous sections, one could add that deconstructing the commodity beyond its initial appearances will also reveal a system of circulation of values. The commodity-form not only expresses relations of production, but of distribution and exchange in the circuit of capital. It is embedded in value circulation processes.

Commodification as a process of production and circulation

“Money, or the circulation of commodities” is the title given by Marx to chapter Three of Volume I of *Capital*. This formulation points directly to the importance of money for the circulation of commodities. At the same time, the capital form of circulation shows the significance of commodities for the circulation of money as capital. The intertwining

of these three forms—commodities, money and capital—will be explicitly observed in the conceptualization of commodification as a foundation for empirical research in the next chapter. Their relationships can be a departing point for drawing inferences, not only from production, but also from the sphere of circulation. Overall, in a Marxian study, commodification should be seen as more than a process of production (of commodities), because commodification cannot occur without the exchange and circulation of commodities and money. The key is to study commodification as a dialectical process that externalizes the contradictions of the commodity form by becoming a process of production of use values for the exchange and circulation of the representation of value in the money form.

Specifically, it is in the sphere of circulation where commodities and money appear as the forms of value that they assumed in the course of their valorization as capital. However, circulation does not mean that money and commodities are changing in space, that they are being transported. Circulation means that value is set in motion with the purpose of changing forms. It refers to the movements that occur in the process of exchange, in which commodities are transformed into money and vice versa. The sphere of circulation excludes the moments in which commodities are being produced, and includes the activities through which value is transformed.

In this sense, an analysis of commodification should also take into account the overarching processes of circulation of value in which the commodity-form and the value-form of the commodity (money) exist.⁵ In *The Political Economy of Communication*, Mosco analyzes the commodity-form in communication industries in terms of the commodification of labour, content and audiences (2009, pp.127-141). This can include commodification processes at work in production (labour power and the means of production), and in circulation (realization of surplus value). Although Mosco considers the processes of production and exchange (realization of surplus value), he does not literally mention the study of the overarching circulation processes in which the commodification of communication industries could be embedded. However, the proposition is implicit in two key moments in his text:

- 1) When conceptualizing commodification as one of the key categories for undertaking research in the field of PEC, Mosco suggests that, “given the interest in situating communication within a general political economic analysis, it is useful to start from the general process of commodification and examine how it relates to communication” (2009, p. 131).

- 2) At the moment of elaborating on the dimensions in which commodification relates to communication, Mosco envisions that “commodification processes at work in the society as a whole penetrate communication processes and institutions, so that improvements and contradictions in the societal commodification process influence communication as a social practice” (Mosco, 2009, p.130).

Both fragments address the embeddedness of communication industries in societal commodification processes. They suggest that there is a relationship between overarching value flows and the commodification of communications systems. Based on Mosco’s propositions, and on empirical findings, I conceptualize commodification to be a process that situates communications commodities in broader value circulation processes.

This view attempts to balance what otherwise could result in a more commodity-centered approach when analyzing processes of commodification. I see such an approach to be mostly based on deconstructing the specificities of the production of the commodity, and characterizing its (socially constituted) uses and exchange values. However, an analysis of commodification should also take into account the overarching processes of circulation of value in which commodities and money exist. Theoretically, this derives from Marx’s conceptualization of the commodities as values (“commodity values”) and of the importance of circulation for the value-form under the capitalist mode of production (Marx, 1990, p.128). So far, the definition of commodification has explicitly emphasized the categories of use and exchange-value, while the consideration of commodities as values is more implicit (Harvey, 2014; Mosco, 2009; Fuchs, 2012). Overall, in order to explain a process of commodification, it is important to observe its intertwining with overarching value movements. This means, for example, to observe how specific processes of commodification in a particular area of the society are related

to broader dynamics of money and capital circulation within the domestic or even global economy. The present project follows this view to address some of the features of the commodification of Internet and wireless services in Cuba. It will explore commodification as a state-led strategy for capturing hard-currency that enters the domestic economy via remittances (people-to-people cross-border income transfers) and tourism.

The above-mentioned approach is different from an analysis of valorization. Valorization encompasses a focus on value as the main analytical category (Lee, 1993), whereas my empirical case still identifies the commodity-form in the provision of wireless and Internet services as the point of departure and the object of contradictions in contemporary Cuba. In addition, an analysis on valorization implies granting equal significance to all the instances of value transformation. Instead, my proposition is just to expand the approach to commodification in a way that allows for consideration of broader societal processes in action, based on the criteria that these wider processes are often at risk of not being sufficiently considered in a more commodity-centered approach.

Lastly, toward an empirical approach to Cuba's telecom and wireless services, the conceptualization of commodification should be narrowed down to the specifics of the process of turning use into exchange values in the media and technology sector.

Commodification and Communication

Several authors in the field of PEC argue that commodification is a basic process that underlies media and technology in capitalism (Fuchs & Mosco, 2012; Bolaño, 2013; Mosco, 2009). One of the points of departure for analysis of commodification in the media and telecom sector is the definition of use and exchange values in a given context.

Use-values are broadly defined by Marx as "the usefulness of a thing" (1990, p.126). In this regard, Mosco clarifies that use value is not limited to meeting survival needs but extends to the range of socially constituted uses (2009, p.130). In addition, other Marxian literature suggests not to naturalize use value as a category, as well as to

avoid relativisms in this regard. Overall, this suggests the importance of observing the historical and socially constituted character of use-values. As a balanced approach, Mosco suggests considering “the mutual constitution of use values while retaining the distinction between socially constituted use values, and values which arise from a specific set of social arrangements, such as the market, which produce exchange values” (2009, p.130).

In relation to the communications sector, Fuchs and Mosco establish that the use value of media and media technologies lies primarily in their capacity to provide information, enable communication, and advance the creation of culture (2012, p.133). When the social production and/or provision of use values is determined by their exchange values, the media take on the commodity form. At this point, “money is an exchange value in relation to the media.” (Fuchs & Mosco, 2012, p.133). In other words, the monetary price of the media represents the exchange value side of information and communication, whereas media and technologies as concrete products represent the use value side of information and communication (Fuchs & Mosco, 2012, p.133).

The assertion on that “*the monetary price* of the media represents the exchange value side of information and communication” (Fuchs & Mosco, 2012, p.133, emphasis added) leads to consider that *prices* constitute indeed one of the surfacing expressions of an underlying process of commodification (as argued in the Introduction of this thesis). Specifically, Marx defines prices as “the money name of the labour objectified in a commodity” (1990, p.195). When commodities are labeled in the market with an asking price, prices become a monetary representation of value (Harvey, 2010, p.39). However, as Marx notes, the price-form ends up expressing a highly mediated and divergent relationship between the value-creation process through human labour, and the actual realization of value through market exchange. Prices can diverge between the magnitudes of value depending on particular conditions of supply and demand. In addition, a price can be attached to things that have no value at all (that are not the product of human labour for exchange), but the mere attachment of a price commodifies them (Marx 1990, pp.196-197; Harvey, 2010).

The literature on communications industries states that historical forms of social provision leaning towards use-values relate to principles of universal access, public interest and public service (Garnham, 1986; Mosco, 2009). On the other hand, forms of social provision articulated around exchange-values emphasize principles of market position and profitability (Garnham, 1986; Mosco, 2009).

Research about the communications industries also reveals the historical articulation of pro-commodification logics by the state. This is particularly relevant in the Cuban case because of the role of the state in its socialist model. In this regard, four surfacing processes foster the commodification of communication industries: commercialization, privatization, liberalization and internationalization. Vincent Mosco defines them as the main processes through which the state has regulated the (tele)communications sectors following a capitalist logic (Mosco, 2009, pp.176-178).

The first process, commercialization, relates to the transformation of media services towards standards of market position and profitability, even among state and public service broadcasting and telecommunications firms. This establishes market regulations, and undermines forms of regulation based on standards of public interest, public service and universality (Mosco, 2009, pp.176-177). Commercialization is the process that first surfaces when observing the prices for mobile and Internet access in Cuba.

Liberalization is the process of state intervention to expand the number of participants in the market, typically by creating or easing the creation of competing providers of communication services (Mosco, 2009, p.177). In the Cuban case, this is primarily concerned with whether or not other telecom providers can be allowed to operate in Cuba, apart from the state-owned ETECSA. (In this sense, it is very interesting to analyze what the absence of this process means in terms of the Cuban socialist model and its approach to telecommunications, and in the context of the actual configuration of other processes in the state-run telecom sector such as commercializations and partial privatizations).

The third process, privatization, is when a public broadcaster or a state telephone company becomes private property after the state literally sells it off (Mosco, 2009,

p.177). This is the case of the state intervention process that took place in 1994, in which the Cuban state-owned telecom system was transformed into a joint-stock company, and 49 per cent of its actions were sold to a foreign capitalist partner.

Finally, internationalization refers to the process of creating global or regional organizations integrating the governments to regulate communication activities and infrastructures. This is considered to be particularly important in the telecommunications arena, since the transnationalization of telecommunications networks require some degree of interstate coordination (Mosco, 2009, p.177-178). An example of this is Cuba joining the International Telecommunications Union (ITU) in 2012.

As argued in the Introduction, Cuba's telecom system was structured around provision based on use-values after the early nationalizations of the telephone company in 1960. However, the introduction of mobile and Internet communications in the 1990s followed a more commodified logic. To some extent, the partial privatizations that the system experienced after the collapse of the Soviet bloc could have explained its further commodification. Still, once the system became fully state-owned again in 2011, provision based on monetary gains and exchange values remained. This character was further accentuated by the ongoing implementation, since 2013, of forms of public access to the Internet in state navigation rooms and public parks at prices highly questioned as excessive (Recio, 2014). The following chapters of this thesis will address why Cuban telecom services have been commodified, and what the main political and economic processes are that determined such commodification in the context of the state socialist model.

Chapter Notes

¹ In the two volumes of *A Companion to Marx's Capital*, Harvey recognizes that many misinterpretations are often due to long passages in which the historical arguments are almost absent while Marx is fully absorbed in theorizing about the general laws of the capitalist mode of production. This is the case of most parts of Volume II. Harvey does acknowledge, however, other instances in which Marx's historical elaboration is weak and thus the theory has been questioned by other scholars – e.g. the historical explanation on how the money commodity arose (2010, 32), and the “reduction problem” in the movement from concrete to abstract

labour, i.e. how skilled labour can be and is reduced to simple labour independently of the value of the commodity produced (2010, 29).

- ² Harvey notes that the historical evidence supporting Marx's explanation about how the money commodity arose might be regarded as rather thin (2010, pp.31-32). However, I agree with Harvey in that the logical and dialectical explanation is powerful in terms of deconstructing 1) the social functions that money performs when embedded in processes of exchange, and 2) the contradictions within the money-form that lead to the emergence of other social forms and relations (that of capital).
- ³ As for of the formulation of industrial capital as the determinant form of capital, Harvey warns that "industrial" is an unfortunate word when reading Marx today because of the more traditional/grounded connotations of this term, often associated to hard-commodity production. In this context, I see industrial as an abstracted formulation, not necessarily subscribed to a specific form of commodity production. The key is to analyze the extent in which any area of social production (communications among them) works in an industry-like circuit such as the one illustrated by Marx. This allows for theorizations such as 'culture industries', and so forth. (Theorizations around the so-called "culture industry" started with the ground-breaking work of Horkheimer and Adorno (1944), while a great deal of studies in field of the PEC have developed further this concept –for some examples, see Bolaño (2015)).
- ⁴ Meanwhile, surplus value realization accounts for the profit that the capitalist obtains for both personal consumption and the expansion of the initial money capital advanced (Marx, 1990; 1992).
- ⁵ Analyzing these forms in its circulation is the highest expression of the ontology of movement and motion that characterizes Marx's theory. Paraphrasing Latin American scholar Jesús Martín-Barbero (2008), this means losing the commodity as an object in order to win commodification as a broad and encompassing process. This is also Vincent Mosco's proposition for developing research in the field of PEC. As an ontological principle for undertaking research, he suggests not to depart from the traditional emphasis given to things or structures such as multinational media firms and the governments that oversee them (Mosco, 2009, p.129). He proposes, instead, to place social processes and social relations in the foreground of the analysis of communication. "This means that research starts from the view that social change is ubiquitous, that structures and institutions are constantly changing, and that it is therefore more useful to develop entry points that characterize *processes* rather than simply to identify relevant institutions." (Mosco, 2009, p.129, emphasis added).

Chapter 3.

Telecommunications in Cuba: a history of foreign control, nationalizations, and partial privatizations

At first, it seems that the commodification of wireless and Internet services in Cuba can be explained by the partial privatizations that the telecom system experienced in mid 1990s, since this is also the period in which mobile and Internet communications started in Cuba (Hoffmann, 2004, p.160, 164; Valdés & Rivera, 1999, pp.144-146). At the time, the state-owned telecommunications system was transformed into a joint-venture enterprise with the participation of foreign private capital (Nichols & Torres, 1998, pp.27-28). In general, commodification can be considered among the expected outcomes of capitalist processes of investment, organization and expansion (Mosco, 2009, pp.129-133): capital, as value in motion towards accumulation, initiates and finishes each cycle of transformation in the money form, but needs to adopt the commodity form to realize, in the marketplace, the surplus-value produced through the consumption of labour power and means of production in the productive arena (Marx 1990, 1992).

While this could be a feasible explanation from the viewpoint of the capitalist partner, the commodification of some of Cuba's telecom services is also deeply associated with the very character and transformations of the state socialist model. From a narrow point of view, commodifying Internet and mobile services intertwines with the crisis and restructuring of Cuba's socialism after the collapse of the Soviet bloc in the 1990s. In a broader perspective, several characteristics of the Cuban telecom system are also the result of the first thirty years of state socialist management after the nationalization of the sector in 1960, and of processes of foreign capitalist investments, development and control that had shaped Cuba's telecom realm until 1959 (Nichols and Torres, 1998, pp.18-27; Hoffmann, 2004, pp.155-160). Therefore, the first headings of

this chapter explore the main processes determining the development of the telecom sector since its early stages until mid-1990s. These background sections will contribute to addressing, later in the chapter, the question on whether partial privatizations were the main catalyzer of processes of commodification that can be observed today in Cuba's telecom arena.

Introduction and development based on foreign investments and control (1851-1958)

The early development of telecommunications in Cuba proves Marx's thesis that communication media are, on the most basic level, important in coordinating production across distances, accelerating transmission of messages and coordinating the transport of commodities between different establishments (see Bolaño, 2013, pp.44-48, Fuchs, 2011, pp.141-152; and Prodnik, 2012, p.288, for a summary of Marx's direct or implicit references to communications in *Capital*). Specifically, Cuba's telecom system grew in conjunction with the transportation system (primarily railroads), both with the financial backing of sometimes collaborating and sometimes competing U.S. companies (Nichols & Torres, 1998, p.19). Telegraph services began around 1851 when Cuba was still a colony of Spain. At the turn of the century, Boston-based United Fruit Company was the most significant investor in the telecom sector, having established an extensive domestic telephone and telegraph network along railroad lines to coordinate transportation between its cane fields, mills, and ports (Nichols & Torres, 1998, pp.18-19).

As a consequence of a form of development oriented to capitalist centers of production, the territorial distribution of telephone and telegraph networks was highly uneven. The system was overbuilt in some economic areas of the island, and many networks were built for the private use of U.S. companies such as United Fruit (Nichols & Torres, 1998, pp.18-19). Meanwhile, in most parts of the country—those that did not generate significant profits for U.S. companies—there was no modern transportation or communications system at all (Nichols & Torres, 1998, pp.18-19). This indicates that the use-value of telephone and telegraph services at this time lay in their capacity to speed up the process of capital accumulation in other sectors of the economy.

In the 1920s, there was a significant shift from a relatively liberalized scenario of market competition to high levels of monopolization, concentration and centralization of capital in both transportation and communications systems. Most parts of each sector became subsumed by single enterprises, generally a U.S. multinational corporation, sometimes in joint ventures with the Cuban state (Nichols & Torres, 1998, p.19). Early on, telephone was dominated by the Cuban Telephone Company (CUTELCO), which had been formed in 1881 by the Continental Telephone Company (a U.S.-based firm created by principals of Bell Telephone Company who registered the company under Bell's patents) (Nichols and Torres, 1998, p.19). By the 1920s, this enterprise had fallen under the financial control of International Telephone and Telegraph (ITT) (Nichols & Torres, 1998, p.19). Interestingly, founders of ITT had first invested in the Cuban phone company in 1916, and it was the profit extracted from their initial investments that allowed them to expand into the global market (Nichols & Torres, 1998, p.19). Shares in the Cuban telephone system were among the three original assets of ITT when it was created in 1920 and, two years after the creation of ITT, the company increased 90% of its shares in Cuba, which allowed it to control phone service on the island (Pericás, 2014, p.55; Nichols & Torres, 1998, p.19).

As for Cuba's international communications, they followed the same path of development and control by U.S. companies as local systems. The first link with the outside was a submarine cable between Havana and Florida built by the International Ocean Telegraph Company (Nichols & Torres, 1998, p.20). This company was acquired by Western Union in 1878, which established Cuba as its gateway to Latin America. Furthermore, an underwater telephone cable was established in 1949 by the Cuban American Telephone and Telegraph Company, a Cuban corporation owned by AT&T and ITT (Nichols & Torres, 1998; Hoffmann, 2004, p.177).

The case of telecommunications is representative of most sectors of Cuba's economy from 1898 to 1958, the so-called neocolonial period in the history of the island (Armenteros, 2006, p.70; Guerra & Loyola, 2011). The transformation of Cuba's colonial status vis-à-vis Spain into a neocolony of its northern neighbor, the U.S., was based on creating a favorable atmosphere for the accumulation and expansion of U.S. capital in the Island (Pericás, 2014, p.51; Armenteros, 2006, p.70-71). Instruments such as the

Platt Amendment in the constitution of 1902 granted U.S. administrations the right to intervene in Cuba's domestic affairs, while numerous agreements struck between 1902 and 1958 guaranteed Cuba's backwardness as a mono-producer and mono-exporter of sugar cane, and as an importer of manufactured products from the U.S. (Armenteros, 2006, pp.70-71; Pericás, 2014, pp.51-63). At the end of the 1950s, Cuba's dependency was clearly visible in national statistics: 40% of sugar production, 90% of electric and telephonic services, 50% of railroads and 23% of non-sugar industries were property of U.S. companies (Pericás, 2014, p.55; Nichols & Torres, 1998, pp.20-21; Hoffmann, 2004, p.134). A 1957 CEPAL's report found that, of US\$58,5 million in foreign direct investments in 1956, US\$41,4 million were repatriated. In the same year, external debt was US\$788 million (Pericás, 2014, p.61). About two-thirds of all Cuban trade was with the United States, while Cuban banking capital, of around 60%, was also mainly used to favour foreign monopolies (Pericás, 2014, p.55).

With a monopoly-controlled market that was 90% in the hands of U.S. companies, by 1958 the Cuban telecom sector was another example of the dependent capitalist character of the country's economy. At this point, tariffs for phone services exhibited prices only affordable to certain wealthy sectors of the population (Recio, 2014, p.306). Also, the territorial distribution of the system followed the line of the country's profound social and spatial disparities (Hoffmann, 2004, p.135, 155; Recio, 2014, p.306). In 1958, 73% of installed telephone lines were in the capital, Havana, where only 20% of the population resided (Nichols and Torres, 1998, p.22; Hoffmann, 2004, p.155). Postal and telegraph offices were also concentrated in the capital and other urban centers (Nichols and Torres, 1998, p.22; Hoffmann, 2004, p.155). Overcoming social inequalities in relation to telecom goods and services was one of the main proposals of the revolutionary government when it came to power in 1959 (Recio, 2014, p.306).

From dependent capitalism to revolutionary nationalizations (1959-1960)

The Cuban revolution headed by Fidel Castro triumphed in 1959 with an ambitious social reform program known as the Moncada Program (Programa del Moncada) (Armenteros, 2006, p.71). Accomplishing the goals of this program demanded

diminished political and economic interference by U.S. governments and companies (Pericás, 2014, pp.62-63). Significant processes of nationalization of land, industries and enterprises were undertaken in the first years following 1959 (Pericás, 2014, p.65-67, 73 Ritter, 2011).

The electricity and telephone companies were among the first to be expropriated. Revolutionary interventions (also called “temporary takeovers”) in the Cuban Telephone Company, still controlled by U.S.-based International Telephone and Telegraph (ITT), started as early as March 3rd 1959 (Recio, 2014, p.306; Nichols & Torres, 1998, p.21). The main motive behind these early interventions was probably the need to control communication networks for security reasons (Recio, 2014, p.306). However, the new government immediately attacked the profit-oriented character of the electricity and telephone sectors by revoking a rate increase in phone tariffs authorized by the previous administration (Nichols & Torres, 1998, p.21; Pericás, 2014, p.73). Meanwhile, the electrical power rates charged by U.S.-owned Cuban Electric Company (a subsidiary of Boise-Cascade) were also lowered by 30% (Pericás, 2014, p.67; Nichols & Torres, 1998, p.21). These actions were the beginning of significant transformations in the social provision of electricity and telephone services. At a March 6th, 1959 meeting with employees of the Cuban Telecom Company, Fidel declared:

Not only the reduction [of tariffs] demanded by the people will be achieved, but, in addition, the service will be really improved, and they will be provided to the tens of thousands of families who, from 10 to 12 years, have asked for phones here and have not been served. A company that had the monopoly of putting the phones here, and did not feel like putting telephones [sic]. And it put some telephones only at the cost of establishing a system of onerous tariffs...¹ (Castro, 1959, para.17; original in Spanish).

On August 6th 1960, Fidel Castro announced the nationalization of ITT's Cuban Telephone Company assets, worth US\$132.9 million, as well as US\$267.6 million from Cuban Electric, a subsidiary of Boise-Cascade (Nichols and Torres, 1998, p.21; Pericás, 2014, p.73). In his speech that day, Fidel read several sections of the resolution that approved nationalizations with a strong anti-imperialistic stance:

The Cuban Electricity Company and the Cuban Telephone Company have been a typical example of the extortionist and exploitative monopolies that have sucked and mocked the nation's economy and the interests of the Cuban people

for many years... It is the duty of Latin America peoples to seek the recovery of their national wealth by removing their resources from the domination of foreign monopolies which impede national progress, promote political interference, and undermine the sovereignty of the underdeveloped peoples of America² (Castro, 1960, para.32-35; original in Spanish).

Cuban scholar Milena Recio finds that the nationalization of the telecom sector implied a commitment by the new government to solving two major issues in the social provision of phone services: high tariffs and uneven geographical development of phone networks. She also argues that this commitment immediately won popular sympathies (2014, pp.306-308). Recio considers that nationalization of the sector was a sovereign act against U.S. control over a key resource of the Cuban economy (2014, pp.306-308).

In summary, nationalization and statization were important anti-commodification processes in the history of the Cuban telecom system. These actions constituted a shift in the ownership regime, from private to state-owned, which allowed further policy changes. Services organized according to profit started experiencing a transformation that prioritized use-values, while the new government also ended the role of Cuba's telecommunications in the expansion of transnational capital, mostly of US-based companies. However, nationalization and statization also led to the immediate disappearance of the conditions that had fostered economic growth and modernizations in the Cuban telecom system until then: profitability and links to transnational capital investments. Thus, the revolutionary government faced the challenge of articulating new economic conditions to reproduce the sector under different social priorities.

First thirty years of state socialist management (1960-1990)

Cuba's economic system experienced several transformations between 1959 and early 1990s. Nonetheless, key trends of this period were the high degrees of state ownership and the centralization of economic decision-making at the national level (Mesa-Lago & Pérez-López, 2013; p.6; Ritter, 2011, p.5). Statization occurred rapidly in the first years following 1959, and kept increasing until the 1990s. Between 1959 and 1961, state ownership shares increased from zero to 32% in agriculture, 85% in industry and 52% in retail trade. State involvement in wholesale trade and banking increased from 5-10 to 100%; in construction from 10-20 to 80%; in transportation from 15-29 to 92

%; and in education from 80 to 100%. By 1988, state shares were 100% in all of these sectors except for agriculture (97%) and transportation (99%) (Mesa-Lago in Ritter, 2011, p.6; Pericás, 2014, pp.73-74). Overall, the Revolution transformed Cuba into a state-owned economy in which central planning rather than the market mechanism was the organizing force for productive goals, prices and wages³ (Ritter, 2011, pp.5-6; Carranza et al, 1996, p.1; Green, 1996, p.vi; Mesa-Lago & Pérez-López, 2013, p.6).

The objective of these changes was to serve the community, and as such, soon after 1959, free and universal access were instituted in state-owned sectors such as health care and education (Carranza et al, 1996, p.55; Green, 1996, p.29). Marxist scholar B. Green views these as forms of social provision based on use-values (1996, p.29, 92). This important political and economic transformation is related to socialist discussions that took place at the core of the revolutionary leadership in the 1960s known as Cuba's "Great Debate" (Ludlam, 2012, p.42-43). This discussion surrounded the concept of "social wage" developed by Ernesto Che Guevara (Green, 1996, p.29). Conceived as a set of alternative instruments which were designed to limit the role of value under Cuban socialism, these measures included the provision of free health care and education, the subsidization of basic goods, and the stipulation that employment and income were guaranteed independently of one another (Green, 1996, p.29; Ludlam, 2012, p.43). In Che's conception, these distributive policies were designed to separate wages from work, and, in conjunction with voluntary labour, to construct an alternative and socialist basis for production and consumption (Green, 1996, p.29; Ludlam, 2012, p.43). According to S. Ludlam, Cuba's economic strategies have since reflected the key propositions of the Great Debate era (2012; p.43).

As for the Cuban telecom system, the first thirty years under state socialist management were also characterized by the provision of services based in their socially constituted uses more than in their exchange values. Reduced prices and state subsidies (Recio, 2014, pp.307-308.; Nichols and Torres, 1998, p.24; Hoffmann, 2004, p.155) indicate that these services were also expected to ensure a satisfactory social wage for Cuban workers.

However, low levels of infrastructure modernization, and the eventual deterioration of the telecom system also characterized this epoch. The U.S. trade and financial blockade was one of the factors that constrained infrastructure development. By 1962, the northern government had placed an embargo on almost all imports to Cuba in retaliation against nationalizations of U.S. assets (Pericás, 2014, p. 74; Ritter, 2011; Nichols & Torres, 1998, p.21). The Soviet Union rapidly substituted the United States as Cuba's main trading partner and the Socialist countries dominated Cuba's export and import patterns (Ritter, 2011, p.6). In 1958 about two-thirds of all Cuban trade was with the United States; three decades later, approximately three-quarters was with the Soviet Union (Nichols & Torres, 1998, p.21).

But in spite of receiving preferential prices for sugar and major development assistance programs from the socialist countries, the embargo had serious consequences. In particular, since the Cuban economy had developed on the basis of machinery, equipment and inputs of U.S. origin, the sudden lack of U.S. replacement parts and inputs was damaging in the short and long run for almost all sectors of the economy (Ritter, 2011, p.8). Hoffmann (2004, p.156) reports that in early 1990s an estimated 40% of telephone infrastructure still consisted of U.S. technology installed before 1959; while Nichols and Torres (1998, p.24) suggest that this figure is 56%. Spare parts were nearly unavailable due to the U.S. embargo (Hoffmann, 2004, p.156). From 1962 and until the late 1980s, new equipment was imported from the socialist countries, but compatibility with the Cuban system was low (Hoffmann, 2004, p.156; Nichols & Torres, 1998, p.25). Eventually, some equipment was also purchased from Japan, Canada, France, Sweden, and other Western countries that had ceased participating in the embargo (Nichols & Torres, 1998, p.25). Nonetheless, by early 1990s most of the Cuban phone network was jerry-rigged to accommodate incompatible equipment imported from a variety of countries (Nichols & Torres, 1998, p.25). The resulted in poor service quality with a high percentage of incomplete calls, crossed lines and bad tone quality⁴ (Hoffmann, 2004, p.156). Overall, the telecommunications sector faced many challenges that slowed its modernization.

On the side of telecommunications policy, Hoffmann characterizes this period as being marked by "state monopoly with very low priority" (2004, p.155). In his view, this is

similar to policymaking concerning telecommunications in the state-socialist countries of Eastern Europe and the Soviet Union (2004, p.155). Nevertheless, I believe that this period is better assessed as one of shifting priorities within the sector. In Nichols and Torres's opinion, although not matching the advances in health care and education, the revolutionary government made some significant improvements in Cuban telecommunications despite very meager resources (1998, p.22). From 1960 to 1990, the territorial distribution of the telephone system was broadened, largely in consideration of its social uses rather than its commercial values. A significant mitigation of the regional disparities of telephone diffusion took place: if in 1959 almost three quarters of the nation's telephones were concentrated in the capital, less than half were by 1994 (Hoffmann, 2004, p.155; Recio, 2014, p.309). By 1982, only 56% of new services were being installed in the capital; the rest was in the provinces (Nichols and Torres, 1998, p.22). As for postal services, by 1989 the island had a network of 790 post offices, including at least one in each of Cuba's 169 municipalities (Hoffmann, 2004, p.155). Meanwhile, the government heavily subsidized local service (Nichols and Torres, 1998, p.24) and, according to Recio (2014, pp.307-308), prices for fixed-line telephone service became affordable for the majority of the population. Hoffmann also agrees that costs for telephone calls within Cuba were "very low, nearly token amounts" (2004, p.155).

The evaluation of this period in the literature is, nevertheless, contradictory. Nichols and Torres consider that, until the 1990s, the government provided rudimentary telecom services to a larger share of its population, at a far lower direct cost to the user, than most other Latin American countries at a similar level of economic development (1998, p.24). Nichols and Torres specifically report 5.4 phones per hundred inhabitants by 1993, which compared favorably with other poor countries in the region, such as Guatemala (1.1), Nicaragua (1.6), and Ecuador (3.0), and was not far behind wealthier neighbors such as Colombia (5.7), Mexico (7.3), and Venezuela (7.3) (1998, p.24). On the other hand, Hoffmann states that, before the Revolution, Cuba had the highest telephone density of all Latin American countries, while the evolution of the sector from 1959 to 1994 gave Cuba the lowest growth rate in main line telephony of virtually all Latin American and Caribbean countries (2004, p.155). Different from Nichols and Torres, Hoffmann reports 3.18 telephones per hundred inhabitants in 1994, which

compares to 2.44 in 1959 with a population increase in the 35-year period from 7 to 11 million (Hoffmann, 2004, p.155). Although reporting a higher telephone penetration, Recio also criticizes that in 1994, when ETECSA was created, (fixed) telephone penetration was only 6.37 in a population that had almost doubled (2014, pp.309-310). In addition, Hoffmann evaluates that a reduction of uneven regional distribution was made possible by keeping telephone expansion in Havana to a minimum, resulting in that the per capita rate of telephone diffusion in the capital actually was cut by more than half (2004, p.155).

In my opinion, these analyses do not give sufficient weight to the immediate loss investment funds as a result of nationalizations, and the constraints created by the U.S. blockade. Moreover, a significant fall in profits resulted from the decommodification of the services derived from reduced phone tariffs and state subsidizations. This fall in profits negatively impacted the sector's ability to 'grow' self-sufficiently and without external investments. Moreover, I believe that the Cuban government's decision to prioritize collective and/or social forms of access and use of phones above individual ones can be, and should be, evaluated and questioned from the lenses of specific normative positions. However, it is not correct to assume that a numeric correlation between individuals and phones necessarily ensures access, let alone meaningful uses. At the most basic level, information about pre-revolutionary Cuba presented by these authors proves that telephone density and/or penetration can be high (Hoffmann, 2004, p.155) while access is limited by market dynamics—dynamics which, in this case, resulted in uneven geographical distribution of phone networks and prices only affordable for certain wealthy sectors of the population (Hoffmann, 2004, p.155; Recio, 2014, p.306; Nichols and Torres, 1998, p.22). Therefore, in the framework of this research, I argue that the first thirty years of state socialist management were generally characterized by a reorientation of telecom services towards use-value standards based on diminishing regional inequalities and income-derived exclusions. Profits were no longer the main orientation of the sector.

Use-value standards were socially constituted and embedded through a complex process that reflected “social merits,” “professional needs” and “social work cases” in the

allocation of resources (instead of market forces and exchange values). Recio richly documents the situation as follows:

In an environment of scarcity, it did not take long for the emergence of the new considerations to "deserve" and to obtain the service. These were no longer economic but rather moral [considerations], based on measures of high subjectivism, such as the criterion of the "need" to have a telephone at home, depending on the type of "social function" that an individual could exercise. Officials, doctors, journalists, people who had to be "locatable" for work reasons, were better candidates. Families where there were patients or other "social cases" also had more possibilities.

Another feature evaluated to become potential users of residential fixed telephone services was, and still is, the "merit", [which is] always on a social scale—for assigning a telephone line, "private" successes such as being a good father or good housewife are not considered. The evaluation of social virtues based on political and social participation, as defined by the institutionalized revolutionary canon, prevailed in the selection process. At the root of this practice is the principle of stimulating "social contributions", so that those who contribute the most to society as a whole are the ones who benefit. [sic] A practice full of subjectivism that shelters potential arbitrariness, simulations and, in many cases, masquerades of mercantile relations (Recio, 2014; pp.308-309).

Hoffmann adds that "access to a new main line phone was not a service that could be bought: it depended upon political and social criteria and could be won—as a reward for mérito (social merits) or in response to the professional needs of the person" (2004, pp.156-157). At the same time, Recio's description above suggests an informal reemergence of market dynamics in the shadow of these sociopolitical practices, a scenario also documented by Hoffmann: "Of course, as for almost anything else [in Cuba] there was and continues to be a black market for telephone access, as people invented ways to share one line between multiple parties, for example" (2004, pp.156-157).

Apart from diminishing regional inequalities and making services financially affordable, other macropolitical decisions also determined the development of the sector, especially the fact that telecommunications infrastructure was prioritized for military and security applications (Hoffmann, 2004, p.156). These sectors benefitted the most when technological improvements were possible (Nichols & Torres, 1998, p.26).

In sum, these are some of the various (and sometimes contradictory) processes which determined a relative reorientation away from exchange values towards specific forms of socially constituted use-values in the provision of telecom services in Cuba from 1959 to early 1990s. However, with the collapse of the Soviet bloc between 1989 and 1991, Cuba underwent a massive economic crisis that determined the reconfiguration of its telecommunications system.

Economic crisis and partial privatization (1994)

The partial privatization of the Cuban telecom sector in 1994 with a foreign private capitalist partner can be related to the overarching transformations of Cuba's political and economic system at the time. Defined by several authors as the "restructuring" of Cuba's socialist model (Green, 1996; Carranza et al, 1996; Pearson, 1996), these broad transformations were catalyzed by the crisis resulting from the collapse of the Soviet camp.

The disappearance of socialism in the Soviet Union and Eastern Europe resulted in the immediate loss of price subsidies and soft loans from the USSR that amounted to US\$65 billion between 1960 and 1990 (Mesa-Lago & Pérez-López, 2013, p.13; Morris, 2014, p.15). It also resulted in the cessation of hundreds of Soviet investment projects, and the virtual end to all trade and economic aid from Eastern Europe (Mesa-Lago and Pérez-López, 2013, p.13). Starting in the 1960s, and especially during the 70s and 80s, Cuba had grown increasingly dependent on the Soviet Union for trade and finance. Cuba's bilateral debt to the USSR, amounting to about \$US 23.5 billion by 1990, reflected recurring trade deficits to the USSR as well as capital account credits provided by the USSR (Ritter, 2011, p.17). At the time of the collapse, trade accounted for approximately half of the island's gross national product, and Soviet allied countries accounted for 85% of that trade (Eckstein 2007, p.233; Morris, 2014, p.15). This crisis was aggravated by the U.S. blockade and internal factors related to inefficiencies in the state-managed economy (Vidal Alejandro, 2012, p.40). Given these circumstances, Cuba's GDP shrank 34.8% in the four years following 1990 (Vidal Alejandro, 2012, p.40; Eckstein, 2007, p.13). Total imports fell from more than US\$8 billion in 1989 to below US\$2 billion in 1994 (Hoffmann, 2004, pp.138-139).

To confront the crisis, the government advanced various strategies, such as attracting new sources of money capital, and reorienting existing investments to the most strategic sectors (Gómez et al, p. 247, Carranza et al, 1996, p.12; Pearson, 1996, p.2; Eckstein 2007, p.13). According to Cuban economists Julio Carranza, Luis Gutiérrez and Pedro Monreal, the maintenance of strategic sectors of the economy was to a large degree achieved at the cost of others (1996, p.12). Meanwhile, foreign capital investments, which were considered an “alternative” form of investment, were utilised as an instrument for obtaining capital, technology and markets necessary for the rearticulation of the reproduction of the economy (Carranza et al, 1996, p.16; Gómez et al, p. 247).

The process of locating new sources of money capital was accompanied by changes in Cuba's socialist legislation (Gómez et al, 2006, p. 250; Carranza et al, 1996, pp.17-18). A Constitutional Reform in July 1992 redefined the rule of socialist ownership and confined it to the “fundamental means of production” (Carranza et al, 1996, pp.17-18). By the end of 1994, 185 foreign firms had signed joint-venture agreements with state-owned Cuban companies, and some 30 more agreements were signed during the first 8 months of 1995 (Nichols and Torres 1998, p.23). In mid-1995, a more flexible foreign investment law was enacted, which allowed for 100% foreign participation and extended the arena for overseas investments to all sectors of the economy except public health, education and areas connected with national defence (Mesa-Lago & Pérez-López 2013, p.16; Carranza et al, 1996, p.16). Many of these joint-venture enterprises with foreign capital took the form of so-called *Sociedades Anónimas* (stock companies), which operated on a hard currency basis and openly imitated capitalist organizational forms (Hoffmann, 2004, p.140). Yet the government held the right to approve each endeavor on a case-by-case basis (Carranza et al, 1996, pp.17-18). Moreover, the government guided the ‘openness’ to foreign investments so it still accounted for significant levels of state control, considering that the growth in this sector beyond certain limits could become a major obstacle to the control of the country's basic resources and a threat to the social achievements of the Revolution (Carranza et al, 1996, p.13, 16).

This context gave rise to the partial privatization of Cuba's telecom system. Between 1994 and 1995, the existing telecommunications system transitioned from a state monopoly to a mixed public-private ownership (Hoffman 2004, pp.157-159; Nichols & Torres, 1998, pp.27-28; Recio, 2014, p.311). The national Cuban Telecommunications Enterprise (EMTELCUBA) was partially privatized through a US\$1.1 billion joint-venture agreement with a Mexican holding company, Grupo Domos. Domos acquired a 49% interest in EMTELCUBA and was given a 55-year monopoly concession on Cuban domestic and long distance services. The company paid Cuba US\$700 million and pledged a US\$400 million infusion into EMTELCUBA. The Cuban government also committed US\$400 million to EMTELCUBA, so that the new enterprise would have US\$800 million to renovate the telecom system. Through this deal, Cuba netted US\$300 million, consisting in US\$100 million cash and US\$200 million in Cuban debt to Mexico (Nichols & Torres, 1998, p.27; Hoffmann, 2004, p.158; Valdés & Rivera, 1999, p.146).

The use of the privatization of Cuba's telecom system as a way to renegotiate the country's external debt demonstrated the country's subsumption to the value law of the capitalist world market during this period. During 1993, 1994 and 1995 there were attempts to get around the blocking of international credit by seeking alternative funds to pay the national debt, and the alternatives were to sell exports or national assets (Carranza et al, 1996, p.11). In this context, Cuba renegotiated its debt repayments with Mexico in exchange for investment in cement, communications and oil refining (Gómez et al, 2002, pp.251-252).

Privatization of the telecom sector was more than just another expression of 'openness' to foreign capitalist investments. Selling a partial stake in EMTELCUBA was the first privatization of a state enterprise since the revolutionary triumph in 1959, and the largest foreign investment of any type until then (Nichols and Torres, 1998, p.28). The agreement was announced in Havana in June 13th 1994 by Fidel Castro himself, and then-Mexican President Carlos Salinas de Gortari (Nichols and Torres, 1998, p.27). Considering that the telecom system was among the first to be nationalized by the Revolution, a partial privatization constituted a significant twist in the economic and social policies for this sector within Cuba's state socialist project.

The joint-venture was formed as a Sociedad Anonima (stock company) named ETECSA, a new Spanish acronym for Cuban Telecommunications Enterprise S.A. Through Decree 190 of the Executive Committee of the Council of Ministers signed in August 17th 1994, ETECSA was granted an administrative concession on all national and international telephone services, signals conduction, data transmission, telex and mobile communications. At present, ETECSA is still Cuba's full telecommunications service provider. The 1994's concession was renewed by Decree 275 of 2003 for 15 years, until 2018 (Recio, 2014, p.311).

In another example of the U.S. boycott of Cuba, its State Department pressured Grupo Domos by denying visas to its executives under a provision of the Helms-Burton Act, on the grounds that Domos was using equipment that had been confiscated from a U.S. firm by the Castro government. This led to the unraveling of the agreement between ETECSA and Domos (Valdes & Rivera, 1999, p.149). In April 1995, Domos sold 25% of the ETECSA shares for US\$291.3 million to the Società Finanziaria Telefonica, a subsidiary of the Italian state-owned company STET (also known as Telecom Italia) (Nichols & Torres, 1998, p.28; Hoffmann, 2004, p.157). In the following months, Domos sold all of its remaining shares. By February 1997, STET owned 29.29% of ETECSA shares, the Cuban Communications Ministry 51%, and the rest is in the hands of a consortium of Cuban para-statal financial entities (Hoffmann, 2004, p.157; Recio, 2014, p.311).

The Cuban authorities publicly presented privatization as the solution to the precarious infrastructure of the sector, and to the state's inability to finance the system's much needed repairs and modernizations (Recio Silva 2014, p.311; Nichols and Torres, 1998, p.26; Valdés & Rivera, 1999, p.146). By mid-1995, around 30% of the country's access lines were inoperable, and some estimate that less than 18% of domestic calls were actually completed (Nichols and Torres, 1998, p.26). Furthermore, 95% of the domestic network still relied on analog technology; 56% used electromechanical equipment, 1940's technology from the US); and 43% used step-by-step technology, primarily 1970s East European equipment; while switches in a few isolated rural areas were still manually operated (Recio, 2014, p.311; Nichols and Torres, 1998, p.27). In the opinion of Nichols and Torres (1998, p.17) and Hoffman (2004, p.159), Cuba had little

choice but to enter a joint venture with foreign investors to cover the costs of the massive modernization needed.

As in previous moments in the history of Cuba's telecommunications, U.S.-based political and economic interests also had an influence in this course of events. In the midst of Cuba's economic crisis in 1992, President George Bush and the U.S. Congress approved the Torricelli Law (Cuban Democracy Act), a program devoted to overthrowing the socialist government of Fidel Castro (Recio, 2014, pp.300-301). Motivated by the collapse of socialism in the Soviet Union and Eastern Europe, this law reinforced many aspects of the commercial and financial blockade against the island, while its so-called "track-two" proposed soft power methods such as stimulating more cultural, professional and family contacts between the two countries (Recio, 2014, pp.300-301; Hoffmann, 2004, p.157-158). Towards these aims, the law selectively lifted previous sanctions on telecommunications connections to the island, stating that:

"Telecommunications services between the United States and Cuba shall be permitted. Telecommunications facilities are authorized in such quantity and of such quality as may be necessary to provide efficient and adequate telecommunications services between the United States and Cuba" (U.S. Congress 1992, Sec. 1705, e, in Hoffmann, 2004, pp.157-158 and Recio, 2014, p.301).

However, any "[U.S.] investment in the domestic telecommunications network within Cuba" was still explicitly prohibited (Hoffmann, 2004, p.158; Recio, 2014, p.301).

With about one-tenth of the Cuban population living in the United States by the mid-1990s, mostly in South Florida, there was a great demand for telecom services between the two countries (Nichols & Torres, 1998, pp.28-29). After many years of scattered telephone communications between Cuba and the U.S., direct dial service effectively began in November 1994 (Valdés & Rivera, 1999, p.146; Nichols & Torres, 1998, p.31; Hoffmann, 2004, p.158). The U.S. Treasury Department allowed any data and information flow except for money transfers (Valdés & Rivera, 1999, p.146; Hoffmann, 2004, p.158). The bilateral agreement split call tolls 50-50 up to a limit of US\$1.20 per minute and charged a US\$1.00 surcharge for collect calls originating in Cuba (Nichols & Torres, 1998, p.31).

With the reestablishment of direct telephone traffic between the two countries and the establishment of a revenue-sharing arrangement, international telecommunications became a substantial hard currency earner for Cuba (Nichols & Torres, 1998, p.31; Hoffmann, 2004, p.158). In Hoffmann's view, modernization via joint venture would have been impossible without the Torricelli Law; "only after the reestablishment of direct telephone connections with the United States did Cuba represent a significant hard currency telecommunications market that offered adequate returns on the high capital investments that were needed for the modernization of the sector" (2004; p.158).

Among the main effects of privatization were, indeed, improvements and modernizations of the Cuban telecommunications system. The number of main line telephones more than doubled from 349,471 in 1994 to 709,439 in 2002-2003 (Hoffmann, 2004, p.159). Also, ETECSA initiated the technological switch from analog to digital lines, reaching 80.9% by the end of 2003 (Recio, 2014, p.311; Hoffmann, 2004, p.159). The annual number of faults per 100 main lines dropped from 29.2 in 1994 to 10.0 in 2000 (Hoffmann, 2004, p.159). Eventually, 99.1% of digital coverage was achieved in the first decade of 2000s (Recio, 2014, pp.311-312). Initially, the government had said that priority would be given to social service providers such as hospitals, senior citizens homes, and day care centers (Nichols & Torres, 1998, p.17), although no other source confirms the path followed in the final implementation.

Moreover, Hoffmann reports that the process of balancing regional disparities in telephone diffusion came to a halt, with Havana accounting for 47% of all Cuban main telephone lines in 2003 (Hoffmann, 2004, p.159). Although investing in the capital can be also seen as a way of leveraging the low levels of telephone growth in Havana in the period 1960-1990 (Hoffmann, 2004, p.155), a result of 47% concentration does point to the existence of regional imbalances, and reflects Cuba's broader socioeconomic regional disparities. Overall, this indicates a shift in the previous state socialist approach of mitigating regional inequalities.

In this context, it is feasible to assume that modernizations and improvements in Cuba's telecom system were considered a necessity, not only for services provided to

the population, but for the process of economic restructuring. As explained previously, the 'openness' to foreign direct investment was one of the main measures implemented to face the crisis. In Nichols and Torres' opinion, "Cuba was unlikely to attract the foreign investments essential to its economic survival plan without dependable telecommunications" (1998, p.27), while Hoffmann agrees on that that "the need for Cuba to re-integrate into the globalized world economy and the growth of tourism and other dollarized sectors... brought increasing economic pressures for a modernization of the telecommunications system" (2004, p.158) Both interpretations reinforce the role of telecommunications for economic development goals. This hypothesis would explain as well a larger focus in the capital, Havana, as a key economic area.

Furthermore, I believe that the partial privatization of the telecom system can also be related to the infusion of other state-owned sectors. In early 1990s, even though the state budget was significantly reduced facing a GDP contraction of 34.8%, nominal spending on health and education was not reduced (Vidal Alejandro, 2012, p.40; Mesa-Lago & Pérez-López, 2013, p.121). Also, while the revenues of virtually all enterprises fell dramatically, state subsidies to those experiencing losses were increased in order to avoid massive unemployment (Vidal Alejandro, 2012, p.40; Mesa-Lago & Pérez-López, 2013, p.121). In the context of a budget contraction, maintaining nominal expenditure in some sectors and increasing subsidies to various enterprises imply that some state-financed areas had to be prioritized over others. Such prioritization was based on sustaining the use-value goals that characterized the Revolution in terms of the provision of health, education and employment. This approach is also evidenced by the fact that foreign investments were approved in all areas of the economy except for health and education (Carranza et al, 1996, pp.17-18). In this situation, the telecommunications system was not prioritized for state-financing. Along with tourism (Eckstein 2007), it was among the spheres significantly privatized in order to gather money capital, not only to fuel its own improvements and modernizations, but probably other state-run sectors as well. Cuban scholar M. Recio asserts that, although there is no public data available about reinvestments or redistributions of ETECSA's revenues, it can be assumed that the company's payments of the administrative concession for operating all telecommunications in the island (Decree 190 of 1994 and Decree 275 of 2003) have generated important revenues for the Cuban state (2014, p.311).

Mobile and Internet communications were also introduced in Cuba in the 1990s, and they fell under ETECSA's complete administration in early 2000s (Recio, 2014, p.301, 321; Nichols & Torres, 1998, p.28; Hoffmann, 2004, p.160, 178-179). While the agreement with a capitalist partner could have influenced a subsequent commodification of telecom and wireless services, this explanation does not account for the fact that the telecom system became fully state-owned again in 2011. At the time, a state financial company, Rafin, bought the remaining 29.29 actions owned by Telecom Italia (Recio, 2014; Nichols & Torres, 1998). Nevertheless, contemporary prices established by ETECSA for mobile and Internet services evidence processes of commodification, as argued in the Introduction of this thesis. With commodification defining the social provision of mobile and Internet amenities under state control, one can conclude that such process cannot be solely explained by partial ownership in the hands of a foreign capitalist partner—which, in theory, would have exerted pressure to obtain 'adequate returns' (i.e. expanded profits) on the high money capital investments deployed for modernization and the subsequent implementation of mobile and Internet services (to be analyzed in-depth in the following chapter). This preliminary assessment suggests that there should be a complementary explanation from the rationale of the state socialist model. The next chapter will dive in the specifics of the introduction and development of mobile and Internet communications in order to explore commodification further.

Chapter Notes

- ¹ Original in Spanish: "...no solo se va a lograr la rebaja que estaba demandando el pueblo, sino que, además, se va a mejorar de veras el servicio y se va a prestar el servicio a las decenas de miles de familias que, desde 10 y hasta 12 años, han pedido aquí teléfonos y no se lo han servido. Una compañía que tenía el monopolio de poner los teléfonos aquí, y no le daba la gana de poner teléfonos. Y puso algunos teléfonos solamente a costa de que le establecieran un sistema de tarifas onerosas..." (Castro, 1959, para.17).
- ² Original in Spanish: "La Compañía Cubana de Electricidad y la Cuban Telephone Company, han constituido un ejemplo típico de monopolios extorsionistas y explotadores que han succionado y burlado durante largos años la economía de la nación y los intereses del pueblo... Es deber de los pueblos de América Latina propender a la recuperación de sus riquezas nacionales, sustrayéndolas del dominio de los monopolios de intereses foráneos que impiden su progreso; promueven la injerencia política y menoscaban la soberanía de los pueblos subdesarrollados de América." (Castro, 1960, para.32-35).
- ³ According to Cuban economists Carranza, P. Monreal and M. Urdaneta, central planning strategies exhibited substantial differences between the 60s and the decades of the 70s and

80s (1996, p.1). The 60s was a period of radical experimentation, led by the revolutionary government with Ernesto “Che” Guevara in a prominent role as Ministry of Industry, while a clearer Soviet-style planning system started to be implemented from 1970s onwards (Green, 1996, pp.26-28, 40; Ritter, 2011, pp.5-6; Carranza et al, 1996, p.1). One of the main strategies of the 60s that permeated the following decades was the so-called “budgetary system of finance” (Sistema Presupuestario de Financiamiento), considered a failure by many mainstream economists. According to Ritter:

The “so-called “budgetary system of finance” was installed under which enterprises were to operate without financial responsibility or autonomy or indeed accounting, neither receiving the revenues from sales of their output nor paying for their inputs with such revenues. Without a rational structure of prices, and without knowledge of their true costs or the value of their output, neither enterprises nor the planning authorities had any idea of the genuine efficiencies of enterprises, of sectors of the economy, or of resource-use anywhere. This situation exacerbated the general problems of running a planned economy, leading to problems of “bureaucratization” and politicization of the economic administration, as firm managers jostled for resource allotments from the planning authorities. The result of this was pervasive irrationalities and inefficiencies (2011, pp.12-13).

In the 1970s, the economic cooperation agreements with the Soviet Union included a Soviet style planning system harmonized with the Soviet system and planning cycle. The Cuban “System of Economic Direction and Planning” (*Sistema de Direccion y Planificacion de la Economia*, SPDE), was introduced in 1976, but by 1980 had only been partly established. Included in the SPDE was an aspiration for self-financing by enterprises and a rational structure of prices for inputs and outputs. This system also experienced several problems related to inefficiency and bureaucratization. Administrative personnel increased from 90.000 in 1973 to 250.000 in 1985. These central planning models were combined with strategies for labour force mobilization based on material and/or moral incentives, socialist emulation, voluntary labor, and Guevara’s “New Man” (Hombre Nuevo) conceptions (Ritter, 2011, p.15; Green, 1996, pp.26-30, 40).

⁴ In addition, telephone traffic between Cuba and the U.S. also became an immediate target of the blockade (Hoffmann, 2004, p.157; Nichols & Torres, 1998, p.29-30). AT&T was authorized to continue operations with the island but any modernization of existing channels was prohibited (Hoffmann, 2004, p.157; Nichols & Torres, 1998, p.29-30). Moreover, under provisions of the blockade, since 1966 AT&T was required to place Cuba’s shares of revenues in an escrow account in the U.S. (Hoffmann, 2004, p.157; Nichols & Torres, 1998, p.30). Over time, the 1940s cable deteriorated, and the U.S. Federal Communications Commission estimated that of 60 million annual call attempts, less than 1% were completed (Hoffmann, 2004, p.157; Nichols & Torres, 1998, p.30).

Chapter 4.

Commodification of mobile and Internet services, and the state socialist rationale

Mobile communications started in Cuba in 1992-1993, while the country's first connection to the Internet took place in October 1996 (although a preliminary e-mail link had been established via a Canadian server in 1992) (Recio, 2014, p.301, 321; Nichols & Torres, 1998, p.28; Hoffmann, 2004, p.160, 178-179). Provision of wireless and Internet services have articulated both commodified and non-commodified logics. The comparison between prices and state workers' wages presented in the introduction of this thesis specifically relates to key changes implemented in 2008 and 2012. At these moments, mobile and Internet services respectively became commodities vis-à-vis Cuban citizens as individual/natural persons (Recio, 2014, p.321; Pérez Villanueva, 2012, p.27; Mesa-Lago & Pérez-López, 2013, pp.57-58). Before these points in time, mobile and Internet communications had a market orientation for international tourists and foreign companies and organizations established on the island. Other forms of institutional, collective and/or social access were in place for the domestic population. The present chapter analyzes the commodification of mobile and Internet services since 2008/2012, and observes how commodification expresses pressures resulting from Cuba's insertion into world capitalist and imperialistic relations, and the specific refractions of these forces within Cuba's state socialist system.

Mobile services from 1993 to 2008: commodification vis-à-vis tourists and foreign enterprises

As explained in the previous chapter, the early 1990s was a period of reorientation of the state socialist economy towards looking for new sources of money capital through the allowance of higher levels of foreign direct investments (Gómez et al,

2006, p.247; Carranza et al, 1996, p.12). The partial privatization of the state-owned telephone system in the hands of foreign capitalist partners (first, Grupo Domos of Mexico, and later, Telecom Italy) was not the only action in the telecoms field. Mobile telephony was introduced in this period also through a joint-venture agreement with other Mexican investors. The Cellular Telephone Company of Cuba (CUBACEL) was created in 1992 and Telecomunicaciones de Mexico S.A. (TIMSA) paid US\$8 million for a 50% stake in it (Pérez Salomón, 2015, para.2; Nichols & Torres, 1998, p.28). Though initially separated from ETECSA, the national telecom carrier, CUBACEL too was institutionally subordinated to the Ministry of Communications, until it became a division of ETECSA in 2003 (Pérez Salomón, 2015, para.4; Recio, 2014, p.321; Hoffmann, 2004, p.160). The network started operations in February 1993 only in Havana, and in 1995 it spread to the tourist beach resort of Varadero, a two-hour-drive east of the capital (Hoffmann, 2004, p.160; Nichols & Torres, 1998, p.28). By the 2000s, the mobile network was available in all provincial capitals (Pérez Salomón, 2015, para.3-4; Hoffmann, 2004, p.161).

Mobile services were commodified early on, and had foreign residents and tourists, as well as foreign businesses, organizations or diplomatic missions in the island, as their *exclusive* consumers. Only foreigners had the legal capability of hiring mobile services as individual/natural persons (Hoffmann, 2004, pp.160-161; Recio, 2014, p.312). Cuban citizens with residency on the island were not lawfully allowed to hire a cellphone line until 2008, while these communication devices were not sold in the country's stores until the same year (Pérez Villanueva, 2012, p.27; Recio, 2014, p.312; ETECSA, 2008). Furthermore, in an expression of broader transformations occurring in the national economy to confront the crisis, prices were established in hard currency (Nichols & Torres, 1998, p.28; Hoffmann, 2004, p.160; Recio, 2014, p.312).

(The U.S. dollar was introduced as a legal currency for domestic transactions in early 1990s (Vidal, 2012, p.39; Mesa-Lago & Pérez-López, 2013, p.16; Carranza et al, 1996, p.19). Nevertheless, dollarization was partial. The Cuban or "national" peso (CUP) was still used for the payment of salaries and storage of value in many areas of the economy¹ (Vidal, 2012, p.39; Mesa-Lago & Pérez-López, 2013, p.16; Carranza et al, 1996, p.19). According to Cuban economist Pavel Vidal, partial dollarization was an

aspect of the economic policy adopted to confront the crisis and its associated fiscal and monetary disequilibria (2012, p.40). It was necessary to provide a currency that was more stable than the Cuban peso to be used in the economic activities that would drive the recovery process (Vidal, 2012, p.41). Thus the U.S. dollar began to be used in emerging areas such as tourism, foreign investments, and remittances (people-to-people cross-border income transfers sent to Cubans from family or friends living overseas) (Vidal, 2012, p.41; Mesa-Lago & Pérez-López, 2013, p.16; Eckstein, 2007, p.233). Also, the government allowed people to keep bank accounts in U.S. dollars, state stores could make retail sales in dollars, and the number of enterprises that operated and paid taxes in dollars increased (Vidal, 2012, p.41). Dollarization extended until 2003 and 2004, when the “convertible” Cuban peso, or CUC (another domestic currency that had first been issued in 1994) began to replace the U.S. dollar in local transactions (Vidal, 2012, p.39; Mesa-Lago & Pérez-López, 2013, p.16). Since then, although the economy has no longer been formally dollarized, the CUC circulates as the internal equivalent to the dollar. At present, one CUC equals one USD for international exchange purposes and state household bookkeeping issues. Still, between April 2005 and March 2011 there was an 8% revaluation of the exchange rate between the CUC and the US dollar, thus the convertible peso was worth US\$1.08 (Vidal, 2012, p.43; Mesa-Lago & Pérez-López, 2013, p.16). Moreover, in domestic circulation, a 10% tax was levied on the purchase of CUC and CUP with US dollars in currency all exchange agencies after 2004. Until today, anyone exchanging US dollars within the island receives 87 cents CUC for one US dollar, allowing for the 10% tax and a three% currency exchange fee (Vidal, 2012, p.43; Mesa-Lago & Pérez-López, 2013, p.16.)

In 1994, within just 8 months of operation of the domestic mobile network, over 400 subscribers were paying 40 USD monthly to hire a line plus 30-40 cents per minute for the service (Nichols & Torres, 1998, p.28). By the time mobile services became available to Cuban citizens in 2008, prices had escalated to 111 CUC per line (at the time, the equivalent to 120 USD), and 65 cents per minute of service (Pérez Salomón, 2015, para.6; Del Valle, 2014, para.16). This represents a clear example of the commodification of telecommunications services in Cuba by a state-owned enterprise.

The commodification of mobile services as a means of capturing hard currency relates to the increase in foreign endeavors in the island and to the circulation of hard currency, but also to the growth of international tourism as a key economic activity since early 1990s. Tourism was the state-managed sector that maintained the most stable growth levels from 1990 to 1995 (Carranza et al, 1996, p.13). Foreign direct investments were initially concentrated in this sector alone, and then expanded to other areas (Gómez et al, 2006, p.249). In 1996, Cuba started receiving more than a million tourists per year, although net income was shared with foreign investors (Gómez et al, 2006, p.234; Carranza et al, 1996, p.11, 13).

It was not long before mobile services were installed in government offices as well, in what Nichols and Torres called “a stop-gap measure until the wired system could be overhauled” (1998, p.28). With time, the provision of these services increased, depending on state priorities and institutional hierarchies (Hoffmann, 2004, pp.160-161). According to Hoffmann, in 2002 the most important clientele were still foreigners residing on the island, but the percentage of subscribers who were representatives of Cuban institutions and companies—“leading functionaries or managers of important joint-ventures or state companies”—had grown (2004, p.160). Moreover, the provision of these services was mostly subsidized for state enterprises. Recio mentions that, under the economic restructuring advanced by Raul Castro’s government after 2008, ETECSA started charging other state institutions considering real costs in hard currency (2014, pp.348-349), implying that this was not the contractual basis established before.

In 2003, the two existing cellphone operators by then, Cubacel and CCom, were unified into a division of ETECSA (Recio, 2014, p.321). A significant growth in investments for mobile telephony for 2004–2008 was projected, which would account for no less than one third of total investments in telecommunications (Hofmann, 2003, p.161-162; Pérez Salomón, 2015, para.5). However, this expansion was at the cost of slowing down the extension of the main line network (Hofmann, 2004, p.161-162). Furthermore, Hoffmann observed that this projected rise was not directed to achieving universal services; it was concentrated in the dollarized sectors of the economy and among the personnel of political and social institutions deemed most important by state authorities (2004, pp.161-162). In his view, this turn confirmed that the main priority in

Cuba's telecommunications policy was improving the technological facilities for those that either promised hard currency earnings or that were closely linked to the official structures of the socialist state (Hoffmann, 2004, pp.161-162). To some extent, the above-mentioned increases in prices from mid-1990 to 2008 (from 40 to 120 USD for hiring a cellphone line) confirms Hofmann's argument that the main reason to commodify mobile services was to capture hard currency.

But other non-commodified forms of social provision also started in this period, with emphasis on reducing regional inequalities in access to telephony. In 2005, a new service known as alternative fixed telephony (TFA for its acronym in Spanish) was introduced in various rural and isolated areas that did not have access to the fixed telephone network (Pérez Salomón, 2015, para.7-8; Del Valle, 2010). TFA uses cellular infrastructure to support a fixed-end device (Pérez Salomón, 2015, para.7-8). According to a press report published on the government's website *Cubadebate*, 132,000 TFAs were in service by the end of 2007 – 128,000 as residential phones, and 4,000 as public phones in service centers (Pérez Salomón, 2015, para.7-8). In 2007 alone, 547 TFAs were installed in 171 settlements with more than 300 inhabitants, accounting for an overall reach of 88,480 people (Pérez Salomón, 2015, para.7-8). Moreover, TFA's tariffs were not similar to regular mobile lines; they were established in national currency and at the considerably lower prices than fixed-line telephony (ETECSA, 2017e; Pérez Salomón, 2015, para.7-8).

In general, from 1994 to 2008, mobile amenities were not a commodity that could be bought by Cuban citizens. Access and use depended on social priorities or the economic or political role of an individual, always evaluated by state authorities. At the same time, cellular services were commodified with the specific purpose of capturing hard currency from tourists and foreign residents and businesses in the island. So, from the start of mobile telecommunications in Cuba in 1993 until 2008, there was a period of ongoing commodification of services, but these were not envisioned as services that would profit from Cuban workers or the general population. However, this situation changed in 2008, when the government authorized access to mobile telephony by Cuban citizens with residency on the island. Prices were maintained in hard currency, and as such, the government had entered into an extractive relationship with its citizens

(Recio, 2014, p.312; Mesa-Lago & Pérez-López, 2013, p.57; Pérez Salomón, 2015, para.6, Del Valle, 2014).

From a market-centered approach, it can be argued that there was a process of political control over this emerging market that determined that only foreigners would have the legal capability of buying and using mobile services, while Cuban citizens were not allowed to hire the services nor devices were sold in the country's stores (Pérez Villanueva, 2012, p.27; Recio, 2014, p.312). From the viewpoint of the socialist state and its control over distribution and use of resources, it can be said that the government determined different forms of access and use, in four main directions: 1) capturing hard currency from tourism and foreign endeavors on the island, in a clear case of profit-oriented commodification; 2) contributing to the process of coordination of the state socialist economy, in a subsidized or commodified logic; 3) contributing to processes of reproduction and control of political power, mostly in a subsidized logic; 4) prohibiting forms of individual access and uses by Cuban citizens if these were not deemed relevant by state officials (thus attached to 2) or 3) above).

The delivery of Internet services shared some similarities with cellular telephony, especially after 2013, when access became a commodity to profit from facing the Cuban population. From 1996 to 2013, Internet access was also commodified for foreign individuals, business and organizations in the island, and prohibited or restricted for most Cubans if services were not linked to collective and/or officially-approved forms of access and uses.

Internet services from 1996 to 2012: promoting collective uses, restricting individual access, and commodifying towards foreign personnel and companies

In mid-1990s, Fidel Castro's government decided to connect Cuba to the Internet in spite of U.S. administrations hailing an increase in communications as a prime means to spark regime change on the island. Indeed, the passing of the Torricelli Law in 1992 put international telephone and information and communication technologies (ICTs) explicitly in the context of the Cold War-type confrontation between the two nations (Hoffman, 2004, p.199). According to Nelson Valdés and Mario Rivera, who were active

participants in the events that led to Cuba's connection to the Internet, the government decided to promote international connectivity in large part to foster the country's economic reinsertion, and for research and commercial purposes (1999, p.146, 154). Furthermore, Cuba's socialist government long had a favorable attitude to the progress of computer technology.² The 1980 Cuban Communist Party Congress officially acknowledged the need to develop computerized telecommunications, including the transmission of data and information (Hoffmann, 2004, p.174; Valdés & Rivera, 1999, p.149).

Yet, as with many aspects in the history of Cuba's telecommunications, U.S. capitalist and imperialistic powers constrained the conditions in which Cuba connected to the Internet. Initially, it was through the provisions of the Torricelli law that the U.S. government made an exemption to the blockade and authorized an American company, Sprint Corporation, to deliver services to Cuba (except for money transfers to the island, and vice versa) (Recio, 2014, p.301; Hoffmann, 2004, p.170, 199; Valdés & Rivera, 1999, p.145). In August 1996, ETECSA and Sprint Corporation signed a mandatory monthly renewal agreement for a 64 Kbps satellite connection at a cost of 10,000 USD per month, and the official act of Cuba's entrance to the Internet took place on October 11, 1996 (Recio, 2014, p.301; Valdés & Rivera, 1999, p.149; Hoffmann, 2004, p.170). But, until today, every time Cuba or a U.S. company wants to open a new channel or to increase the island's connectivity speed, a license must be obtained from the United States Department of Treasury (Valdés in Recio, 2014, pp.303-304; Hoffmann, 2004). Therefore, until the completion of a submarine fiber optic cable from Venezuela, ALBA-1, in February 2011, all of Cuba's connections to the global network were transmitted via satellite, implying higher transmission costs and smaller bandwidth capacity than access via submarine fiber optic cables (Recio, 2014, p.305; Hoffmann, 2004, p.176).

Recio argues that the blockade played a key role in Cuba's confinement to this high-cost and low yields satellite-based connectivity for more than 15 years, and it also delayed the country's access to both fixed and mobile broadband technology (2014, p.305). In each epoch, the island's bandwidth quotas have been far lower than the standard worldwide levels: "at the beginning of 1999, Cuba's bandwidth was of 832 Kbps entrance, and of 458 Mbps entrance and 229 Mbps exit at the end of 2012... A five-star

hotel in a European capital could currently provide services to its guests with a bandwidth similar to the one that all Cuba had in the time prior to the installation of the submarine cable coming from Venezuela” (Recio, 2014, p.305).

The technical capabilities of Cuba’s bandwidth, and the financial constraints of the country, have been some of the most recurrent official explanations for a provision of Internet access that prioritized social, institutional and collective uses over individual and residential ones until 2013 (Hoffmann, 2004, p.175; Uxó, 2009, pp.127-128; Recio, 2014). The law-decree 209 of 1996, “Access from the Republic of Cuba to Information Networks of Global Reach”, formally established the Cuban government’s approach: Internet access will be employed “in function of the interests of Cuba, giving priority to juridical persons or institutions that are of greater relevance to the life and development of the country” (Official Gazette in Recio, 2014, pp.317-318 and in Hoffmann, 2004, pp.174-175). This meant that access to the Internet would be primarily provided for the official institutions and state companies, while Internet accounts for individual purposes will not be a priority (Valdés & Rivera, 1999, p.154; Hoffmann, 2004, pp.175). This is defined by Carlos Uxó as the Cuban government’s “collectivistic approach to the Internet”, which springs from a broader “model of social appropriation of the information and communication technologies” whose objective “is not universal access, but universal services” (2009, p.128). Following the United Nations recommendations, this approach prioritizes forms of public access to the Internet—in this case, in facilities such as workplaces and educational centers—instead of individual or private connections (Uxó, 2009, p.128).

Indeed, from 1996 onwards, Internet access was progressively made available in most institutions of the academic and scientific sectors all over the country, as well as in state companies, often in non-commercialized and subsidized logics (Hoffmann, 2004, p.178-179; Uxó, 2009, pp.127-128). However, as with the case of mobile communications, Internet services were early on commodified vis-à-vis international tourists, joint-ventures, foreign companies, and diplomatic representations in the island, with prices established in hard-currency (Hoffmann, 2004, pp.178-179). It seems that, as long as services were afforded in hard currency, a network collapse due to high volumes of users was not a problem.

Moreover, non-commodified forms of access did not always imply full Internet navigation. Often, these provided access to domestic networks with only limited world wide web and international email services (Recio, 2014, pp.296-297; Hoffmann, 2004, p.177; Uxó, 2009, p.129). One of the problems with assessing these forms of social provision is that Cuba's official statistics have never reflected the different categories of access in a coherent manner, and generally aggregate all types of users into a single indicator—the so-called “users of Internet services”³ (ONEI, 2017b; Recio, 2014, pp.296-297; Hoffmann, 2004, p.177). However, all the literature consulted agrees that, at least until services to Cuban citizens as natural persons started in 2013, only a minority of ICTs users in Cuba had full access to the Internet, including the World Wide Web and similar applications. For the majority of Cuban users, access was limited to national networks and/or international e-mail services (Recio, 2014, pp.296-297; Uxó, 2009, p.129; Hoffmann, 2004, p.177).

Two overarching government projects influenced the implementation of non-commodified forms of ICT and Internet access after 1996: the Informatization of Society (*Informatización de la Sociedad*) and the Battle of Ideas (*Batalla de Ideas*) (Recio, 2014, p.325, 366; Hoffmann, 2004, p.172). The Informatization of Society was first formulated in 1997, a year after the country's connection to the Internet, and continued the government's favorable attitude to the progress of computer technology (Hoffmann, 2004, p.172; Recio, 2014, p.325). It was further institutionalized with the creation of the Ministry for Informatics and Communications in 2000, and included numerous sectoral plans and specific projects for advancing the use of ICTs on the island, covering a wide spectrum of the country's economic, political, social and cultural life (Hoffmann, 2004, p.172; Recio, 2014, p.325).

Meanwhile, the Battle of Ideas was a project more closely linked to Fidel Castro's initiatives and decision-making, with many programs being directly funded by the Office of the President from 1999 onwards (Hoffmann, 2004, p.185; Recio, 2014, p.346-347; Uxó, 2009, pp.126). Under this program, the government decided to grant Internet access to individual actors who could disseminate Cuba's message throughout the world. Artists, intellectuals and journalists, as well as other state officials, were given subsidized residential Internet access so they could promote a “home-made” truth about

Cuba that counteracted the mainstream global media (hence the name “Battle of Ideas”) (Recio, 2014, p.346). Also, this project influenced the relaunch of the Youth Computer and Electronics Clubs (Joven Club de Computación y Electrónica, JCCE) in the late 1990s and the creation of the University of Informatics Sciences (UCI) in 2002 (Recio, 2014, p.346-347; Uxó, 2009, pp.126).

The creation of professional and community networks had begun 8 years before the Internet link was established (Valdés & Rivera, 1999, p.142; Recio, 2014, pp.339-340). By the summer of 1994, and in spite of the economic downturn, Cuba already had 26 networks, including 11 for use by scientists, 8 serving social science research as well as libraries, and 4 educational networks linking universities, high schools, and technical institutes (Valdés & Rivera, 1999, p.142). The healthcare sector network, Infomed, is considered an extraordinarily successful effort of ICTs integration into Cuban society, and it has received considerable international recognition (Hoffmann, 2004, p.188; Valdés & Rivera, 1999, p.143). The creation of institutional networks in various sectors increased throughout the years aligned with the government’s Informatization of Society program (Uxó, 2009, p.129; Hoffmann, 2004, p.172). Nonetheless, so-called “Internet users” in many of these networks only had information selected from the World Wide Web and incorporated into it by the administrators (Uxó, 2009, p.129; Hoffmann, 2004, 188-189). Uxó explains that, although the official argument is the necessity of reducing Internet traffic in a system almost collapsed by its minimum speed, the development of this “Intranet” had some negative consequences—“from the frustration of the user, who has limited access to the information he deems necessary (so it is not uncommon to hear Cubans referring to it as the “Infranet”), to the feeling of absolute control (or censorship, if preferred) of the Internet user’s activities” (Uxó, 2009, p.129).

The development of the above-mentioned Youth Computers and Electronics Clubs had also been promised since the 1980s, with the purpose of introducing young Cubans to computers, informatics and electronics technologies (Valdés & Rivera, 1999, p.152; Recio, 2014, pp.340-341; Hofmann, 2004, p.184-186). Fostered by the Battle of Ideas after the economic recession, in early 2000s there were more than 300 centers across the country, most of them provided with either limited or full Internet connectivity (Hofmann, 2004, p.184). But even where the Joven Clubs had Internet connectivity, and

were officially defined as one of Cuba's Public Internet Access Centers (Centros de Acceso Público a Internet, CAPIs), they did not have the standard telecenter model used throughout Latin America and the world as public Internet access centers (Hoffmann, 2004, p.186; Uxó, 2009, p.129). The clubs emphasized learning computer skills, and as such exhibited stronger pedagogical component than other telecenters which allowed for personal and drop-in use (Hoffmann, 2004, p.186). Individuals usually needed a letter of recommendation from a school or institutional employer in order to access these centres (Hofmann, 2004, p.184-186).

Various authors agree on that, considering the country's Internet capacity, it was certainly a plausible strategy, from a developmental perspective, to concentrate scarce resources on those sectors regarded as social and economic priorities (Hoffmann, 2004, p.175; Uxó, 2009, p.129; Recio, 2014, p.339). Hoffmann considers that this strategy has brought remarkable results in some sectors—"especially the Youth Computer Clubs nationwide certainly are a notable educational approach to introducing the young generation to the new technologies, and many public health systems in developing countries may envy Cuba's Infomed network" (2004, p.200).

In addition, almost all the literature agrees that the initial policies for the Internet implemented under Fidel Castro's government were, to a great extent, a response to the hostility of the U.S. foreign policy towards Cuba, as exemplified in the Torricelli Law (Uxó, 2009, p.122, 127; Recio, 2014, p.302; Valdés & Rivera, 1999, p.145; Hoffmann, 2004, p.168). To some scholars, this situation resulted in domestic policies that impeded by any means possible the use of the Internet as a tool of subversion and destabilization (Uxó, 2009, p.127), and placed a strong emphasis on security and protection aspects (Recio, 2014, p.302). N. Valdés and M. Rivera report that, during the government's debates about connecting Cuba to the Internet in 1995, the military was concerned that hostile foreign governments could use the Internet to threaten national security; while the Ministry of the Interior saw the global network as a potential conduit of anti-regime political and ideological propaganda (1999, p.146). Meanwhile, Fidel Castro himself said that "they [the United States] speak of 'information highways', new ways that serve to fortify this economic order, which they want to impose on the world, through propaganda and the manipulation of human mentality (...)" (cited in Hoffmann, 2004, p.168). This

domestic approach would also explain the high levels of state control over the access that has characterized Cuba's Internet policies since the beginning (Hoffmann, 2004, p.199).

Simultaneously, criticisms have arisen about these forms of control and the restrictions placed on individual Internet uses by the Cuban citizenry, which are considered to be expressions of authoritarian censorship (Hoffmann, 2004, p.175). The same has been argued about the various surveillance and sanctioning mechanisms in place for those who accessed through public institutions and workplaces (Hoffmann, 2004, p.175, 181). Moreover, in December 2001 the government prohibited the sale of computers or related hardware to individual citizens and civil society organizations (Uxó, 2009, p.127; Hoffmann, 2004, p.180). For Recio, the main issue is that the policy of social access to the Internet has not been the result of civic debates or dialogues but rather of focalized events in which state actors have always identified key requirements and solutions, while the population have not effectively participated in policymaking—an approach that assumes that “the socialist state guarantees per se and fully the democratic function of representation” (Recio, 2014, p. 367).

We must situate the various pressures for and against opening up internet access to Cuban citizens against the larger backdrop of PEC. The rationale for commodification of Internet services emerged with initial governmental discussions in mid-1990s. While the military and the Ministry of Interior had security concerns, the Ministry of Communications and the various joint-ventures between the Cuban state and foreign private capital saw the Internet as a means of increasing revenues (Valdés & Rivera, 1999, p.46). Eventually, the Ministry of Communications proposed that any political or military risks could be minimized by charging high prices for access, thus creating a fiscal means of controlling access while increasing connectivity (Ibid). In opinion of Valdés and Rivera, this seemed to emerge as the de facto Cuban government position on Internet access and connectivity (1999, p.146).

As in the case of cellular communications, commodification of Internet services started early on in hard-currency sectors, such as tourism and foreign businesses. By 2013, almost all major tourist hotels on the island offered Internet services for individual

purposes, but use was explicitly restricted to foreigners (Recio, 2014, p.323; Hoffmann, 2004, p.184). In 2003 an hour of use cost US\$5. In 2012, when Cuban citizens were authorized to hire these services, an hour cost 6 CUC (the equivalent to 6 USD at the restored exchange rate of one CUC per one U.S. dollar) (Hoffmann, 2004, p.184; Recio, 2014, p.323; Vidal, 2012, p.43).

Meanwhile, another initiative to provide ICT services beyond workplaces, educational centers and other official institutions to the population at large started in early 2000s in Correos de Cuba, the country's state-owned post offices (Hoffmann, 2004, p.186; Uxó, 2009, p.129). Although these were also named Cuba's public Internet access centers, CAPIs (along with the Youth Computer Clubs), services here had to be paid for in hard-currency. In 2004 the price was US\$4.50 for three hours and in 2012, 6 CUC per hour (Hoffmann, 2004, p.186; Uxó, 2009, p.129; Recio, 2014, p.323). Access was restricted to international email services and national networks in most of these offices (Hoffmann, 2004, p.186; Recio, 2014, p.323).

In sum, the social provision of Internet access from 1996 to 2012 was not only commodified vis-à-vis foreign businesses, visitors and residents in the island, but also in the case of any other form of individual and non-institutional connectivity. As for non-commodified uses, they mostly consisted of institutional and collective forms of access that took place in the context of larger state projects such as the Informatization of Society, which also included individual connections granted to journalists, state officials and other key actors in the economic and political arena. All these forms of social provision were constrained by the overarching relationship with a capitalist company such as Sprint Corporations which rented Cuba's access to the Internet in the first place.

Generalized access to Internet services as individuals or 'natural' persons was first made available to the Cuban population in April 2012 and, at a larger scale, in June 2013, when ETECSA launched the *Nauta* service (Recio, 2014, p.313). Although the other initiatives were maintained, this became ETECSA's main offer of "public access to the Internet", and exhibited a highly commodified logic (ETECSA, 2017b; Recio, 2014, p.313). The policy elaboration contained in the Decree 209 of 1996, stating that Internet access would be distributed "giving priority to juridical persons or institutions that are of

greater relevance to the life and development of the country”, and that had been consistent at large with most of the forms of social provision implemented (although maybe not with commodified services for capturing hard-currency), no longer reflected the government’s main approach to telecommunications provision.

Mobile and Internet services from 2008 to 2017: generalized commodification under new government priorities

In 2008 and 2012 respectively, a generalized process of commodification of mobile and Internet services took place that positioned individual Cuban citizens as consumers. These transformations related to the appointment of Raúl Castro as head of the government and the advancement of a major project of administrative and structural changes known as ‘*actualización*’ (updating) of the economic model (Recio, 2014, p.347). The updating is considered by some mainstream economic scholars to be the deepest actions in half a century in Cuba to expand the private sector and to strengthen the role of the market (Brundenius & Torres, 2014, p.1; Mesa-Lago & Pérez-López, 2013, p.xiii).

On July 31st, 2006, Fidel Castro resigned from his position as President of the Council of State and Government and temporarily appointed the First Vice-President (also his brother), Raúl Castro (Castro, 2006). On July 26th, 2007, Raúl gave a speech in which he discussed the serious economic situation facing the nation and the imperative to undertake “structural and conceptual changes” (Castro, 2007, para.83). These economic transformations started in 2007 with a focus on urgent problems such as putting uncultivated land into production and adjusting imports to deal with the current account crisis, combined with a first round of elimination of “an excess of prohibitions and regulations” (Castro, 2008, para.74).

The initial prohibitions dismantled included legalizing the sale of cellular telephones and computers and allowing Cuban residents to hire mobile lines (Triana, 2014, p.229; Pérez Salomón, 2015, para.6; Mesa-Lago & Pérez-López, 2013, p.57). According to Raúl, many of these prohibitions have had “the sole objective of avoiding the emergence of new inequalities, at a time of widespread shortages, even at the cost of not receiving certain income” (Castro, 2008, para.74). Later on, in April 2012, the

restrictions placed on hiring access to the Internet as individuals / natural persons were also removed (Recio, 2014, pp.313-314).

Raúl's leadership was consolidated when he was officially elected president of the Council of State and Government in 2008. The main bases for updating the economic model were outlined in '*Los Lineamientos*', a set of a policy guidelines discussed in neighborhoods, workplaces, and party branches between 2010 and 2011, and officially approved during the Sixth Congress of the Cuban Communist Party (PCC) in April 2011 (Resolution on the Guidelines of the Economic and Social Policy of the Party and the Revolution, 2011; Mesa-Lago & Perez-Lopez, 2013, p.1; Triana, 2014, p.229). *Los Lineamientos* established that the state socialist model would be maintained (based on central planning and predominance of state enterprise), but at the same time took market trends into account, including new modalities of ownership such as foreign investments, cooperatives, small farming, usufruct, franchisement and self-employment (Resolution, 2011, para.3-4; Mesa-Lago & Perez-Lopez, 2013, p.1). Some of the actual transformations included dismissal of "redundant" workers from the state sector; expansion of self-employment to 181 occupations; distribution to individuals of idle state lands in usufruct; greater flexibility for enterprises in setting prices; gradual elimination of the rationing system and increased role of market prices in resource allocation; and reduction in social expenditures, which were defined by stronger economic criteria and availability of fiscal resources (Mesa-Lago & Pérez-López, 2013, pp.23-24). Overall, the economic and social policy of the government started to be characterized by an increased emphasis on economic efficiency and the elimination of free services and subsidies that prevailed in previous epochs (Mesa-Lago & Pérez-López, 2013, pp.23-24; Recio, 2014, p.347).

This new approach had important implications for the management of the Cuban telecom company, ETECSA. The enterprise started to charge actual costs in hard-currency to other state institutions that had previously been subsidized, and profitability became a guiding principle for service implementation (Recio, 2014, pp.348-349). In general, subsidized coverage decreased for both legal and natural persons. Recio particularly defines this as "the economicistic period" in the history of the social policy for Internet management in Cuba, with access moving from "being a social expenditure to

an investment for development, adjusted to an increasingly stringent scheme of economic rationality” (2014, p.347). Furthermore, at the same time that the government dismantled prohibitions associated with individual access to wireless, telecom and ICTs services, *Los Lineamientos* did not contain any mention to the potential role of telecommunications as a factor of development (Recio, 2014, p.349). These major policy guidelines already suggested that, under the new government, telecommunications were positioned as a source of profit that resulted from the commodification of services, rather than as a strategic investment for social development.

In April 2008, when the government authorized access to mobile telephony by Cuban citizens with residency on the island (along with the sale of these devices and computers in the country’s hard currency stores), prices were established (again) in hard currency: 111 Cuban Convertibles (CUC) for hiring a cellphone line, and 0.65 CUC per minute of service for both senders and receivers (Pérez Salomón, 2015, para.6; Del Valle, 2014, para.16). Just the price for hiring mobile services was approximately six times the median monthly nominal salary of the state employed population in 2008 — 415 Cuban Pesos (CUP), the equivalent to 17.3 CUC (ONEI, 2011). A press note of ETECSA published in the official diary of the Cuban Communist Party, *Granma*, on March 27th 2008, justified the prices in hard currency as follows:

“This service [mobile telephony] will be offered in CUC [the internal currency equivalent to the US dollar], which will allow the development of wired connectivity that has an important role in the informatization of society, as well as the introduction of new telephone services in national currency” (ETECSA, 2008, para.6; original in Spanish)⁴.

In other words, the official explanation for prices in hard currency was that revenues would be channeled to the development of wired connections, considered essential for the expansion of fixed lines (paid for in the other currency, the Cuban Peso, at relatively affordable prices), and for the overarching project of ‘Informatization of Society’⁴ (ETECSA, 2008, para.6). However, it is difficult to assess this argument because there is no data publicly available about the specific allocations and redistributions of ETECSA’s investments and profits (Recio, 2014, p.311). In June 2010, the tariff per minute was reduced to 0.45 cents CUC between 7 a.m. and 10:59 p.m., and to 0.10 CUC between 11 p.m. and 6:59 a.m. (Del Valle, 2010, para.4). At that time,

ETECSA also implemented the “caller pays” modality. Until then, the company had appropriated, in a pre-paid mode, twice the cost of calls (Recio, 2014, p.312). In 2013, the regular tariff reached 0.35 CUC, which is the one still in place by the end of 2017 (Recio, 2014, p.312; Del Valle, 2014, para.16, ETECSA, 2017c). Moreover, from 2010 to 2013, several promotions occasionally lowered the prices for hiring cellphone lines and, by the end of 2013, the current tariff of 30 CUC plus a mandatory initial credit of 10 CUC was already established (Del Valle, 2014, para.16; Pérez Salomón, 2015, para.6; ETECSA, 2017c).

In a similar logic, in April 2012, when Cuban citizens were granted full access to the Internet as individuals, prices were 6 CUC per hour of access, but the median monthly nominal salary in 2012 was of 466 CUP, the equivalent to 19.4 CUC (Recio, 2014, pp.313-314). In February 2011, as part of the strong political cooperation and economic agreements with the government of Hugo Chávez in Venezuela⁵, a new submarine fiber-optic cable ALBA-1 linked Cuban to that South American country (Recio, 2014, pp. 303-304; *Cubadebate*, 2011). Cuba no longer depended solely on satellite connections and had greater capacity to manage increases in Internet access and bandwidth (ETECSA, 2013; Recio, 2014, pp.303-304). According to Recio, from this point, the government had to reposition the blockade as the factor determining Internet connectivity on the island (Recio, 2014, pp.303-304). Domestic Internet access was more significantly shaped by national and local policies than before (Recio, 2014, pp.303-304). Initially, the cable mostly carried voice traffic (ETECSA, 2013). But by early 2013, an ETECSA press note announced that tests were being done for connecting Cuba to the Internet via the cable. In this note, the company said that the availability of hard currency was the main constraint for augmenting services.

...the start-up of the submarine cable will not mean that the access possibilities will automatically multiply. It will be necessary to execute investments in the internal telecommunications infrastructure and increase the resources in foreign currency destined to pay Internet traffic...” (ETECSA, 2013).

This announcement confirms the company’s decision to make social goals conditional upon the realization of economic rationales.

In May 2013, Resolution 197 of the Ministry of Communications announced the implementation of a new “public Internet access service”, whose trademark was *Nauta*. It was initially available in 118 navigation points spread across major cities on the island, at tariffs still highly unaffordable: 4.50 CUC per hour of full Internet browsing, 1.50 CUC for international mail and national navigation, and 0.60 CUC for national navigation only (which compared to a median monthly salary of around 20 CUC) (*Granma*, 2017; *Cubahora*, 2017; Recio, 2014, pp.323-324). Although prices have been subsequently lowered from 4.50 CUC in 2013 to 1 CUC as of October 2017 (ETECSA, 2017b), *Nauta* inaugurated an epoch in which market dynamics gained more presence in the social provision of Internet access (Recio, 2014, pp.323-324). By 2017, around 630 state-run navigation rooms were available all over the country (Figueredo, 2015, para.16; Arbesu, 2017, para.1). In 2015, ETECSA started offering wireless services for Internet access in public spaces such as parks, important street intersections and areas surrounding hotels and some state-run commercial facilities (ETECSA, 2017f, *Granma*, 2017). These Wi-Fi sites in public settings grew from 35 locations in 2015 to 459 by September 2017 (ETECSA, 2017f; Arbesu, 2017, para. 1; *Cubahora*, 2017). The unique uses and appropriations of these spaces by Cubans and visitors for connecting to the Internet have changed the landscape of the cities (*The Wi-Fi hotspots revolutionising Havana park life – in pictures*, 2016). As for residential access, a new service *Nauta Hogar* (Home Nauta) was launched in early 2017, but is still only available in a few selected areas in 8 of the 15 provinces of Cuba (ETECSA, 2017b, 2017g; Figueredo, 2017). Prices range from 15 CUC to 70 CUC per 30 hours of access, with tariffs reflecting connection speeds (ETECSA, 2017b; Figueredo, 2017).

In general, mobile and Internet services delivered by state-run ETECSA are highly expensive when compared to the median monthly nominal salary of the state employed population, which in 2016 represented 71% of the overall employed population (ONEI, 2017a, p.11). For the same year, the median monthly nominal salary of this significant sector was 740 Cuban pesos (CUP), the equivalent to 30.8 CUC (ONEIa, 2017, p.13). The price for hiring a cellphone line plus the mandatory credit is less than the entire monthly wage, while 30.8 CUC would only buy 88 minutes for mobile calling (ETECSA, 2017a). As for basic Internet access via *Nauta*, the monthly salary equals 30 hours of Internet connectivity (ETECSA, 2017b). Especially in the case of

Internet connectivity, Recio notes that free services for many years had been considered an attribute within the definition of “social” forms of access (2014, p.366). However, that value was relativized under the new government priorities after 2012. Authorities in the sector argued for the need to charge certain users in order to maintain free or subsidized services for others (Recio, 2014, p.366).

Nonetheless, in spite of high prices, the number of mobile subscribers and Internet users increased significantly after the government allowed Cubans to access these services. Mobile lines rose from 223,000 in April 2008, when restrictions were dismantled, to 4,22 million in May 2017 (for an overall population of 11,3 million inhabitants in 2016) (Figueredo, 2017; ITU, 2016; ONEI, 2017c). Just between 2006 and 2010, the number of cellular lines increased by six and a half times, from 153,000 to 1 million (Mesa-Lago & Pérez López, 2013, p.57). As explained in the previous section of this thesis, statistics about the number of Internet users are ambiguous, since this indicator also includes access solely to domestic networks and some Internet web and international email services (Recio, 2014, pp.296-297; Hoffmann, 2004, p.177; Uxó, 2009, p.129). Still, from 2012 to 2017, official sources report an increase from 25% to 40% of the population being “users of Internet services” (ONEI, 2017b; Recio, 2014).

The state socialist rationale: commodification as hard currency extraction from the sphere of circulation

How is it possible for the Cuban population to afford these services? Various sectors receive an extra income via legal channels, including work in the emerging private sector, or even illegal activities, through which Cubans “complete” the state salary (Eckstein, 2007, 240; Recio, 2014, pp. 313-314). But in particular, telecommunications services seem to be paid for through remittances, which are people-to-people cross-border income transfers sent to Cubans from family or friends living overseas (Eckstein, 2007, p.240). These movements of value have greatly infused domestic circulation with hard currency since early 1990s, also associated to processes of dollarization of Cuba’s formal and informal economy (Vidal, 2012, p.40; Eckstein, 2007, p.240).

Remittances sent to Cubans from relatives and other networks living abroad surged in early 1990 to the point of infusing more hard currency into the island economy than any single island export (Eckstein, 2007, p.240). They approximately doubled the amount foreign businesses invested in 2000, and multiplied by twenty the investments of 2001 (Eckstein, 2007, p.240). Remittances are now the main support of the dollarized retail sector of the island, and their value exceeds that of the six of most important export commodities and services of the Cuban economy. By 2015, Cuba's receipt of remittances in cash and merchandise totaled \$6.85 billion, while the combined value of exports of nickel, sugar, drugs, tobacco, and fresh and frozen seafood, and of tourism sales, amounted to about \$5 billion (Morales, 2017, para.8).

Since the emergence of this phenomenon, the government introduced a number of measures that enabled the state to capture this hard currency —some may argue that at remittance senders' and recipients' expense (Eckstein, 2007, p.242). State-run foreign-currency stores (popularly known as *TRD*, the Spanish acronym for *tiendas recaudadoras de divisas*) were created in the mid-1990s with the purpose of selling goods to the population able to pay in hard currencies, as well as to foreigners visiting or residing in the island (Eckstein, 2007, p.242; Mesa-Lago & Pérez-López, 2013, p.16). This was accompanied by the emergence of state-run currency exchange agencies known as CADECA (the Spanish acronym for *Casa de Cambio*), the only ones legally authorized to pursue currency exchanges (Mesa-Lago & Pérez-López, 2013, p.16). Meanwhile, goods sold through the rationing system in Cuban pesos at prices comparable to state salaries progressively diminished in quantity and quality (Mesa-Lago, Pérez-López, 2013, p.16; Vidal, 2012, p.42). Cuban authorities justified an ideal mark-up of 240 per cent above cost at these hard currency stores on equity grounds (Eckstein, 2007, p.242). The official argument was that high prices served as a de-facto luxury tax that financed the free health and education system and other social accomplishments (Hoffmann, 2004, p.175; Eckstein, 2007, p.242). However, Susan Eckstein argues that the authorities instituted no guarantee that profits would be channeled to such distributive justice, and that there is no evidence that the profits were so earmarked (2007; p.242). Although my position is not so suspicious of the motives of this particular state policy, this research confirms that there is no information publicly

available about profits redistribution springing from this 240% tax above cost at TRD stores.

Since cellular telephones and services, as well as Internet access, became available to Cuban citizens in 2008 and 2012 respectively, they have been sold as any other TRD commodity—in commercial offices of ETECSA or in traditional TRD stores (Mesa-Lago, Pérez-López, 2013, p.16; ETECSA, 2017a, 2017b, 2017c). Their exchange-values are expressed in Cuban convertible pesos (CUC), the internal equivalent to the dollar (Mesa-Lago, Pérez-López, 2013, p.16; Recio, 2014, p.323). Therefore, the broader strategy of the government to extract hard currency from the remittances seems to be also configuring the telecom sector. Wireless and Internet communications have become another significant state-managed domain in which hard currency is captured from the sphere of circulation as it is significantly infused by remittances. Probably the clearest indicator of this character is the international payments services, or ‘top-up from abroad’ (*recarga desde el exterior*), that ETECSA has strongly promoted in the last years (ETECSA, 2017h). From its very name, it can be noticed that this service is conceived as a form of ‘remittances in kind’. Through this service, payments of Internet accounts, cellular lines, and international fixed-lines administered by ETECSA can be done via hard currency transactions either online or personally, in agencies of five foreign countries (ETECSA, 2017h). Furthermore, while national fixed-lines still exhibit affordable prices for the state-employed population, fixed-lines for international communications are also commodified and paid for in CUC (ETECSA, 2017i). In a press interview, ETECSA’s President Mayra Arevich Marín explicitly mentioned the backbone role of the ‘top-ups from abroad’ and international voice and roaming services in the development of the sector:

It is important that we continue with our exportable services - international top-ups, with international voice and roaming services – which guarantee the necessary finances to buy the equipment that allows the development of the infrastructure (Rubio, 2015, para.35; original in Spanish).

In sum, the restructuring of Cuban state socialism after the collapse of the Soviet bloc did not just influence the telecommunications sector in terms of its partial privatization through joint-venture agreements with foreign capitalist partners. The goal of acquiring money capital to overcome the economic crisis also fostered the

commodification of wireless communications and Internet access as form of capturing value from circulation, since this sphere was (and still is) significantly infused with hard-currency from the remittances. As a result, orientation towards monetary gains has made egalitarian distribution (use-value) conditional upon exchange-values in Cuba's telecom sector.

Chapter Notes

- ¹ According to Cuban economist Pavel Vidal, dollarization was an aspect of the economic policy adopted to confront the crisis and its associated fiscal and monetary disequilibria (Vidal, 2012, p.40). Initially, there was a spontaneous process of partial dollarization in transactions among the population because of its loss of confidence in the Cuban peso (Vidal, 2012, p.41; Carranza et al, 1996, p.19). Subsequently, the government itself promoted the dollarization of certain sectors of the economy. It was necessary to provide a currency that was more stable than the Cuban peso to be used in the economic activities that would drive the recovery process (Vidal, 2012, p.41). The U.S. dollar began to be in emerging areas such as tourism, foreign investments, and remittances (people-to-people cross-border income transfers sent to Cubans from family or friends living overseas) (Eckstein, 2007, p.233; Vidal, 2012, p.41; Mesa-Lago & Pérez-López, 2013, p.16). Also, the government allowed people to keep bank accounts in U.S. dollars, state stores could make retail sales in dollars, and the number of enterprises that operated and paid taxes in dollars increased (Vidal, 2012, p.41). Furthermore, as a result of the crisis, the black market exchange rate came to exceed 100 pesos to the dollar in the first years following 1990, while before the crisis it had been about five pesos to the dollar (Vidal, 2012, p.40). But, in 1994, when the economic recovery started, the value of the peso (CUP) with respect to the US dollar in official exchange houses appreciated from 95-to-1 to 19-to-1 (Mesa-Lago & Pérez-López, 2013, p.16).
- ² Developments in the field of computer technology initiated early in the Revolution, in 1964, with Cuba building its first personal computer assembly line by 1978. Computing resources grew from 12 mainframe computers and 100 minicomputers in 1976 to 28 Soviet-made mainframe computers, some 200 Cuban-built minicomputers, and 4000 microcomputers as of 1987 (Valdés & Rivera, 1999, p.149; Hoffmann, 2004, p.174).
- ³ Meanwhile, ITU, as an intergovernmental organization, receives such information from precisely the Cuban authorities of the sector.
- ⁴ Original in Spanish: "Este servicio [la telefonía celular] se ofrecerá en CUC, lo cual permitirá sufragar el desarrollo de la conectividad por cable que tiene un importante rol en la informatización de la sociedad, así como posibilitará la introducción de nuevos servicios telefónicos en moneda nacional" (ETECSA, 2008, para.6).
- ⁵ Venezuela under Hugo Chávez replaced the Soviet Union as the great supporter of the Cuban economy and its key political ally, with US\$4 billions in credits, investments and economic assistance in 2001-2007; an unpaid oil import bill of some US\$2.5 billion; payments for over 20,000 Cuban medical doctors and other professionals providing services in Venezuela; and two-way goods trade amounting to US\$2.6 billion In the period from 1999 to 2003 (Mesa-Lago & Pérez-López, 2013, p.21).

Chapter 5.

The Cuban project through the lens of its telecom sector: commodification, socialism and imperialism

As this research has attempted to offer an explanation for commodification from the Political Economy of Communication (PEC) scholarship, the empirical work shows the inability of some of the PEC frameworks developed in the Global North to address commodification under state socialism in its historical complexity, and so the analysis has grown beyond the proposed framework to suggest the relevance of integrating theories on imperialism and political economy from the periphery into future research in order to contribute to the development of a Political Economy of Communication under State Socialism.

Processes of commodification in Cuba's mobile and Internet communications surface today in the form of an incongruent relationship between the (relatively high) prices for accessing these amenities, provided by a state-owned company, and the (relatively low) salaries of the state-employed workers. While criticizing state-led commodification, this thesis de-naturalizes the idea of communication commodities as private goods, and historicizes the articulation of commodification under Cuba's state socialist model.

Because the introduction and development of telecommunications in Cuba since mid-19th century took place as part of the expansion of US-based capitalist corporations such as United Fruit Company (UFCO) and, later on, the International Telephone and Telegraph (ITT), commodification was an ongoing process until 1958, with profitability and embeddedness in transnational investments determining expansion and growth (Nichols & Torres, 1998). By 1958, tariffs for phone services exhibited prices only affordable to certain wealthy sectors of the population, while the uneven distribution of

lines across the country reflected its profound socioeconomic disparities (Nichols and Torres, 1998; Hoffmann, 2004; Recio, 2014).

With the triumph of the Cuban Revolution in 1959, the new government led by Fidel Castro nationalized the telecom sector and enacted a change in the ownership regime, from private to state-owned (Nichols and Torres, 1998; Hoffmann, 2004; Recio, 2014). Services based on profitability experienced a transformation that prioritized use-values. Lower telephone tariffs and state subsidies during this period indicated that these amenities were expected to ensure a satisfactory social wage for Cuban workers (Nichols and Torres, 1998; Hoffmann, 2004; Recio, 2014). The new government's social priorities meant that nationalization and statization were used as tools of anti-commodification at this point in the history of the Cuban telecom system. The first thirty years of state socialist management, from 1960 to early 1990s, were characterized by a reorientation of telecom services towards use-value standards based on diminishing regional inequalities and income-derived exclusions. Profiting through the sector was no longer a key political objective in its functioning. The top-down articulation of these use-value standards was a complex process, shaped by specific criteria. "Social merit," "professional need," and "social work cases" determined the allocation of resources, rather than market forces and exchange values.

At the same time, the previous development of Cuba's telecom system in the stream of technologies and investments of U.S.-based companies, and the further hostility of U.S. administrations and the economic blockade, constrained infrastructure modernization in this period. Moreover, a significant fall in profits can be estimated due to the relative decommodification of the services derived from reduction of phone tariffs and state subsidies. This fall in profits affected the sector's ability to 'grow' self-sufficiently and without external investment. The combination of these and other factors led to the eventual deterioration and obsolescence of Cuba's telecom system (Nichols and Torres, 1998; Hoffmann, 2004; Recio, 2014). In my view, this particular situation reflected the challenges of Cuba's state socialist project when trying to construct an alternative or oppositional mode of (re)production (in telecommunications, for example) that departs from the very material conditions that arose as the result of the functioning of the capitalist mode of production.

In 1994, Cuba's only telecom company was partially privatized through a joint-venture agreement with a foreign capitalist partner (Nichols and Torres, 1998; Recio, 2014; Valdés & Rivera, 1999). Due to the collapse of the socialist world market in the early 1990s, Cuba faced a massive socioeconomic crisis and was forced to integrate the national economy in the global capitalist market (Vidal, 2012; Gómez et al, 2006; Mesa-Lago & Pérez-López, 2013). Privatizing the telecom sector allowed the government to obtain money capital to modernize an obsolete telephone system, as well as to subsidize other state-managed sectors based on universal and free access such as health and education. Moreover, in an example of subsumption by "the disciplinary effects" that flow from the capitalist world market (Harvey, 2010, p.81), privatization functioned as a way of repaying Cuba's external debt to a key commercial partner, Mexico. This happened in the context of the island's low possibilities of accessing foreign credit lines and loans due to the strengthening of the U.S. blockade and the socialist refusal to 'service' its Western debt in 1986 (Eckstein, 2007; Carranza et al, 1996; Gómez et al, 2002). As a result of the joint-venture agreement, Cuba's telecom provider became a stock company, ETECSA. At present, this company still holds a monopolistic concession to operate all telecommunications and wireless services on the island.

The agreement with a capitalist partner could have been considered the main factor determining the subsequent commodification of mobile and Internet communications, introduced in Cuba in 1993 and 1996 respectively. However, commodification has been ongoing since the system became fully state-owned again in 2011. In fact, Internet services were commodified vis-à-vis Cuban citizens after ETECSA had become a public asset (Recio, 2014). This thesis has sought to offer an explanation for commodification under State Socialism.

Commodification under State Socialism

The triumph of the revolutionary forces led by Fidel Castro in January 1959 meant a significant shift in the social relations of production in Cuba. The problem of the articulation of different forms of ownership (state, cooperative and private) was resolved early on in favor of state forms of ownership and organization⁶ (Carranza et al, 1996).

The Constitution approved in 1976 starts by declaring that “Cuba is a socialist state of workers”, while articles 14 and 15 state that “in the Republic of Cuba rules the socialist system of economy based on the people’s socialist ownership of the fundamental means of production” (*Constitution of the Republic of Cuba*, 1976).

In general, the state-owned sector has been totally dominant and decisive in the reproduction of the economy and the social achievements of the country over the last fifty-eight years (Carranza et al, 1996; Mesa-Lago and Pérez-López, 2013). Under this state-owned model, central planning rather than the market has been promoted as the main mechanism to organize the economy (Ritter, 2011, p.5; *Resolution of the Guidelines of the Economic and Social Policy of the Party and the Revolution*, 2011). This means an essentially administrative system of allocation of resources instead of the so-called “monetary mercantile systems”, including financial controls (Frías, 2006; Carranza et al, 1996).

This is consistent with abstracted definitions of state socialism as a political and economic system. It has been argued that these are post-market regimes for the management of capital relations based on state ownership of property, command mechanisms for surplus-value extraction, and a state-planned strategy for accumulation (Green, 1996; James, 1986). In principle, this is different from market capitalism, defined as a political-economic system for the management of capital relations based on private ownership of property, and the market as the primary mechanism for determining productive goals, prices and wages⁷ (Green, 1996, p.vi).

Marxian critiques of state socialist experiences refuse to take the systems’ claims to be a socialist alternative to capitalism at face value (see Green, 1996, for the Cuban case; Mészáros, 2000, and James, 1989, for the Soviet experience). From this point of view, state socialism did not transform the essential feature of capital, meaning the class relation between capital and labour in production to facilitate the systemic extraction of surplus-value, or unpaid labour time, to generate accumulation (James, 1989; Green, 1996). For example, in a study on capital and class in Cuban development, Brian Green (1996) argues that accumulation, or the need for producing surplus-values on an ever-expanding scale (Marx, 1990, p. 739), always remained a goal of the state socialist

production. In this view, the pursuit of accumulation has always been determined by Cuba's continued role as a player on the global market, especially in the form of a sugar economy until mid-1990s (Green, 1996, p.92). Green argues that, even though the extraction of surplus-value was attempted through political command rather than the traditional capitalist means of market-determined wages, surplus-value extraction was still based on the imposition of work and unpaid labour time to a class of wage-labourers (1996, p.13, p.96). While this already reproduced the same substance of labour exploitation as in market capitalism, accumulation was also fostered in state socialist Cuba through the extension of work and increased production (strategies pursued elsewhere by the capitalist class) (Green, 1996, p.92). According to Green, this created a scenario of class struggle where the revolutionary government managed class antagonisms through acts such as the criminalization of autonomous working class movements and the right to strike, the institution of a merit/demerit system for 'productive' and 'anti-productive' behavior, and the centralization of economic decision making in the state rather than in the workers (1996, p.96). Therefore, Green argues that Cuban socialism re-constructed capital's relations within an alternative structure to market capitalist systems, but without transcending the definitive element of capital: a labour relationship in which work is imposed for the express purpose of fueling accumulation, rather than satisfying a specific need (1996, pp. iii, iv, 91, 92). In his view, if the restructuring of the Cuban economy in the 1990s embraced patently capitalist mechanisms, this was largely the result of the Revolution's failure to overcome capital's basic components: alienated labour, exploitation, and the primacy of exchange over use value in production (Green, 1996, p.3).

In my view, these Marxian critiques of real socialist experiences should be read with a grain of salt. As a positive element, they use Marxian terminology to describe correctly some of the features of the political and economic system built in Cuba since the triumph of the Revolution –at present, Cuba still declares itself to be in a “transition to socialism” (*Resolution of the Guidelines...*, 2011). However, these sources hardly integrate a theorization on Marxian terms of the imperialistic boycotts, pressures and constraints in which the Cuban state socialist project has emerged. In other words, I could not identify a Marxian approach to the Cuban model that integrates, in a balanced framework, critiques of state socialism and theories of imperialism⁸.

Instead of arguing that the crisis of state socialism is based in the Revolution's failure to transcend capital's basic components (Green, 1996), I prefer to state that boycotts against socialist projects advanced from the core capitalist countries, and Cuba's need for engaging in global market exchange, have influenced the maintenance of forms of value production and circulation under state socialism that are similar to those of capital. Because of both external and internal constraints, Cuba has not been able to avoid what Harvey calls "the disciplinary effects that flow from commodity exchange across the world market" (2010, 81).

As for the external constraints, under the current restructuring, or *actualización* (update) of the economic model, the available foreign credits were "relocated to projects that had the strongest impact on the Cuban balance of payments" (*Resolution of the Guidelines...*, 2011, para.15). This exemplifies Cuba's subjugation to capitalist financial instruments and its inability to protect the national economy from the disciplinary effects of a monetized world market and of the capitalist laws of exchange. At a more theoretical level, this is a direct expression of the contradictions arising out of the generalized circulation of money as it becomes the means of payment, when debtors should increase commodity production and the monetary return in order to compensate creditors with interest (Marx, 1990).

As for state socialist production, I do observe that labour, commodities and money have been articulated to attempt valorizations and the completion of expanded cycles of accumulation following the same circuit of capital –which was previously illustrated in this thesis (based on Marx, 1992; Harvey, 2010, 2013):

$$M - C \begin{cases} \nearrow LP \\ \searrow MP \end{cases} \dots P \dots C' - M + \Delta M$$

In other words, the state socialist mode of production has mobilized labour in production (P), commodities (C-C') and money (M-M') following the same circuit of value transformations that characterizes capital as a process and social relation. For example, as a way of acquiring money capital (M) to advance production, the Revolution has regularly accessed foreign credits from diverse sources, depending mostly on the

political alliances of the moment and the conflicting relations with the United States (Pericás, 2014; Eckstein, 2007; *Resolution of the Guidelines...*, 2011). Especially after the collapse of the Soviet bloc, Cuba attempted to attract foreign private capital investments, in both the form of money capital and of productive capital (means of production) (Eckstein, 2007; *Resolution of the Guidelines...*, 2011).

Nevertheless, it is still an essential difference that state socialist systems transformed property relations by disinheritting the traditional capitalist class structured around private property rights (Green, 1996; James, 1989). The application of state ownership to the means of production avoids private accumulation and facilitates the achievement of more egalitarian forms of distribution via the state after the completion of each cycle of accumulation. In this sense, both mainstream economists and Marxian scholars consider that principles of universal access and egalitarian distribution have characterized the efforts of the Cuban government towards forms of social provision based on use-values (Pérez Villanueva, 2012; Green 1996; Carranza et al, 1996).

Commodification and Remittances: Hard Currency Capture under Imperialism

This research argues that, on the side of the state socialist maneuvers, the current commodification of wireless and Internet communications is a state-led strategy for capturing hard currency from the sphere of circulation. Starting in 1993 and 1996 respectively, mobile and Internet services were commodified to extract hard currency from foreign organizations, businesses and visitors in the island, in the context of broader transformation of the Cuban economy such as partial dollarization, allowance of private foreign firms, and growth of international tourism as a key economic activity (Hoffmann, 2004; Recio, 2014; Vidal, 2012; Mesa-Lago & Pérez-López, 2013). Meanwhile, Cuban citizens were legally excluded from hiring these services as individuals/natural persons until 2008, in the case of cellular telephony, and 2012, in the case of Internet access (Pérez Salomón, 2015, Del Valle, 2014; Recio, 2014). Moreover, cellular devices and computers were not sold in the country's stores until 2008 (Mesa-Lago & Pérez-López, 2013; Recio, 2014). Before 2008, access to cellular telephones was institutionally granted depending on the economic or political role of an individual,

always evaluated from state authorities (Hoffmann, 2004). As for the Internet, non-commodified uses mostly consisted of institutional and collective forms of access inserted in larger state projects such as the Informatization of Society, while also included individual connections granted to journalists, state officials and other key actors in the economic and political arena (Recio, 2014; Hoffmann, 2004).

Under the government of Raul Castro after 2008, a broader commodification process at work in the society started permeating the telecom arena. Since early 1990s, the government had advanced the creation of state-run hard currency stores (TRD) with the purpose of capturing value entering in the form of remittances –i.e. people-to-people income transfers sent to Cubans from family or friends living overseas (Eckstein, 2007; Mesa-Lago & Pérez-López, 2013; Morales, 2017). As remittances grew to the point of becoming one of Cuba’s major sources of hard-currency, this “TRD philosophy” was progressively generalized, and the commodification of mobile and Internet services vis-à-vis Cuban citizens that started in 2008 and 2012 respectively followed the same logic. Tariffs were established in hard currency, and communication devices were sold in the country’s TRD stores or at ETECSA’s commercial offices at prices questioned as excessive (Recio, 2014; Figueredo, 2016; Abd’Allah-Alvarez, 2014). Furthermore, contemporary services of ETECSA such as the ‘top-ups from abroad’ (*recarga desde el exterior*) overtly function as a form of capturing value that moves as a form of remittances in kind. The relationship between the TRD scheme and the further commodification of mobile and Internet services is an example of how commodification processes at work in the society as a whole penetrate communication processes and institutions, so that improvements and contradictions in the societal commodification process influence communication as a social practice (Mosco, 2009, p.130). Interestingly though, it was not until Raul’s administration that commodification was fully generalized in the telecom and wireless sector. This confirms the economicistic turn in the social policies advanced by the new government in the context of the *actualización* (updating) of the economic model, which emphasizes economic efficiency and the progressive elimination of some of the free services and subsidies that prevailed in previous epochs (*Resolution on the Guidelines of the Economic and Social Policy of the Party and the Revolution*, 2011; Mesa-Lago & Pérez-López, 2013; Recio, 2014). Overall, these

findings prove the usefulness of starting from general process of commodification and examining how it relates to communication (Mosco, 2009, p. 131).

Through the analysis of the Cuban case, it is possible to empirically observe the role of the commodity form in overarching value circulation processes, and the relationship between value flows and the commodification of telecommunications systems. This perspective is different from commodity-centered approaches that have dominated the field of Political Economy of Communication, especially in the Global North, which focus in the process of production of the telecom commodity or the specific moment of realization of surplus-value through market exchange and consumption. I conclude that the commodification of the telecommunication industry in Cuba is embedded in overarching value circulation processes such as remittances, and in broader societal commodification processes such as the TRD scheme, deployed by the socialist state to capture hard currency from the remittances.

Nonetheless, the main theoretical proposition of this thesis—the fact that an analysis of commodification should also take into account the overarching process of circulation—must be deepened and enriched in future research. Such an analysis should elaborate theoretically on the various levels at which circulation happens, related to themes such as competition, relationships between multiple forms of capital, manifold agents of social reproduction, problems of distribution of surplus-value, and the intertwining of circuits of industrial, commercial and interest-bearing capital.

Moreover, the fact that these services have been always provided in hard currency (US dollars, or the internal equivalent to the dollar, the Cuban Convertible – CUC) means that the commodification of these amenities is directed to appropriate value produced *elsewhere*. From an anticapitalist normative perspective, this can be evaluated as a feasible strategy for a (socialist) political project that could later on revert that logic and circulate value in alternative circuits to capital. However, the lack of information about investments and redistributions of ETECSA's revenues (Recio, 2014), and of the whole TRD scheme (Eckstein, 2007, Hoffmann, 2004), leaves fair room for questionings. Meanwhile, prices established by ETECSA are the same for all Cubans: those who have access to remittances, and those who do not; those who work in areas of the economy

associated to foreign capital and tourism, and those who do not. Marxian approaches to real experiences of socialism should always question the extent in which commodities and money are being effectively mobilized as part of social relations of production that function as an alternative, or an opposition, to capitalism (Harvey, 2010; Green, 1996). I believe that the generalization of scenarios of haves and have-nots in Cuba's telecom arena is far from the political project of socialism as *historically (and effectively) constructed* by the Cuban Revolution in terms, for example, of healthcare and education, but also of the first thirty years of state management of telecommunications. These goods used to ensure a satisfactory social wage for the working class from 1960 to mid-1990s, but not anymore after the introduction of mobile and Internet communications.

At the same time, processes of commodification in the island's telecom and wireless systems also reflect Cuba's subsumption within the capitalist market for these technologies and infrastructure. In other words, being Cuba dependent from technological transfer for developing its telecom sector, the socialist state has not been able to refract the pressures coming from the capitalist character of the social relations of production, distribution and exchange that characterize this sector on a global scale (Schiller, 2006). In general, the control of the international Internet infrastructure by Western corporations makes it difficult and expensive for Cuba to connect. Especially in the case of the Internet, for example, all the forms of social provision until 2012 were constrained by the commercial (thus not subsidized) link with a capitalist company such as Sprint Corporations, which rents Cuba's satellite connection to the Internet.

Nonetheless, the first and foremost external constraint in the development and management of the country's telecom system, and of the overall state socialist experience, is the boycott of the Cuban project by the U.S., with the blockade as its major expression. Cuban authorities have calculated losses of 2,000 million dollars in the telecom sector since 1962 due to the blockade (Recio, 2014, p.305). Remarkably, by prohibiting online money exchanges and allowing solely Sprint's satellite connection (which condemned Cuba to low bandwidth traffic until the arrival of the fiber-optic cable ALBA-1 from Venezuela in 2011), the blockade regulations led to a very limited expansion of online-based capitalism in Cuba for a long time. For both economic and

infrastructural factors, the island did not become a significant market for corporations such as Google, AOL, Amazon, PayPal and etcetera.

However, recent developments in the relationships between Cuba and the United States have changed this scenario, making of this a necessary theme for future enrichments of the present research. On December 17th 2014, presidents Raul Castro from Cuba and Barack Obama from the U.S. announced the reestablishment of diplomatic relations between the two countries, severed since January 1961 by the United States. Obama's new policy approach towards Cuba proposed to lift the blockade (Obama, 2014). It also explicitly mentions that "telecommunications providers will be allowed to establish the necessary mechanisms, including infrastructure, in Cuba to provide commercial telecommunications and internet services" (Office of the Press Secretary of the White House, 2014; Obama, 2014). Between 2014 and Obama's end of mandate in January 2017, some of the embargo restrictions were relaxed (Resource Center of the US Department of Treasury, 2015), and enterprises such as Netflix, Google, Apple and AirBnB started operating on the island (Díaz & González, 2015). Furthermore, some press reports indicated that Cisco Systems, Verizon, AT&T, Hewlett-Packard and other producers of large technological systems have shown interest in Cuba's infrastructure arena (Díaz & González, 2015). Overall, these developments clearly reveal the imperialistic interest of U.S. corporations to take over the Cuban telecom sector. Building up Internet infrastructure, owning and commodifying it, would be a form of primitive accumulation for these companies. However, considering the role of ETECSA for the state socialist economy illuminated by this project, it is unlikely to think that the current government will liberalize the market for telecommunications, losing the monopoly over the island's consumers and thus a key opportunity of capturing hard currency from remittances.

In a very different light, another recent transformation to explore corresponds to the grassroots-based development of wireless community networks in Cuba. Due to high prices for Internet access, technology enthusiasts have constructed unsanctioned, community driven IP networks in various parts of the country, although so far isolated from the Internet (Pujol et al, 2017; Press, 2017). The largest of these networks is SNET (for 'Street Networks'). Located in Havana, SNET was originally built by the gaming

community, but the range of services has grown organically to reach tens of thousands of households (Pujol et al, 2017; Press, 2017). SNET hosts hundreds of websites, including a diverse array of information and communication services. (Pujol et al, 2017; Press, 2017). In the landscape of Cuba's telecommunications system, these networks are arising as non-commercial alternatives and constitute a potential basis for advancing democratic Internet infrastructure in Cuba. With the necessary political will, these 'street networks' could become wireless co-operatives that provide gratis Internet access based on state subsidies, creating a state/civil society hybrid that could confront the ongoing commodification and the pressures coming from Western capitalist corporations controlling the Internet. If pursued, this could be a concrete *socialist* transformation of the current situation. However, (and not surprisingly, considering the findings of this research), Cuban authorities have not deployed any actions in this direction.

Commodification of Communications and the Means of Subsistence

This thesis provides empirical evidence about the complex processes through which the Cuban public telecommunications system, with social commitments to universal access, public interest and public service after its nationalization in 1960, is being transformed in a commercial endeavor in the case of mobile and Internet communications, providing access and services to those who can afford it (Garnham, 1986; Mosco, 2009). Although other non-commodified logics have been in place since the introduction of these amenities based on institutional roles and social or collective forms of access, the current provision vis-à-vis Cuban citizens as individual/natural persons can be argued against considering the incongruent relationship between prices and wages of the state employed population, widely illustrated in previous sections of this project.

Precisely, one of the hypotheses that could be derived from applying Marx's theorization on the value of labour-power to this comparison between prices and median monthly nominal salary is that mobile and Internet communications are not considered part of the so-called "means of subsistence" needed for the reproduction of the state-employed labour-power in Cuba (which represents 71% of the overall employed population) (ONEI, 2017a). Marx argues that the value of labour-power "is the value of

the means of subsistence necessary for the maintenance of its owner.” (Marx, 1990, p.274). It is possible to assume then that the value of labour-power in Cuba does not comprehend the necessity of accessing mobile and Internet communications for “the individual consumption and social reproduction of the living labourer” (Harvey, 2010, p.129). Seen from the side of the socialist state (the main employer and also manager of the telecom company), the fact that mobile and Internet are not considered goods relevant for the reproduction of the workers reinforces the argument on that commodifying mobile communications is a state-led strategy with a very different political economy purpose (i.e. capturing value from the sphere of circulation).

Meanwhile, Marx also remarks the historical (and thus indivisible) dimension of the value of labour power:

“On the other hand, the number and extent of his so-called necessary requirements, as also the manner in which they are satisfied, are themselves products of history, and depend therefore to a great extent on the level of civilization attained by a country; in particular they depend on the conditions in which, and consequently on the habits and expectations with which, the class of free workers has been formed. In contrast, therefore, with the case of other commodities, *the determination of the value of labour-power contains a historical and moral element.* (Marx, 1990, p.275; emphasis added).

As Harvey points out, this means that the determination of the value of labour-power is not independent of the history of class struggle (2010, p.129). It is precisely this “historical” and “moral” element in the determination of the value of labour-power in relation to telecom commodities what the reports of several Cuban scholars, bloggers and journalists have both shaped and documented (Recio, 2014; Abd'Allah-Alvarez, 2014; Figueredo, 2016). In other words, the extent to which mobile and Internet communications are a wage-good necessary for the subsistence of the reproduction of the labour-power is a notion that seems to underlie the contemporary debates about mobile and Internet communications in Cuba when it comes to the issue of the prices. As for the field of Marxian scholarship, these findings point to the need for future research on the determination of the value of labour-power in relation to these telecom commodities in Cuba.

Commodification and Cuba's Adjustment to a Neoliberal World

Additionally, further Marxian approaches could elaborate on the wider restructuring of the state socialist regime around merchant and renting forms of value appropriation in the hands of the state that started after the collapse of the Soviet camp, and its relationship with broader societal commodification processes as well as with the commodification of mobile and Internet services. As summarized in Chapter 2, the capitalist mode of production is based on a specific set of social relations of production in which value, as socially necessary labour-time, and surplus-value, or unpaid labour-time, should be produced in an ever-expanding scale, implying the need for accumulation and growth. Marx analytically divides the process of capital in production and circulation (volume I and volumes II of *Capital*, respectively). Capital circulation refers to the moments in which money, commodities and even labour-power, as the functional forms assumed by capital, are being transformed as part of the valorization process that constitutes capital. However, surplus-value, or unpaid labour-time, which is the basis of the expansion of capital, is not created in the transformations that occur during circulation (Marx 1990, 1992; Harvey 2010, 2013). Furthermore, in the circulation of capital, other economic activities become integrated into the circuits of capital to appropriate part of the circulating surplus-values, such as merchant (commercial and financial) and rent capitalists. Marx is very emphatic in that these economic activities do not create surplus-value; they only appropriate from the circulating surplus-value (Marx, 1990, 1992; Harvey, 2010, 2013).

Since 1990, the large decrease in the state socialist production initiated a process of decapitalization in the Cuban economy as a result of the forced paralysis of substantial parts of the national industry (Carranza et al, 1996). To solve this crisis in accumulation, the government attempted to change some conditions in production. As mentioned before, national investments were reoriented to the most strategic sectors, while new sources of money capital tried to be attracted (Carranza et al, 1996; Eckstein, 2007). Nevertheless, the transformations of Cuban state socialism in this regard did not lead to its complete integration into the capitalist world market –at least not through ‘traditional’ articulations based on significant access to credit lines and indebtedness. In a post-Cold War move to suffocate the socialist regime, the U.S. government

strengthened its economic blockade against the island (Carranza et al, 1996; Eckstein, 2007). Moreover, because Cuba had stopped paying its Western debt in 1986, Western banks cut Cuba off from new credit lines, so the country only accessed short-term, high interest-bearing hard currency loans, and credit mainly to finance imports (Eckstein, 2007; Gómez et al, 2006). Therefore, while obstacles against solving the crisis by changing some conditions in production were manifesting, the government advanced several transformations in the sphere of circulation. These were mostly directed to capture value for the state-led economy (when value is in the money form). Hard currency was entering the country in the form of remittances through formal or informal channels, and also in the hands of a growing number of foreign tourists. As mentioned above, an opportunity for increasing the state's foreign exchange availability was found in the creation of hard-currency stores (TRD) and currency exchange agencies (CADECA) all over the island (Eckstein 2007; Mesa-Lago & Pérez-López, 2013). Financial mechanisms became more relevant than before in the context of the dollarization (1993) and de-dollarization of the economy (2003-2004) and the establishment of the Cuban convertible peso (CUC) as the internal equivalent to the dollar (Pearson, 1996; Vidal, 2012; Eckstein, 2007). Overall, within the still highly centralized and state-planned economy, these forms of commercial and financial mechanisms started functioning as means of capturing value from the sphere of circulation. Therefore, one could argue that the particular and contradictory insertion of the Cuban economy into the world market after the 1990s followed some patterns of the crisis in accumulation that fostered other forms of capitalist reproduction after 1970s, such as financial capitalism (McNally, 2011; Harvey, 2014). While somehow reflecting an adaptation to neoliberalism and to the transformations occurring in capital circulation after the 1970s, the uniqueness of the Cuban case lies on its weak integration into global financial capital (Eckstein, 2007), while still deploying its own forms of financial and merchant mechanisms at the domestic level. So, the restructuring of actually-existing socialism in Cuba after the collapse of the Soviet bloc did not lead to a traditional insertion into the capitalist world economy based on external credits and loans from institutions such as the World Bank or the International Monetary Fund (IMF). At the same time, several instances within the state socialist regime were created and/or transformed to capture hard currency from the sphere of circulation, significantly infused by remittances and international tourism (Morales, 2017; Eckstein, 2007; Mesa-Lago &

Pérez-López, 2013). Within this wider restructuring, the telecom and wireless system became a key sector to reinvigorate the national economy. Partial privatizations functioned as a form of repaying Cuba's foreign debt with Mexico and obtaining money capital for this and other sectors of the state-managed realm. Meanwhile, until today, its commodification acts as a means for capturing value from the sphere of circulation.

Overall, the case of the commodification of wireless and Internet communications in contemporary Cuba constitutes an example of one of the main challenges faced by its state socialist project—and by any anti-capitalist project worldwide: Constructing an alternative or oppositional mode of (re)production (in the overall economy, and in the telecommunications sector) departing from the very material conditions that arose under the capitalist mode of production, and in a historical context in which capitalist agents systematically boycott this project.

Chapter Notes

¹ By means of significant nationalizations, Cuba's economy was transformed into a state-owned economy between 1959 and 1960. Moreover, through increasing and complex centralization processes, by 1988 the state-ownership shares in the Cuban economy were of 97% in agriculture, 99% in transportation and 100% in industry, construction, retail and wholesale trade, banking and education (Mesa-Lago et al in Ritter, 2012, p.226).

² These definitions of state socialism and market capitalism are abstractions, and do not imply that all the political and economic processes in a nation are solely of this character. To argue that a nation-state fits in one of these two categories relates to the observation of the mainstream political and economic processes, while there can be also alternative and oppositional relations of production.

³ Sometimes it seems that the critiques of state socialism simply argue that there are not essential differences between actually-existing socialism and market capitalism because of the presence of capital components such as wage labour or the extraction of surplus value. This reduces the historical dimension of the analysis. Even with the restructuring of the economy advanced after the collapse of the Soviet bloc in the 1990s, and with the update of the economic model promoted by Raul Castro's government after 2008, Cuba's claims of being in the midst of a "transition to socialism" should be taken seriously in its material and symbolic effectivity, and it would be a mistake to simply equate the Cuban experience with neoliberal systems elsewhere in the world (see Zhao, 2008, for a similar discussion on the Chinese case).

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