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INCOME INEQUALITY IN TODAY'S CUBA

FIELD RESEARCH ON THE CUBAN PEOPLE'S QUALITY OF LIFE AND INCOME STRUCTURE

Sándor Gyula Nagy

Corvinus University of Budapest

Sejla Almadi

Corvinus University of Budapest

Dženita Šiljak

International University of Sarajevo

Abstract

Cuba has been a significant player in international and regional politics for a long while, particularly compared to its size. However, reliable data on the standard of living of its society is scarce. The literature review reflects how the Cuban state manipulated certain data forwarded to international organisations. Our objective was to implement field research and gain primary data on Cubans' quality of life and income structure that could help to identify the extent of income inequality among the different demographic clusters in the country. We used individual questionnaires, as well as descriptive, frequency and inferential statistics. The results show varying income inequalities among the different demographic clusters and a "perverse effect" in income distribution, leading to the formation of a "parasite" stratum in Cuban society.

Keywords: Cuba, field research, income inequality, income structure, quality of life, standard of living

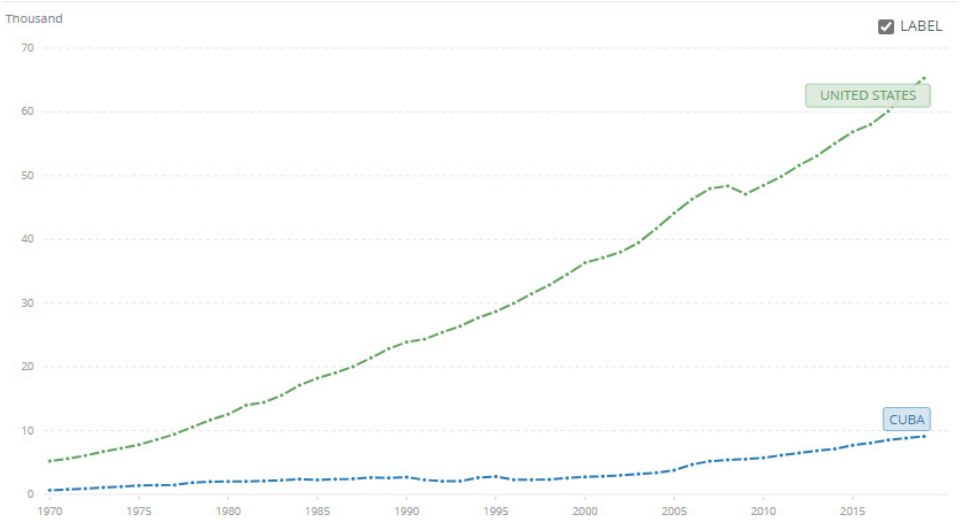
Introduction

Throughout its history, Latin America has seen inequalities between different groups of people. As for the standards of living and inequalities in 20th century Latin America, datasets and analyses are available. By 2000, illiteracy in the region reached proportions between 5 and 20%, while life expectancy was estimated between 60 and 70 years (Kingstone, 2018). Meanwhile, in terms of economic performance, measured in GDP per capita, the region has been falling behind the United States. The convergence process in the region is very slow, compared to the countries of the European Union (Bernardelli et al., 2021). However, unlike economic performance, data on the quality of life show significant convergence. The most intensive period of catching up, both in terms of economic performance and quality of life, was in the period 1940-1970, marked by state-led import substitution industrialisation and the exponential increase of the urban population in the region (Kingstone, 2018). Nonetheless, factors impacting the quality of life, such as developments in the health and the education sector, depended more on the levels of urbanisation and state intervention than on the fiscal and industrial structure of the country (Astroga et al., 2005).

The Gini coefficient shows that the level of income inequality decreased significantly in the region in the first decade of the 21st century, as a possible result of social and welfare policies introduced by political leaders, especially during the "pink tide" (Mesa-Lago, 2015). Even so, the countries of Latin America are second on the ranking of states with the most significant social inequalities, following Africa. According to 2017 data, Brazil, Honduras, Haiti, Guatemala, Paraguay, Colombia and Panama reached a Gini coefficient of 0.5, making these countries part of the 25 least equal societies in the world. For comparison, the worst-performing European country was Lithuania with an index value of 0.374 (The World Bank Group, 2019d).
We have to highlight the phenomenon of remittances (incoming unilateral transfers) from family members working abroad. In Latin America, there

are several countries where remittances represent a high share of GDP and indispensable income for certain members of society. The countries with the highest levels, as a percentage of GDP, are El Salvador (21.4%), Honduras (20%), Guatemala (12%) and Nicaragua (11.3%) (CONAPO and BBVA, 2019). The Cuban GDP per capita is in line with the declining trend in other Latin American countries, falling behind the US's economic performance to less than 10.000 USD in 2019 (Figure 1), with a life expectancy of 78.8 years in the same year (World Bank, 2019b). GDP per capita increased by almost 14 times between 1970 and 2019. The data on the remittances of the Cuban people, the income structure, and the standard of living are scarce. It is estimated that remittances from relatives living abroad have increased significantly during the past years, from only 242 million in 1993 to 3.575 billion USD in 2017 (The Havana Consulting Group and Tech, 2017; 2018), which counts as nearly 4% of the Cuban GDP. However, the exact amount cannot be known as there is no registration by any bank or government (Hansing & Orozco, 2014). These data are not counting the income of the Cuban "missions," through which thousands of Cuban teachers, doctors, nurses, and similar occupations working abroad are paid by the Cuban state (Deutsche Welle, 2020). It is estimated that remittances dropped by 15% in 2020 (Economic Survey of Latin America and the Caribbean, 2020). CONAPO and BBVA (2019) highlight that the cost of sending money to Cuba is the highest in the region.

Figure 1. GDP in USD of Cuba and the United States from 1970 to 2019 (in thousand)



Source: The World Bank (2019a)

The estimated Gini coefficients in Cuba increased from 0.24 in the 1980s to 0.38 in the 1990s (Espina, 2008), and to 0.41 in 1999. It then decreased again to 0.38 in 2005 (Brundenius, 2009).

Cuba has been a significant player in international and regional politics for a long time, especially compared to its size. And yet, there is a scarcity of reliable data that could give an insight into the standard of living of its society: specific data on household income, its structure, and income differences are not even surveyed on national censuses - or at least not published. Therefore, after a review of the scarce but available literature on the topic, we analyse key features of the Cuban economy, the matter of "equality" in practice after the victory of the Cuban Revolution, the dual currency system, income statistics and official versus real incomes. We also implemented field research in Cuba, conducted between December 2018 and January 2019, to gain primary data on Cubans' quality of life and income structure. This can help to identify the extent to which income inequality exists among the different demographic clusters in the country.

While we mainly aimed to contribute methodologically to the topic, through primary and reliable data, our research also led to theoretical implications. Our results reveal income inequality between the examined clusters in the country, e.g., gender, levels of education, skin colour, and occupation. Moreover, the results explain how these clusters influence the amount of legal and illegal incomes, as well as remittances. Our results not only reinforce some of the former findings on the topic but led us to the supposition that Cuban society today is facing a kind of "perverted" distribution of income, where lower-skilled, or even officially unemployed, people could get a higher monthly income than highly skilled workers.

Characteristics of the Cuban Economy

Cuba became independent from the Spanish crown in 1902 and went through a very eventful half-century until the victory of the revolution in 1959. According to the calculations by Ward and Devereux (2012), Cuba was on the same level as South Carolina or Mississippi in 1929 in terms of development and per capita GDP. In 1920, one-quarter of Latin American capital goods, specifically machinery and equipment, could be found in Cuba. This means that until 1930, the country was home to the highest level of capital investment per capita in the region (Ward & Devereux, 2012).

The country started to copy the communist model in the 1970s, and the expansion of state ownership resulted in a centralised economy. The collapse of the Soviet Union impacted Cuba heavily: in 1990/91, the Cuban economy contracted by 33% (Brundenius, 2009) and the country lost almost 75% of its international trade (Taylor & McGlynn, 2009). During this depression, doctors and lawyers earned salaries of 75 to 100 dollars per month (Calderon, 1995). To survive, the political leadership in Havana needed to give pragmatic responses to the crisis, introducing the "special period" *(Periodo Especial)*, in which private companies were allowed to

operate in some two hundred sectors of services and commerce. A limited presence of foreign capital was also permitted, usually in the form of joint ventures (Banco Central de Cuba, 2017). As a result of stabilisation, Fidel Castro decided that the country's economy was strong enough to start the program of "recentralisation" in 2004 (Sweig, 2007). Part of the program saw a parallel introduction of the Convertible Peso *(Peso Cubano Convertible,* CUC*)* and the Cuban Peso *(Peso Cubano,* CUP*)*, establishing the dual currency system. CUC was pegged to USD 1 to 1 since its introduction. On 1 January 2021, after years of building up, the system was unified (Granma, 2020; Sweig & Bustamante, 2013).

Cuba is a small country (11 million inhabitants) with an underdeveloped industrial sector (accounting for 20% of the GDP), a strong service sector (74.5% of the GDP) and an uncompetitive, low-efficiency agrarian sector (contributing only 5% to the GDP). 17% of the labour force works in the industrial sector, 65% in services, and 18.5% in agriculture. In 1989, Cuba's most important export product was sugarcane, but by 2011 industrial production dropped to 55% of the reference year (Font & Jancsics, 2016). The general academic literature, our field research, and personal experiences all confirm that agriculture and industry both need enormous technological and capital investment to compete on an international level (González Alonso & Lee, 2016; Nagy & Drexler, 2017), which is only possible in the long run and with the involvement of significant foreign capital.

The only Cuban "export product" with considerable competitiveness is tourism, which has been paralysed during the Covid-19 pandemic. Before the pandemic, up until 2019, the number of visitors to the island tended to grow: in 1990, 340.000 tourists visited the island (Kaufmann Purcell, 1991/92), and by 2018, this number went up to 4.75 million (Perelló, 2019), with a predominance of Canadian nationals. The United States would also be an important source of tourists, should the US government ease the trav-

el bans to Cuba, which were mostly reinstated by the Trump administration after lifts by Obama. A charter flight service operated for years between Miami and Havana, which was available for diplomatic, cultural, educational, and religious travels, as well as for family visits. Cruise ships would be another important possibility, but no American-owned cruisers call at Cuban ports. Therefore, Cuba could not reap any benefit from an industry that, until 2019, served 22 million passengers per year and had an economic impact of more than 100 billion USD (Cruise Lines International Association, 2017; Toro, 2015).

All in all, Cuba currently presents the features of a hybrid (state-owned and private) shortage economy (Kornai, 1980), which operates with a combination of legal forms regarding production, ownership, and investment. Cuba is also characterized by a withdrawing "welfare" state and a relative growth of individual freedoms, which coexist with military-run monopolies in strategic industries (Sweig & Bustamante, 2013). The importance of the latter is confirmed by the 87% share of public employment amongst Cuban workers, while in 2019 those working in registered private businesses amounted to 600.000 out of 4.5 million workers (Expansión, 2019).

Literature Review

Questions of equality or the lack of it in Cuba can be approached through several dimensions: differences between the capital city and the rural areas, origin and skin colour, professional qualification, as well as income levels, consumption patterns, and available healthcare options of specific social groups.

Urban areas hosted half of the population in 1899; in 1957 this number was 57%, which was a high proportion in the Latin American context. The central role of Havana was already obvious in colonial and later in republican times: one-fifth of Cubans used to live in the capital city, which was largely

due to its geographical location, and because it was the most important and best-defended port of the island. The Castro era brought some changes in this regard: by 1990, the other 15 districts had started to catch up with the capital city, but this did not end social differences between urban and rural areas in terms of access to healthcare, education, electricity, a proper sewage system and even drinking water (Díaz-Briquets, 1988).

Cuban society has always attributed importance to origin and skin colour. In theory, the victory of the Revolution ended discrimination based on skin colour because Castro nationalized the economy to eliminate the middle and upper class, as well as absolute poverty of the lower class, which mostly consisted of Afro-Cubans (Mesa-Lago, 2002), who represented almost 50% of the population (Gonzales & McCarthy, 2004). The 1981 census was the first to provide some relevant information regarding demography, which did not change much until the next census in 2002: 10 % of the Cuban population identified as Afro-Cuban, 65% as white, and 25% said to be of mixed origin (de la Fuente, 2011). In reality, the country is still very far from full equality, especially regarding income. The Revolution introduced policies that nationalized education and healthcare, which increased life expectancy and literacy rates (Meso-Lago, 2002) and in the 1980s, the proportion of Afro-Cubans and mulattos with secondary education was higher than the proportion of whites (De la Fuente, 2001). However, by 2001, 15.4% of Afro-Cubans had a lower level of education compared to mulattos (6.1%) and whites (3.6%) (Gonzales & McCarthy, 2004).

It appears to be more relevant to look at the changes in incomes of different social groups to understand inequality in today's Cuba. According to Blue's (2007) survey, 70% of the white, 81% of the mulatto, and 84% of the black population had low-income public-sector jobs in 2000. Only 2% of Afro-Cubans and mulattos respectively were employed in the private sector, compared to 6% of whites (Blue, 2007). Afro-Cubans and mulattos

also rely on more informal and often more ethically compromising forms of income (Roland, 2013). Access to education was practically equal for all groups, which means inequality in education cannot be the reason for these differences. White parts of the population have better access to hard currencies, partly because they make up a larger part of Cubans living abroad than other groups, and partly because Afro-Cubans and mulattos make up only 5% of people who work in tourism (Espina & Rodriguez, 2010). Whites tend to live in nicer homes in tourist-friendly areas. The majority of those who have fled into exile since the rise of the Revolution were white and their (largely) white family members who remained in Cuba are the greatest beneficiaries of foreign remittances, meaning they can improve their homes to subsequently rent them to tourists (Roland, 2013, p. 404). During the 1990s, almost 90% of Cubans who lived abroad were white (Mesa-Lago, 2002). Therefore, remittances are one of the main reasons why income inequality has increased in Cuba. 40% of Cubans living in Havana receive remittances (Fitzgerald et al., 2016). The patterns of inequality in Cuba are visibly marked by race, but also by class and regional aspects. People who receive remittances and have occupations with access to hard currency enjoy a distinct economic advantage (Espina & Ruiz, 2010). Pensioners, the unemployed, those on sick or maternity leave, people employed in the public sector, medical personnel, and teachers were the ones with lower incomes. People who were receiving remittances, among other groups, saw their income increase (Brandenius, 2009).

Consumption in Cuba, unlike income status, is an indicator that is more easily measurable and has been documented. In the 2000s, inflation-adjusted consumption per capita reached 52% of the 1955 level, and in 2007, it approached 72% (Ward & Devereux, 2011). This growth is due to a remarkably low infant mortality rate of 6, which surpasses that in most developing countries, and even that of the United States (Pineo, 2019), and because of free healthcare and education which was outstanding at a regional

and even a global level. Related academic literature calls this phenomenon the "Cuban (Health) Paradox." The main critics of the Cuban system are Cuban émigré authors, especially from emigrant communities in the United States. Morris (2014) formulates a somewhat leftist criticism of these authors, calling them the "Pittsburgh-Miami axis." She emphasises that Cuba has indeed overtaken the United States and several member states of the European Union in some indicators measuring the quality of life, which is remarkable given the US embargos and blockades. However, she equally acknowledges the problems of growing social inequality. According to her calculations, the real value of state salaries was less worth in 2014 than in 1990, and those who did not have access to hard currencies (or CUC) had very limited possibilities for the purchase of even basic everyday products. According to Morris (2014), especially pensioners without families were practically bound to live in deep poverty. The best possibilities for earning an income were and are to be found in the grey and black sectors of the economy, above all in Havana, which means the rural population is disadvantaged, except for vacation areas or towns frequented by tourists. The author identified that about half of the population have access to some extra income, either through remittances from relatives abroad or through "creative" approaches at their workplace, i.e., theft or undocumented work. Most members of the state bureaucracy belonged to this group. Those with an even higher living standard make up a very thin layer of society: they are high-ranking state officials and "nouveau-riche" businessmen who obtained their wealth through legal or at least partially legal business activities. Their lifestyles reveal inequalities to everyone; inequalities that would otherwise be invisible. While political party leaders tend to enjoy their wealth in a rather secluded way, businessmen usually make no secret of their wealthy lifestyles. While in 1989, there was a 4.5-times difference between the highest and the lowest salaries, this relatively balanced income distribution became a thing of the past within a decade, especially due to the expansion of tourism – so much so, that by 2002, a waiter's daily

tips were worth more than the monthly salary of a university professor (Burchardt, 2002).

To examine the livelihood of average people, one needs to understand the Cuban monetary and currency system. Until 1 January 2021, there were two official currencies in circulation: the *Peso Cubano Convertible* (Cuban Convertible Peso, CUC) and the *Peso Cubano* (Cuban Peso, CUP). Apart from these, USD and EUR are commonly used, typically in the form of banknotes. The official and actual exchange rates were not identical: The CUC was worth 24 CUP at official exchange offices while in the "street" the exchange rate for banknotes was 25 CUP. The situation was different for coins: a 25-cent CUC coin was worth 5 CUP when paying on the street, which means 1 CUC was only worth 20 CUP. However, according to the official set international exchange rate, which was also valid for the entrepreneurial sector, 1 CUC equalled 1 USD, which was a fixed exchange rate. At official exchange bureaus, transactions were taxed at 10%, so in reality, 1 USD bought only 0.9 CUC. To further complicate things, the Cuban Bureau of Statistics indicated a 1:1 CUP to USD exchange rate, for example in the yearly reports of the International Labour Organization (ILO). The CUC was phased out from circulation in the first 6 months of 2021, since July 2021 onwards the currency does not exist anymore.

One of the consequences of this dual, or even multiple, currency system is that the yearly reports of the ILO (2019) tend to mention Cuba in the group of "upper-middle" income countries, along with countries such as Brazil, Costa Rica, China, and Mexico. According to the 2016 report of the National Bureau of Statistics and Information, the average wage in Cuba amounted to 740 CUP (Oficina Nacional de Estadística e Información, 2017), which is less than 30 USD according to the official exchange rate. At the same time, the minimum wage was 16,503 kwanzas in Angola and the average salary amounted to 500 USD in 2017 (52.6 USD) (Agência An-

gola Press, 2018; 2019), yet it was categorized as a "lower-middle" income country. This demonstrates the opportunities for manipulation through the dual currency system and the possibility of publishing misleading information even in international statistics and the need to implement field research to uncover the actual situation within the country.

Most of the literature on the subject highlights the important differences between the legal and actual income of Cuban citizens (Escobar & Martinez, 2017; Fitzgerald et al., 2016; Mesa-Lago, 2015; Rapoza, 2016). This is no wonder as it would be virtually impossible to live off the average Cuban wages in a shortage economy (NUMBEO, 2019), since even basic hygiene products, e.g., soap, toothpaste, and food items cannot be bought, or only periodically and after a long queue. The situation has been deteriorating in the wake of the Venezuelan crisis and the subsequent American sanctions (BBC, 2019), not to mention the still immeasurably effects of the COVID-19 crisis. According to Dana (2016), the average monthly income of Cubans is much higher (50 to 100 CUC) than the average wages in the country. The difference between wages and actual income derives from foreign money transfers and income that is obtained illegally, e.g., prostitution, or semi-legally, e.g., street vending.

Research Design and Methods

For our field research in Cuba, we used three primary data collection methods: observations, interviews, and questionnaires. Observations and interviews were conducted with small samples and were conducted on issues of which we wanted to have a deeper understanding. This, however, opens the door to researcher bias. Since this paper wishes to present generalizable research questions and answer the research questions, it also examines the questions from an external perspective. The questionnaire that we finally implemented was suitable for the recording and analysis of big samples,

allowed personal as well as online interaction, and was regularly used to measure certain habits and attitudes (Saunders et al., 2016). In our case, using online questionnaires in December 2018 and January 2019 was not possible due to the low level of internet coverage in Cuba. Cuba legalized private Wi-Fi networks only in July 2019. Only 5% of the population were using these networks, one of the lowest numbers in the world, and they were another privilege of the white population (Kahn, 2015) and of those who could afford high prices or have government authorization, for instance, diplomats (Hansing, 2017). As such, the personal questionnaire remained the only feasible data collection method. It could involve open-, semi-open- and closed-ended questions, depending on the type of expected data. To meet our research objective, we applied close-ended questions that recorded quantitative data or facilitated the quantification of data, both of which contributed to the results' generalisability. When we designed the questionnaire, we drew two similar surveys (Escobar & Martinez, 2017; Fitzgerald et al., 2016). However, it was not possible to use standardised, conventional surveys that are often found in databases to assess household and income data (see for instance Hellwig's (1968) method). We also aimed to formulate questions that could be answered relatively fast, and that would not embarrass an average Cuban citizen. Therefore, our questions covered demography, quality of life with questions of residence, and income structure.

The field research was implemented in Cuba between December 2018 and January 2019 by one of the authors. For the primary data collection, three non-researcher assistants were involved to help record the data. Regarding ethics and due to the topic of our research, we targeted the adult population, aged 15 years and above. The sample minimum was 209 persons, at a 95% confidence level, with a 5% margin of error, in the first year of data collection (2018), on the adult population (p=9.500.093) in Cuba (N=11.338.145) (Population Pyramid, 2018). Official research requires the

permission of Cuban authorities, which would have prolonged our stay and may have needed more assistants. Moreover, it was not guaranteed that we would receive this permit. Therefore, we conducted a concealed or non-official research. We chose a non-probability sampling technique, snowball sampling (see Saunders et al., 2016) to avoid the unwanted spotlight of Cuban authorities. The team finally gathered a valid, error-cleared, sample of 231 people, more than the sample minimum, which means it was representative. In line with the principles of research ethics, data recording always occurred informally and anonymously, to prevent malfeasance and any mental, psychological, or physical harm to the subjects. Although our data are based on the participants' declarations, we considered anonymity a good enough guarantee of their truthfulness. The questionnaire was designed to gain both categorical, such as gender, highest level of education, place of residence, and numerical data, such as age, number of people living in the same household, and official income. Passing descriptive, frequency and inferential statistics according to the Spearman correlation and analysis of variance was another important factor influencing the design of the questionnaire. To increase the internal validity of the results, while simultaneously minimising researcher bias and errors, the compilation of the codebook, the coding and the analyses were conducted by the other author of the paper.

Methodology

The categorical and numerical data were analysed together. First, histograms with a frequency polygon, and contingency tables were used to evaluate and interpret data coherence. We used several measures of income inequality. The most obvious measure is the coefficient of variation, which shows if the dispersion of income is larger or smaller within a specific group. However, the most frequently used measure is the ratio of the first and fifth quantile, which shows the ratio of total income received by the 20% of the population with the highest income to that of the 20% of the

population with the lowest income (European Commission, 2018). Inferential statistical methods, concerning the type of data, i.e., the Spearman correlation and analysis of variance, were applied to show the relationships between variables, i.e., covariance, cause, and effect, which did not occur alone in the sample. We show data on income in USD for better understanding and comparison.

For the analysis of variance (ANOVA), which requires the comparison of at least three groups, we built one model for each dependent variable (DV), in this case, official legal income, remittances, and illegal income. The independent variables (IV) were ethnic origin, highest level of education, and occupation. However, since Christensen et al. (2015) suggest the use of ANOVA in two groups as well, we also included gender and place of residence as independent variables in the models. We regarded all independent variables as fixed factors in the models. We checked the homogeneity of variance as an assumption of the method using Levene's test. For effect sizes, we calculated partial eta squared. We used the coefficient of correlation to analyse the linear association and strength between the included variables. The Spearman correlation was used to find statistically significant ($p<.05$) correlations among the examined variables.

Primary Data Collection and Preliminary Analysis

The concealed data collection with the snowball sampling technique led to a representative sample (n=231) of the adult Cuban population. The codebook of the personal questionnaire was composed of three main and one additional section in line with the expected type of data: (1) demography, i.e., gender, ethnic origin, age, education, occupation; (2) quality of life, i.e. place, type and ownership of residence; (3) income structure, i.e., official, legal and other, illegal income, remittances; and as an additional category, own immediate calculations, i.e., the sum of incomes, monthly average income.

In the preliminary analysis, numerical data were evaluated by descriptive, and categorical data were evaluated by frequency statistics. There were some variables for which we could not gather data from all subjects, these smaller sample sizes are indicated in brackets. Table 1 shows the descriptive statistics of the analysed variables. While the results on non-income-related variables refer to relatively normal distributions, the values of income-related variables definitely refer to positive-skewed distributions, meaning they refer to significant income inequalities in the sample, where the majority of the interviewees declared a very low and low income, and only a few interviewees declared a very high income.

Table 1. Descriptive Statistics: Numerical Data

	N	**Min.**	**Max.**	***Mean***	**Std. d.**
Age	231	19	96	46.81	18.392
No. of people living in the same household	231	1	9	3.66	1.881
Official, legal income	211	0,00	25,000.00	1,085.5877	2,287.90970
Incoming unilateral transfers (remittances)	31	500.00	5,000.00	1,463.7097	962.41534
Other, illegal income	74	200.00	10,000.00	2,064.2568	1,576.32846
SUM (non-convertible Cuban Peso, CUP)	231	200,00	25.000,00	1.849,3030	2.420,01660
Average monthly income (convertible Peso, CUC; 1 USD = 1 CUC)	231	8,00	1.000,00	73,9721	96,80066

Source: authors' calculations

Table 2 shows the frequency statistics distribution of the respondents in the sample.

Table 2. Frequency Statistics: Categorical Data

Gender	Male	109 (47.2%)
	Female	122 (52.8%)
Ethnic origin	Black (Afro-Cuban)	81 (35.1%)
	Mulatto	109 (47.2%)
	White	41 (17.7%)
Highest level of education	Primary education	41 (17.7%)
	Secondary education (incl. advanced vocational training)	143 (61.9%)
	University	47 (20.4%)
Occupation	Unemployed	22 (9.5%)
	Student	3 (1.3%)
	Public servant	133 (57.6%)
	Entrepreneur	29 (12.6%)
	Pensioner	44 (19%)
Place of residence	Havana and its surroundings	200 (86.6%)
	Countryside	31 (13.4%)
Type of residence	Apartment	80 (34.6%)
	Part of a house	68 (29.4%)
	House (detached)	83 (36%)
Ownership of residence	Rental	7 (3%)
	Own	224 (97%)

Source: authors' calculations

Main Analysis and Results

We analysed income inequality in Cuba regarding gender, ethnic origin, education, and occupation. An average Cuban citizen represented in the sample legally earned 43 USD worth of Cuban Pesos. Only one in eight respondents received money from abroad and their income could reach the level of the monthly average legal income, 58 USD. Income from other sources,

typically from the grey economy, such as the monetisation of products stolen from the workplace or street vending of handmade products, contributed to the livelihood of one-third of the respondents and represented significant amounts, 83 USD on average. To analyse income inequality, we utilised the most frequently used measures, percentiles, the coefficient of variation and the analysis of correlation, and variance (ANOVA) were used.

Measuring Income Inequality

While the coefficient of variation is the most obvious measure of inequality, comparing shares of total income received by the top and bottom fifth of households in the population is a widely used measure of income (Ehrenberg & Smith, 2016, p. 536). Income inequality in Cuba is reflected by the data. The coefficient of variation for the entire sample is 137%. Using percentiles as a measure of inequality, we find that people in the top fifth of the income distribution received 51.9% of all income, while people in the bottom fifth received only 3.4%. People with an income of 20.6 USD or less were in the 20th percentile of the income distribution (33 women and 14 men), while people with an income of 104 USD or more were in the 80th percentile (18 women and 29 men). The ratio of earnings of the two groups shows that people in the 80th percentile of the income distribution earned 15.2 times more than people in the 20th.

Income inequality between genders is present. On average, men earn 1.5 times more (93 USD monthly average) than women (57 USD). When using the coefficient of variation as a measure of income dispersion, we can conclude that inequality is higher among men than among women, as the official income among men ranges between 8.8 USD and 1000 USD and that of women between 8 USD and 422.4 USD. The income ratio between the two quantiles shows that the total income of men in the 80th percentile is 12.4 times higher than the income of men in the 20th percentile. The ratio is higher for women: The income of women in the 80th percentile is 14.6 times higher than that of women in the 20th percentile.

On average, white respondents have twice the total income (125 USD) than mulatto (68 USD) or black/Afro-Cuban respondents (57 USD). Income inequality is the highest among white respondents as they earn between 9 and 1000 USD and the coefficient of variation is 150.3%. The analysis of the quantiles shows that the ratio of the average income of the white respondents with the highest income to those with the lowest income is 14.3. Inequality is almost the same among mulattos and Afro-Cubans, as they earn between 8 and 422.4 USD and 8.6 and 344 USD, respectively. The coefficient of variation for the two groups is almost identical (89.7% and 89.4%, respectively). However, the analysis of the quantiles shows that income inequality between the 20% richest and 20% poorest within the mulatto group is higher (14) than within the Afro-Cuban group (10.9).

Regarding legal income, white respondents earn 2.4 times more than mulattos and 3.2 times more than Afro-Cubans. The biggest wave of Cuban emigration (until 1990) saw primarily white, high-class/rich Cubans leave the country. After 1990, lower classes, mostly mulattos and black/Afro-Cubans were leaving the country. While the overall picture is mixed, it is still apparent that white people have richer families in the United States and the European Union, as they receive on average more remittances. So, Afro-Cubans (35%) and mulattos (31%) in Cuba must make money however they can –illegally. These results confirm the findings by Blue (2007). This can be explained by the difficulties of obtaining hard currencies on the one hand and by the relatively low representation of mulatto and black population in the tourism industry on the other hand. The author in charge of the data collection personally observed[1] that in shops and restaurants frequented by tourists, white salespeople, and waiters were overrepresented compared to their share of the population. After interviews with restaurant owners, it also became clear that "lighter" skin colour was a criterion for hiring because it is perceived as a better "magnet" for tourists. The percentage of whites with illegal income is 29%. Mulattos and Afro-Cubans gather

[1]The author in charge of data collection has conducted a combined three months of research in Cuba in four installments (in 2006, 2016, 2017, and 2018/19).

more illegal income than whites (1.5 and 1.4 times more, respectively). The average illegal income of these two groups combined is 87 USD while the average illegal income is 66 USD for the white population.

Those with the lowest level of education (elementary school level) gave accounts of a significantly below-average income (40 USD), while the respondents with a secondary level of education reported the highest average income (86 USD). The poorest 20% of the Cuban population have mostly primary education (55%), followed by high school graduates (38.3%), and university graduates (6.4%). The highest incomes are earned by high school graduates (76.6%), people with a university degree (12.8%) and people with only primary education (10.6%).

The biggest beneficiaries of money transfers from abroad are people with a high school degree (48.2% of all remittances), followed by people with primary education (40.2% of remittances), and those with a university degree (11.6% of remittances). Legal incomes are rather evenly distributed between university and high school graduates, but the latter group's earnings (86 USD) surpass those of the former in terms of illegal and consequently total income (66 USD). Using the coefficient of variation, we can conclude that income inequality is very similar in the first two groups (138% and 134%), and it is much lower among the people with university education (48%).

Regarding occupation, legal incomes were distributed as expected (student, unemployed < pensioner < public servant < entrepreneur), but as for remittances and other illegal income, the results were surprising. The average monthly income of public servants was 66 USD; entrepreneurs earned 2.4 times as much (158 USD), while unemployed people and students earned 1.5 times that amount (97 and 93 USD). This is because state employees, such as teachers, doctors, and members of the police, have fewer opportu-

nities to access illegal sources of income compared to these other groups. That is why a business-oriented and well-trained baker, hairdresser, pedicurist, restaurateur, street vendor, and even a student or an officially "unemployed" person could reach higher levels of income than an average university graduate. Employed people have a higher income (84 USD) than those who are unemployed or are not counted as labour force, like students and pensioners (52 USD). This means that higher education is simply not "paying off." Teachers and engineers could earn multiple times their state-sponsored income as waiters, bartenders, or street vendors, or could ensure their livelihood only through remittances, the amount of which may equal or supersede their wages. These tendencies are bound to have a deteriorating long- or even mid-term effect on Cuban society. On the one hand, the esteem of socially important professions could be eroded, and counterselection could occur among teachers, doctors, engineers, and other white-collar positions. Someone can earn a much higher income with the remittances from their family abroad than from working hard. Furthermore, a part of the society can be "deterred" from work and – to refer to historian Irén Suskó, who lived most of her life in Cuba – turn into a "parasite society" (Breier, 2016), where people live off other people's work, like tourists or relatives living abroad. A sad conclusion is that the Cuban Communist Party prefers having a monopoly on power in a poor country to sharing power in a prosperous country (Totten, 2014).

Income inequality among people who are employed is higher than among people who are unemployed or who are not in the labour force. The coefficient of variation for the first group is 130.8%, compared to the coefficient of 101.7% in the second group. However, the analysis of quantiles within the groups shows a different picture. The ratio of 20% of people with the highest incomes to 20% of those with the lowest incomes is higher among people who are unemployed or not in the labour force (15.9) than those who are employed (9.8). The poorest 10% of respondents (exclusively pen-

sioners) lived off less than 10 USD per month. Among the poorest 20% we also found many state employees. Independent business owners reported a minimum monthly income of 30 USD, while the upper 10% of respondents admitted to an average of 257 USD, and the upper 20% reported an average of 190 USD. 59% of the latter cluster are entrepreneurs, the remaining 41% are public servants. Their extra income typically came from sources other than foreign money transfers. The average business owner had a monthly income of 158 USD, which is more than twice the general average. 80 % of them finished middle school education, while elementary school and university graduates accounted for 10% each.

A difference in monthly average income between the capital city and the countryside (73 and 79 USD) could not be demonstrated from the collected data. However, official legal incomes and remittances accounted for multiple times more in the countryside, while inhabitants of Havana had to "compensate" through other illegal sources of revenue. The total income in the countryside is 1.5 times higher than in Havana, and income inequality is lower.

Coefficient of correlation

We used the coefficient of correlation to analyse the relationship between the included variables. The Spearman correlation (Annex 1) found 22 statistically significant ($p<.05$) correlations among the examined variables[2], among which 6 coefficients reflect a very weak, almost non-existing relationship (yellow cells), 10 reflect a weak (orange cells), and 6 reflect a moderate (red cells) relationship[3]. Positive relationships can be found between ethnic origin and place of residence and the number of people living in the same household, respectively, as well as between place of residence

[2] Only the three main, individual income variables were examined, the sum and average incomes were not included, since they are made up by the values of the main three income variables.

[3] The correlation values are evaluated along Saunders et al.'s (2016) correlation scale.

and the number of people living in the same household. Afro-Cuban people were more associated with living in Havana and its surroundings with more people in one household, while white people were associated with living in the countryside.

The correlation analysis results show that women were more associated with older age in the sample and males with younger age. Older people are more associated with being entrepreneurs and pensioners, while younger people are mostly unemployed and students. Most middle-aged people work as public servants. People who graduated from university are more associated with a high official legal income and people with primary and secondary education are associated with less legal income. Furthermore, older people and/or entrepreneurs and pensioners were more associated with lower levels of education (younger people and/or unemployed, students and public servants with a higher level of education); black people more with living in apartments (white people living in detached houses); apartments more with being located in Havana and its surroundings (detached houses in the countryside); females with less legal income (males with more legal income); unemployed and students with less legal income (public servants, entrepreneurs, pensioners with more legal income); people gaining more illegal income with rentals (people gaining less with ownership). Older people were more associated with less legal income (younger with more legal income); unemployed and students with more illegal income (public servants, entrepreneurs, and pensioners with less illegal income); people living in detached houses with fewer remittances (people living in apartments with more money coming from abroad).

Analysis of Variance

The analysis of variance requires comparing at least three groups. We built one model for each dependent variable, namely official legal income, remittances, and illegal income. The independent variables are ethnic origin,

highest level of education and occupation. We also included gender and place of residence as independent variables in the models (Annex 2). The model for official and legal income shows that there is a statistically significant difference in the DV symptom level for four IVs: ethnic origin, highest level of education, occupation, and type of residence, while gender and place of residence did not contribute to it. Hence, whether the fact that the respondents had a diploma, were white or mulatto or Afro-Cuban, students or public servants or entrepreneurs, lived in an apartment or house, did impact their official earnings, while whether they were male or female, lived in the capital or the countryside, had no impact. The interaction effects show that ethnic origin and type of residence together could contribute to the DV's variance at an even greater level, while ethnic origin and occupation weakened each other's power in contribution.

Pairwise comparisons show that the statistically significant differences are between whites and mulattos, whites and Afro-Cuban groups in ethnic origins; among all groups at the highest level of education; in terms of education between the groups unemployed and public servant, unemployed and entrepreneur, public servant and entrepreneur, public servant and pensioner, entrepreneur, and pensioner; and between apartment and detached house in the category "type of residence." The estimated marginal effects show that "white" in ethnic origins, "secondary education" in education levels, "entrepreneur" in occupation, and the "detached house" in types of residence had the greatest impact on the amount of official and legal income.
In the model on remittances, the test of between-subjects effects shows that there is a statistically significant difference in the DV symptom level for the place of residence only, and no interaction effects were found. Among the places of residence, living in Havana and its surroundings had a major impact on the amount of money transferred from abroad. In the model on other, illegal income, the test of between-subjects effects shows no statistically significant differences in the DV symptom level for IVs, but one interaction

effect: gender and ethnic origin, where males and mulattos had the greatest impact on the amount of other illegal income within their clusters.

Conclusion

The field research and the use of a personal questionnaire offered a comprehensive guide to the quality of life regarding residence and the income structure of the Cuban people. It generated data that was missing so far when discussing income (in)equality in the country. Since our sample could be regarded as representative, we arrived at important conclusions. The preliminary analysis already highlighted huge differences in income structures, which was confirmed later in the main analysis in relation to different demographic clusters. The results showed income inequality between genders, ethnicities, educational backgrounds, and occupation since entrepreneurs, unemployed people, and students earned more than public servants. We also found income inequality within these demographic groups.

The inferential statistics revealed statistically significant relationships among the variables. Respondents with university graduation were more associated with a high official, legal income; older people with less legal income; unemployed people and students with more illegal income; people living in detached houses with less incoming unilateral transfers. The analysis of variance (ANOVA) shows that a type 1 error possibly violated the variance analyses which is the main limitation of the study. Thus, in interpreting the results, we focused solely on Cuba without taking other benchmark countries into account. Regarding these results and limitations, future research should focus on collecting greater samples, for instance through non-probability, and quota sampling. Future research should also be extended to people living outside Havana. The research should also be extended to the calculations with equal sample sizes within different clusters. As a result, comparative studies on the chronological horizon of Cuba will be possible. Also, regional and non-regional countries should be included in the analysis. Our literature review reflected how the Cuban state had the

opportunity to manipulate certain data forwarded to international organisations, which is important to be noted for future research. Our core results admittedly do not differ greatly from those in recently published papers on the topic; rather, they reinforce them. However, it should be added that this could mean that today's Cuban society has to face a kind of "perverted" distribution of income, where highly skilled university graduates are not rewarded with a higher level of income. The results showed a "perverse effect" on income distribution, a phenomenon that leads to the formation of a "parasite" stratum in Cuban society.

Sanctions imposed by the Trump administration which saw the hardening of a sanctions-based policy might lead to consequences that are the exact opposite of its objectives, such as more and more Cuban refugees trying to leave their country and join their relatives living in the United States, more Cubans living in extreme levels of poverty, or perhaps another generation that have to live through a "*periodo especial*." There is almost no chance for the short- or mid-term collapse of the regime, no matter what sanctions are imposed by the US government; the Party and the forces of order have enough power and money to guarantee survival. Thus, the COVID-19 crisis is affecting mostly the society rather than the elites and deepens the scarcity of basic goods even more. Since our field research took place before the COVID-19 pandemic, it would be worth implementing a primary data collection after the pandemic in Cuba and preparing a comparative study.
Another theoretical limitation which was not foreseen prior to the publication of this paper was that the Cuban government decided with immediate effect in July 2019 to raise the minimum wage to the equivalent of 17 USD (Granma, 2019) and with it the average wage level in Cuba, which could have brought some favourable developments to the population, and the elimination of the dual currency system (the so-called monetary unification), which was finally introduced in January 2021. An important detail is that the value of social benefits and pensions will be increased and the

fixed prices of basic consumer goods, mostly food, will be lifted, so the measures will not give help to those in most need of it. Therefore, another study could target these regulations, their impacts, and the situation since the COVID-19 crisis.

References

Agência Angola Press (2018). *Angola emerge para classificação média no IDH*. September 21. http://www.angop.ao/angola/pt_pt/noticias/sociedade/2018/8/38/Angola-emerge-para-classificacao-media-IDH,80392bbc-219f-4076-9da5-1128d6e6f999.html

Agência Angola Press (2019). *Minimum Wage for Private Sector in Angola Set at 30 Percent.* February 23. http://www.angop.ao/angola/en_us/noticias/economia/2019/1/8/Minimum-wage-for-private-sector-Angola-set-percent,28ee0232-7e36-426e-968d-02b9f8323848.html

Astroga, P., Berges, A. R., & Fitzgerald, V. (2005). The Standard of Living in Latin America During the Twentieth Century. *Economic History Review, 63*(4), 765-796.

Banco Central de Cuba (2017). *La Economía Cubana en el Periodo Especial 1990-2000*. http://www.bc.gob.cu/Anteriores/Otros/economia%20cubana.pdf

BBC (2019). *Cuba to Increase Rationing amid Shortages.* May 11. https://www.bbc.com/news/world-latin-america-48237319?intlink_from_url=https://www.bbc.com/news/world/latin_america&link_location=live-reporting-story

Bernardelli, M., Próchniak, M., & Witkowski, B. (2021). *Economic Growth and Convergence: Global Analysis Through Econometric and Hidden Markov Models*. Routledge.

Blue, S. A. (2007). The Erosion of Racial Equality in the Context of Cuba's Dual Economy. *Latin American Politics and Society, 49*(3), 35-68.

Breier, Á. (2016). *Havanna, csak oda* ("*Havana, One Way*"). Documentary.

Brundenius, C. (2009). Revolutionary Cuba at 50: growth with equity revisited. *Latin American Perspectives, 36*(2), 31-48.

Burchardt, H. J. (2002). Contours of the Future: The New Social Dynamics in Cuba. *Latin American Perspectives, 29*(3), 57-74.

Christensen, L. B., Johnson, R. B., & Turner, L.A. (2015). *Research Methods, Design, and Analysis*. Pearson.

CONAPO, BBVA Foundation and BBVA Research (2019). *Yearbook of migration and remittances Mexico 2019.* https://www.bbvaresearch.com/en/publicaciones/mexico-yearbook-of-migration-and-remittances-2019/?utm_source=twitter&utm_medium=social&utm_campaign=rrssresearch&utm_term=23092019

Cruise Lines International Association (2016). *Cruise Industry Outlook*. http://www.cruising.org/docs/default-source/research/2016_clia_sotci.pdf

Dana Anderson, C. (2016). Rose Unveils the New Cuban Consumer Survey at Their Presentation in Havana. *Rose Marketing Ltd.,* September 23. http://www.rose.ru/news/2465/

De la Fuente, A. (2011). Race and Income Inequality in Contemporary Cuba. *NACLA Report on the Americas, 44*(4), 30–33.

De La Torre, M. A. (2018). Castro 's Negra/os, *Black Theology*, *16*(2), 95-109.

Deutsche Welle (2020). *Misiones médicas" cubanas: ¿cuán-*

tas, dónde y por qué? https://www.dw.com/es/misiones-m%C3%A9dicas-cubanas-cu%C3%A1ntas-d%C3%B3nde-y-por-qu%C3%A9/a-53054180?fbclid=IwAR16FSKjj-r0d_CO7gpCSoQUY3N6IlnayZ-Q5KknKgph2ZJYDxpKfnf6kIY

Díaz-Briquets, S. (1988). Regional Differences in Development and Living Standards in Revolutionary Cuba. *Cuban Studies, 18*, 45–63.

Domínguez, J. I. (1976). Racial and Ethnic Relations in the Cuban Armed Forces. A Non-Topic. *Armed Forces and Society, 2*(2), 273-290.

Ehrenberg, R. G., & Smith, R.S. (2016). *Modern labor economics: Theory and public policy*. Routledge.

Pentón, M. J., & Escobar, L. (2017). *El salario medio sube pero nadie vive de su sueldo en Cuba. 14ymedio.com,* July 14. https://www.14ymedio.com/nacional/salario-medio-nadie-sueldo-Cuba_0_2253974587.html

Espina, R., & Rodríguez, P. (2010). Race and Inequality in Cuba Today. *Socialism and Democracy*, *24*(1), 161-177.

European Commission (2018). *Income quantile share ratio.* https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Income_quintile_share_ratio

Expansión (2019). *Más de 1,4 millones de cubanos trabaja en el sector privado*. February 2. http://www.expansion.com/latinoamerica/2019/02/02/5c55dfdaca4741a04a8b4648.html

Fitzgerald, M., Brennan, J., & Stoke, R. (2016). *Understanding the Evolving Cuban Consumer.* Boston Consulting Group, June 2. https://www.bcg.com/publications/2016/globalization-consumer-products-understanding-evolving-cuban-consumer.aspx

Font, M., & Jancsics, D. (2016). From planning to market: A framework for Cuba. *Bulletin of Latin American Research, 35*(2), 147-164.

Frank, M. (2008). *Cuba grapples with growing inequality. Reuters*, April 10. https://www.reuters.com/article/us-cuba-reform-inequality-idUSN1033501920080410

Granma (2019). *Aprueba Gobierno cubano medidas para impulsar la economía*. June 27. http://www.granma.cu/cuba/2019-06-27/aprueba-gobierno-cubano-medidas-para-impulsar-la-economia-27-06-2019-19-06-20

Granma (2020). *En vivo: Presidente y Primer Ministro de Cuba en la Mesa Redonda.* October 8. http://www.granma.cu/cuba/2020-10-08/participaran-presidente-y-primer-ministro-de-cuba-en-la-mesa-redonda-08-10-2020-08-10-06

Hansing, K. (2017). Race and Inequality in the New Cuba: Reasons, Dynamics, and Manifestations. *An International Quarterly, 84*(2), 331-349.

Hansing, K., & Orozco, M. (2014). *The Role and Impact of Remittances on Small Business Development During Cuba's Current Economic Reforms*, Working paper, no. 69, Freie Universität Berlin.

Hellwig, Z. (1968). Usage of taxonomic methods for the typological divisions countries. *Stat Overview, 15*(4), 307-327.

International Labour Organization (2019). *Global Wage Report 2018/19*. https://www.ilo.org/global/research/global-reports/global-wage-report/2018/lang--en/index.htm.

International Monetary Fund (2017). *Migration and Remittances in Latin America and the Caribbean: Engines of Growth and Macro-*

economic Stabilizers? IMF Working Papers WP/17/144. https://www.imf.org/en/Publications/WP/Issues/2017/06/29/Migration-and-Remittances-in-Latin-America-and-the-Caribbean-Engines-of-Growth-and-44956

Kaufmann Purcell, S. (1991/92). Collapsing Cuba. *Foreign Affairs, 71*(1), 130-145.

Kahn, C. (2015). *Internet Access Expands In Cuba — For Those Who Can Afford It*, National Public Radio, October 6, https://www.npr.org/programs/morning-edition/2015/10/06/446230012

Kingstone, P. (2018). *The Political Economy of Latin America*. Routledge.

Kovácsy, T. (1999). Kuba: helyben járás mindhalálig. *Beszélő, 6*(1). http://beszelo.c3.hu/cikkek/kuba-helyben-jaras-mindhalalig.

Kornai, J. (1980). *Economics of shortage.* Vol. A-B. Amsterdam: North-Holland.

Mesa-Lago, C. (2002) *Growing Economic and Social Disparities in Cuba: Impact and Recommendations for Change*. Institute for Cuban and Cuban-American Studies, University of Miami, Available Online: http://www.cubastudygroup.org/index.cfm/files/serve?File_id=162616df-1b89-4537-be55-b107e9e37bef

González Alonso, P., & Lee, A. (2016). *The Potential and Pitfalls of Doing Business in Cuba.* Harvard Business Review. https://hbr.org/2016/03/the-potential-and-pitfalls-of-doing-business-in-cuba

Mesa-Lago, C. (2015). La desigualdad del ingreso y la experiencia de América Latina. *Temas* (84), 22-30.

Morris, E. (2014). Unexpected Cuba. *New Left Review*, *88*, 5-45.

Nagy, S. G., & Drexler, A. (2017) Kubai–amerikai kapcsolatok az Obama-adminisztráció alatt. *Külügyi Szemle* 16 (Különszám), 69-90.

NUMBEO *Cost of Living in Cuba*. https://www.numbeo.com/cost-of-living/country_result.jsp?country=Cuba

Oficina Nacional de Estadística e Información (2017). *Panorama Económico y Social. Cuba 2016.* República de Cuba, April 24. http://www.one.cu/publicaciones/08informacion/panorama2016/Panorama2016.pdf

Perelló, J. L. (2019). *Se recupera el Turismo en Cuba al despedir el 2018.* Excelencias Cuba, January 16. https://www.excelenciascuba.com/es/turismo-turismo-cubano-por-dentro/se-recupera-el-turismo-en-cuba-al-despedir-el-2018

Pineo, R. (2019). Cuban Public Healthcare: A Model of Success for Developing Nations. *Journal of Developing Societies*, *35*(1), 16-61.

Population Pyramid (2018). *Cuba 2018*. https://www.populationpyramid.net/cuba/2018/

Rapoza, K. (2016). *Guess How Much Cubans Earn per Month.* Forbes, April 26. https://www.forbes.com/sites/kenrapoza/2016/04/26/guess-how-much-cubans-earn-per-month/#559f698d67a5

Rodriguez Calderon, M. (1995). Life in the Special Period. *NACLA Report on the Americas, 29*(2), 18-19.

Roland, L. K. (2013). Tracing Belonging through Cuban Tourism. *Cultural Anthropology, 28*(3), 396-419.

Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research Methods for Business Students*. Pearson.

Stusser, R. J. (2012). Access to Human Health, Freedoms and Other Stan-

dard of Living Development in Cuba. *Cuba in Transition,* 22, 315-331. Available at: *ASCE.* https://www.ascecuba.org/c/wp-content/uploads/2014/09/v22-stusser.pdf

Sweig, J. E. (2007). Fidel's Final Victory. *Foreign Affairs, 86*(1), 39-56.

Sweig, J. E. and Bustamante, M. J. (2013). Cuba After Communism - The Economics Reforms That Are Transforming the Island. *Foreign Affairs, 92*(4), 101-114.

The Havana Consulting Group and Tech (2017). *Remittances to Cuba in 2016 Grow by 2.7%.* July 20. http://www.thehavanaconsultinggroup.com/enUS/Articles/Article/30

The Havana Consulting Group and Tech (2018*). Remittances to Cuba Diversify and Heat up the Payment Channels.* March 3. http://www.thehavanaconsultinggroup.com/enUS/Articles/Article/63

The World Bank (2019a) *GDP/Capita (Current US$), Cuba, United States*. https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?end=2018&locations=CU-US&start=1970

The World Bank Group (2019b). *Life expectancy at birth.* https://data.worldbank.org/indicator/SP.DYN.LE00.IN

The World Bank Group (2019c). *Personal remittances, received (% of GDP).* https://data.worldbank.org/indicator/BX.TRF.PWKR.DT.GD.ZS?most_recent_value_desc=true

The World Bank Group (2019d). *World Development Indicators: GINI-index*. https://databank.worldbank.org/data/reports.aspx?source=2&series=SI.POV.GINI&country=

Toro, F. (2015). *Cuba Is Hoping to Replace Venezuelan Oil with American*

Tourists. Five Thirty Eight, January 16. http://fivethirtyeight.com/features/cuba-is-hoping-to-replace-venezuelan-oil-with-american-tourists/

Totten, M.J. (2014). Letter from Cuba: To Embargo or Not. *World Affairs, 176*(6), 31-37.

Ward, M. and Devereux, J. (2012). The Road Not Taken: Pre-Revolutionary Cuban Living Standards in Comparative Perspective. *The Journal of Economic History, 72*(1), 104-133.

Annex 1: Spearman Correlation Matrix

	Gender	Ethnic origin	Age	Highest level of education	Occupation	Place of residence	Type of residence	Ownership of residence	No. of people living in the same household	Official, legal income (CUP)	Incoming unilateral transfers (CUP)	Other, illegal income (CUP)
Gender	1,000											
Ethnic origin	0,016	1,000										
Age	,384**	0,097	1,000									
Highest level of education	-,148*	-0,013	-,334**	1,000								
Occupation	0,109	-,163*	,515**	-,262**	1,000							
Place of residence	-0,041	,216**	-,139*	0,095	-0,084	1,000						
Type of residence	-0,031	-,259**	-0,002	0,017	-0,075	-,301**	1,000					
Ownership of residence	0,086	0,041	,200**	0,048	,173**	-0,070	-0,111	1,000				
No. of people living in the same household	0,019	,263**	-0,065	-0,057	-0,026	,253**	-,196**	-0,068	1,000			
Official, legal income (CUP)	-,349**	-0,061	-,487**	,528**	-,271**	-0,053	0,018	-0,042	-0,042	1,000		
Incoming unilateral transfers (CUP)	0,066	0,322	-0,044	-0,120	-0,125	-0,051	-,399*	-0,317	-0,024	0,261	1,000	
Other, illegal income (CUP)	-0,133	-0,059	-0,172	-0,074	-,393**	-0,070	0,029	-,256*	-0,092	-0,176	0,000	1,000

Source: authors' calculations

Annex 2: Test of Between-Subjects Effects at Official, Legal Income

Tests of Between-Subjects Effects

Dependent Variable:

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1053731165,597[a]	84	12544418,638	34,723	0,000	0,959
Intercept	68129235,755	1	68129235,755	188,581	0,000	0,599
Gender	514964,650	1	514964,650	1,425	0,235	0,011
Ethnic origin	25581666,503	2	12790833,252	35,405	0,000	0,360
Highest level of education	67997000,762	2	33998500,381	94,108	0,000	0,599
Occupation	19427300,544	3	6475766,848	17,925	0,000	0,299
Place of residence	433784,413	1	433784,413	1,201	0,275	0,009
Type of residence	11422062,372	2	5711031,186	15,808	0,000	0,201
Gender * Ethnic origin	240367,195	2	120183,598	0,333	0,718	0,005
Gender * Highest level of education	401960,937	2	200980,468	0,556	0,575	0,009
Gender * Occupation	84913,670	1	84913,670	0,235	0,629	0,002
Gender * Place of residence	0,000	0				0,000
Gender * Type of residence	474979,484	2	237489,742	0,657	0,520	0,010
Ethnic origin * Highest level of education	438047,319	4	109511,830	0,303	0,875	0,010
Ethnic origin * Occupation	4865183,618	3	1621727,873	4,489	0,005	0,097
Ethnic origin * Place of residence	0,000	0				0,000
Ethnic origin * Type of residence	78538777,358	4	19634694,340	54,349	0,000	0,633
Highest level of education * Occupation	76259,411	2	38129,705	0,106	0,900	0,002
Highest level of education * Place of residence	0,000	0				0,000
Highest level of education * Type of residence	235022,880	3	78340,960	0,217	0,885	0,005
Occupation * Place of residence	0,000	0				0,000
Occupation * Type of residence	778520,318	3	259506,773	0,718	0,543	0,017
Place of residence * Type of residence	15602,500	1	15602,500	0,043	0,836	0,000
Error	45520299,531	126	361272,219			
Total	1347915093,000	211				
Corrected Total	1099251465,128	210				

a. R Squared = ,959 (Adjusted R Squared = ,931)

Source: authors' calculations