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The Distribution of the Cost of Cuban Social Reproduction in 2016:

The Relative Contributions of Domestic and Diasporic Households, the Private Sector and the State

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Abstract

Drawing on feminist political economy and social reproduction theory, we propose an accounting framework for understanding the distributional role of household production, employment, remittances and government social transfers in the social reproduction of the Cuban people. We apply this quantitative framework to available data and produce estimates for 2016. Our findings demonstrate that households—both domestic and diasporic—were the largest contributors to social reproduction in Cuba. Our empirical exercise reveals how the actual distributional arrangements underlying Cuban social reproduction differ from the official commitments and goals of the Cuban Revolution. The relative contributions in 2016 signal several potentially unsustainable self-reinforcing dynamics that undermine efforts to achieve gender and racial equality on the Island.

Keywords: social reproduction, distribution, state, household production, remittances, Cuba

1. Introduction

Social reproduction theory (SRT) has emerged as a feminist framework for social research in capitalist countries, in both the Global North and South (Bakker 2007, Mezzadri 2019, Bhattacharya 2017).¹ SRT provides a framework to elucidate how production and reproduction interweave and facilitate the processes that allow labour power—the human capacity to work—to be replenished, both daily and intergenerationally. The social reproduction of labour power is a gendered process co-constructed with systems of oppression based on race, socioeconomic status, citizenship, and other social categories in which those relations are embedded. Based on the conviction that social oppressions are systemic and ‘grounded in capitalism’s necessary-but-

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contradictory' relationship between production and reproduction, social reproduction feminists analyse the institutional sites and conditions under which social reproduction occurs (Ferguson 2020, p. 121).

Many SRT scholars emphasise that social analyses from this perspective offer a path for a transformative agenda towards a post-capitalist future (Bhattacharya 2017, Jaffe 2020, Ferguson 2020). Yet theoretical references to how social reproduction will be—or already has been—developed in non-capitalist or socialist economies are sparse.² Jaffe (2020, p. 129) argues that the possibility of providing 'an account of social reproduction of non-capitalist societies' will require a 'different notion of value.' Gimenez (2019, p. 306) considers *socialist social reproduction*—in which the 'satisfaction of the material needs and self-development of direct producers would determine the objectives of production'—in opposition to *capitalist social reproduction*. The underdevelopment of theories of post-capitalist social reproduction is related to the dearth of alternative models in concrete historical experiences. Furthermore, among SRT scholars such as Bhattacharya (2017), Jaffe (2020) and Ferguson (2020) there is a consensus that past and current self-denominated socialist countries were never actually socialist. They argue that a necessary condition in a post-capitalist society—that the producers of surplus would determine its production and distribution—has not been met.

Following Pearson (1998), we believe that despite its development for analysis of the capitalist world, the SRT framework is useful for studying contemporary Cuba. While a precise classification of the Cuban economic, social and political system is a subject of ongoing debate—with some considering it state socialism, state capitalism, a mixed economy, or 'in transition' to socialism—the official position of the Cuban state is that the system is socialist (Fuentes-Ramirez 2016).³ For this reason, we believe that understanding the institutional organization and distribution of social reproduction in Cuba fills an important gap in the SRT literature as well as studies of Cuban political economy. Our goal is to evaluate the extent to which the Cuban state is meeting its original commitments to Cuban social reproduction in the post-2010-reform era. Since 1959, and notwithstanding major crises and reforms, the Cuban state continues to define its revolutionary role as the main provider, distributor and guarantor of social reproduction (Castro 2021 [2016]; see also Torres Santana and Guanche 2021). An understanding of who bears the cost of social reproduction—and how they fulfil this

commitment—is vital to grasping the role of the Cuban state while also grappling with the political-economic significance of women’s work to sustain individuals, households and the system more generally.

Like other scholars, we envision production and reproduction as interconnected processes that occur across multiple institutions—the family, community, market and state. We draw from one of the traditions in the social reproduction literature that aims to ‘foreground women’s socially necessary activities in empirical terms and to challenge gender-blind, implicitly masculinist approaches’ in the social sciences (Winders and Smith 2019, p.877).⁴ Our empirical approach draws inspiration from Moos (2021), which proposes a feminist-Marxian accounting framework for estimating the aggregate annual cost of social reproduction in the United States using national income accounts and an imputed value of household production based on time use data.⁵

We propose an accounting framework for understanding the distributional role of household production, employment, remittances and government social transfers in the social reproduction of the Cuban people. Using available data from various sources, such as official Statistical Yearbooks, the National Survey of Gender Equality report (2016) and selected scholarly publications such as Vidal (2020, 2017), we provide a snapshot for 2016. While data limitations only allow us to estimate a single year, we believe that our quantitative framework provides insight for a qualitative conceptualisation and analysis of the changing distribution of social reproduction in Cuba, especially regarding changes in state provisioning and employment.

In reformulating this method and research question for the Cuban case, we focus on what Pearson (1998) described as the ‘social reproduction bargain.’ Our findings demonstrate that households—both domestic and diasporic—were the largest contributors to social reproduction in Cuba. The distribution of social reproduction in 2016 implies several potentially unsustainable self-reinforcing dynamics that undermine efforts to achieve gender and racial equality on the Island. The actual distributional arrangement among families, communities, the market and the state differs from the official commitments and goals of the Cuban Revolution. We argue that the current system of social reproduction is increasingly unstable and potentially unsustainable. Following Pearson (1998, 1997), we argue that the transformations in the distribution of the costs

of social reproduction in Cuba since the special period of the 1990s—the severe crisis following the collapse of the Soviet Union—have had consequences for the legitimacy of and support for the Cuban government and Revolution.

This paper makes the following contributions to the literature. First, as already discussed, understanding how labour power is socially reproduced in Cuba—or any self-described socialist country—is an underdeveloped area of research. We draw inspiration from Pearson (1998, 1997) and the empirical tools from feminist-Marxian economics as developed by Moos (2021). Second, while Cuban gender studies emerged in the 1990s, there is a general consensus that it lacks a ‘gender theory’ and has an ‘inclination to focus almost exclusively on the achievements of the Cuban Revolution, and to hide its flaws’ (Dore 2020, p. 3). Before the Covid-19 pandemic, a misleading notion of clear boundaries between private and public spheres and between production and reproduction persisted in Cuban gender research.⁶ There is an insufficient accounting of the household as a site of reproduction, and therefore of unpaid domestic and care work. With a few notable exceptions such as Junco (2013), households’ contributions to the reproduction of the overall system have rarely been analysed or documented. An SRT framework allows us to bring these historically ignored areas to light and illustrate how the costs of social reproduction are distributed in a self-described socialist context.

The rest of the paper is structured as follows. Section 2 conceptualises the cost of Cuban social reproduction, defines the components and outlines the ‘ideal variables’ abstracting from data limitations. Section 3 operationalises this social reproduction accounting framework by identifying the variables that best approximate the main components and using data to estimate proxies for the cost of social reproduction in 2016. Section 4 discusses the implications for the distribution of responsibilities for Cuban social reproduction. Section 5 offers concluding remarks and suggests areas of future research.

2. Conceptualising the Cost of Cuban Social Reproduction

The empirical method we employ to measure the cost of social reproduction is a consumption-based approach. Rather than identifying social reproduction by focusing on the content of the

labour process of certain types of work, we conceptualise the cost of social reproduction of labour power as the total of societal resources that are available to individuals and households to socially reproduce themselves on a daily and generational basis. This includes remuneration from waged work, social benefits provided by the state, money sent from family abroad in the form of remittances and the imputed value of unpaid household production.

This is a commodious conception of social reproduction. It is distinct from gross domestic product (GDP), value, or other common measures of the economy by mainstream or heterodox economists. We consider labour's social reproduction—rather than material output, profits, or other indicators—the central story of political-economic relations and processes. An objective of our research is to disrupt traditional definitions of consumption and investment within political economy. Our work contributes to the feminist literature that has expanded the understanding of social reproduction beyond the domestic sphere (Bhattacharya 2017, Ferguson 2020). We include resources that workers consume for the satisfaction of their basic needs—including public spending on education, health, recreation, infrastructure and so on. Resources devoted to capital generation for businesses that exploit labour and those that reproduce the state are systematically excluded from our conception of the social reproduction of labour power.

The components of the Cuban Cost of Social Reproduction (CCSR) can be represented by the following equation:

$$CCSR = HP + REM + GovBen + Remtt \quad (1)$$

Each component comprises:

$$HP = UCWH + UCWOH + HOUP \quad (2)$$

$$REM = RSOW + RNSW + RIW \quad (3)$$

$$GovBen = UB + SA \quad (4)$$

$$Remtt = \xi(\tau M + NM) \quad (5)$$

In equation 2, HP is the imputed value of household production and includes all the unpaid care work done within households for household members (UCWH), unpaid care work done for the community and other household members (UCWOH), and household own-use production (HOUP), which includes rural and urban subsistence. The second component, REM (equation 3), includes all remuneration of the state-owned and non-state sectors (RSOW and RNSW, respectively), and the remuneration from the informal sector (RIW). Following Echevarría León and Peñas Farias (2021) we define the informal sector (RIW) as including both workers who receive income only from informal labour as well as those who receive complementary income from informal labour in addition to or as part of their formal employment. We assume that workers use all their earned income for social reproduction purposes. Government benefits (equation 4) includes universal benefits (UB) and focalised services, such as social assistance (SA), but excludes spending on public administration and security. Remittances (equation 5) includes both monetary and non-monetary estimates of remittances that have social reproduction purposes. The parameters τ and ξ represent the share of remittances destined for social reproduction purposes and the exchange rate, respectively. The former is a value between 0 and 1 and is contextually contingent.

The compensation of workers and state spending on social benefits—the second and third components of equation (1)—are the classic focus of distributive arrangements and class struggle. Household production has been largely ignored in this general scheme—except by feminist scholars—despite its contribution to workers’ consumption and overall economic activity (see Moos 2021b). While we agree with Himmelweit and Mohun (1978) that unpaid domestic work does not produce surplus value in an orthodox Marxian sense, we believe that unpaid household production works to subsidise other institutions—such as the state or private employers—and cushion workers’ consumption when redistributive processes are otherwise lacking.⁷ Remittances capture one part of the globalised nature of social reproduction. From the perspective of the country that sends migrants and receives cash and goods, remittances increase the total resources available for social reproduction in the home country. Migration also represents the transfer of labour power that was (initially) socially reproduced in one country but is employed in another. Katz (2001, p. 710) describes this as a ‘direct transfer of wealth’ from

poor countries to rich ones, as part of a larger phenomenon of the ‘shunting of responsibility’ of social reproduction across national boundaries.

3. Measuring the Cuban Cost of Social Reproduction: Method and Data

An empirical analysis of the cost of Cuban social reproduction presents several data challenges. The Cuban economy is complex, consisting of both formal and informal employment, a large state sector and numerous social arrangements that are not well-documented by official statistics. Furthermore, data collection in Cuba is sparse and not always published. We made various conceptual choices to work within the limitations of available data on the Cuban economy. We selected proxies for the various components and note their limitations explicitly. Although both are significant in the Cuban economy, we are unable to create a proxy for the informal sector or distinguish between state and private remuneration, as there are no reliable data. Nevertheless, we have produced an estimate for the cost of social reproduction in 2016, based on a simplified version of the accounting framework described in section 2.

We chose the year 2016 not because of historical or political significance, but because it is the only year in which nationally representative data for time use is available, enabling us to impute a value for household production. However, studying this year allows us to investigate the social reproduction bargain after the 1990s crisis and the ensuing period of reform. By 2016, Cuban society had changed importantly from before the 1990s ‘special period.’ Many immediate policy changes, such as the expansion of the non-state sector, were accomplished through decree, and described as ‘temporary’ and ‘experimental.’ In 2008, Raul Castro’s reform attempted to make many of these changes permanent, a process that culminated in 2011 with the approval of the official reform guidelines. During this period, policy changes reorganised the reproductive bargain, emphasising the role of individuals and the private market. Yet, official discourse remained ambivalent and contradictory in recognising these changes, often implying the Cuban state was still committed to the ‘old’ social contract (Torres Santana and Guanche 2021). Economic reforms after 2011 demonstrate the ambivalent and contradictory goals of Cuban social and economic policy, exemplified by the inconsistency between private and public provisioning to meet the Island’s basic needs.

3.1 Monetary duality

The existence of monetary duality from 1994 to 2021 complicates our analysis. In 2016, there were two national currencies—the Cuban Convertible Peso (CUC) and the Cuban Peso (CUP). There were also two exchange rates operating in the Cuban economy in two different sectors. The ‘official’ exchange rate of 1 CUC = 1 CUP = 1 USD applied in state spending and state businesses, mixed capital, banks, rationed consumption markets and public services. From 2005 to 2021, a ‘parallel’ exchange rate of 1 CUC = 24 CUP operated in agricultural markets, small private enterprises, cooperatives, and goods and services produced by self-employed Cubans (Vidal 2020, p. 100).

Monetary duality affects our estimates of each component of the CCSR, as it does official estimates of GDP.⁸ To correct for this, we apply the ‘average nominal exchange rate’ proposed by Vidal (2017) to our estimates of all components except for remittances. We follow Vidal (2017) in assuming that, on average, 94 per cent of the monetary values of the economy were made in economic circuits that operated with the official exchange rate and 6 per cent were conducted in economic circuits that operated with the parallel exchange rate. For household production, government benefits and remunerations, we multiply 6 per cent of each component by 24, to account for the value of these components in the parallel exchange rate. We add this to the remaining 94 per cent of each of these components, which we assume was conducted in economic circuits with the official exchange rate. For more details on this method, see Appendix B. For remittances, we multiply the estimate by 24, as remittances were received in USD, exchanged into CUP, and spent in markets using the parallel exchange rate.

3.2 Imputed value of household production

In 2016, a nationally representative survey of gender equality (ENIG by its Spanish acronym) that included a module on time use was conducted. The time use survey follows a limited list of activities, including direct care, indirect care, and non-working activities. We use data provided by a report by the Centre of Woman Studies (Cuban Women Federation) and the Centre of Population and Development (2018) on the results of this 2016 survey, as the raw data of the survey is not publicly available.

Table 1 presents the results using the ‘specialist’ method, which multiplies hours of unpaid household production by the average wages in corresponding economic sectors. For example, hours spent cooking are multiplied by the average wage of the economic sector in which cooking services are included (see Table A.5 in Appendix for details). As with many other estimates in the Global South, we abstract from the value of intermediate goods, and instead consider labour as a ‘rough indication of the value added by household production’ (Budlender and Brathaug 2002, p. 5). Due to data limitations, our imputation of the value of domestic work is based on estimated average hourly wage in the state sector, which we compute using available data on average monthly salaries in the Statistical Yearbook and hours of weekly employment from the ENIG time use information.

[TABLE 1 ABOUT HERE]

The imputed value of household production should be understood as a conservative, lower-bound estimate for several reasons. First, our estimate of unpaid care hours does not account for ‘supervisory care’ such as watching children or other dependents while doing other ‘primary’ activities, nor for interpersonal, emotional, and intimate forms of caring labour (see Moos 2021, p.10). Second, we chose the specialist imputation approach, which produces lower estimates than the generalist approach, as wages for care-related work are lower than the overall average wage. Third, due to data limitations, we use average wages for care work in the state-owned sector, but the prices of care-related services are substantially higher and heterogeneous in the non-state sector.⁹ Fourth, wages reported by official statistics do not include other payments some workers received by different means, such as in-kind salary benefits or its equivalent in CUC. If it were possible to incorporate all these factors, the imputed value would be substantially higher. To correct for some of these issues, particularly those that result from monetary duality, we multiply the sum by the average nominal exchange rate as developed by Vidal (2017).

See Appendix A for more detailed time use and wage data, including time spent by activity, the average weekly time devoted by women and men to paid, unpaid and total work time by

employment status, more details on imputation method and calculation, and alternative household production estimates based on different assumptions.

3.3 Remittances

The total value of remittances sent to Cuba is highly contested. No official estimates are available except for the period 1993–2001, when the National Statistics Office published a disaggregated series within the balance of payments (Vidal 2022). The more recent series of remittances is provided by Vidal (2022) using different sources. In the year 2016, information comes from the Havana Consulting Group (THCG), which provides an estimate for remittances sent as cash and goods.¹⁰ Based on this data, we produce an estimate of the total annual value for remittances in 2016 that includes both monetary and non-monetary contributions to the social reproduction of Cuban households on the Island.

In 2016, an estimated 56 per cent of cash remittances arrived by formal means such as Western Union (THCG 2017). The remittances received from formal channels had a one-to-one parity between the US dollar (USD) and the Convertible Cuban Currency (CUC); transaction cost was not considered. In the informal exchange market, 1 USD was typically equivalent to 0.95 CUC, but it could vary. We have assumed that the estimated value is a ‘net value,’ meaning it does not include any other costs of transactions and already includes the estimation of flows coming from both formal and informal channels. Because the CUC had a fixed exchange rate of 24 CUP, we multiplied the estimated value of remittances by 24 to convert it from USD to CUP.

Historically, almost all remittances sent from Cubans in the diaspora had the purpose of socially reproducing Cubans on the Island (Munster 2014, Orozco 2009). Since the more recent expansion of the non-state sector, remittances have also been used as seed capital for small businesses. Information about the shares of remittances used for business purposes is ambiguous, however, being based on case studies or surveys of non-statistically significant sample sizes conducted by different scholars. For example, according to Munster Infante (2013), a survey conducted by Manuel Orozco in 2009 found that approximately 5 per cent of remittances were used to start a private business. More recently, Delgado Vázquez’s (2016) survey of 74 families suggests that in 2015 a much higher proportion of remittances—44.6 per cent—was used as

capital for private business purposes, which is consistent with the expansion of the private tourism sector and the entrance of AirBnB in Cuba. For this reason, the parameter τ , which represents the proportion of remittances intended for social reproduction purposes, changes across time and depends on the political-economic context. It is plausible to assume that in 2016 it was close to 0.554. In other periods, such as during the economic and social crisis exacerbated by the Covid-19 pandemic and the upsurge of US sanctions, it may be very close to or equal to 1.¹¹

[TABLE 2 ABOUT HERE]

3.4 Remuneration of workers

Informality has become a significant source of income for formal and informal workers on the Island, with relevant consequences for the redistributive process.¹² As is the case in much of the Global South, there are no data available for Cuba's informal sector. Additionally, there are no public official statistics that report the remuneration of workers in the non-state sector, particularly the private and own-account sector, separate from the remuneration of public sector workers. However, some proxies can be selected to roughly calculate the remuneration of workers, even if they underestimate the size of the economy by excluding the informal sector.

The 2021 Cuba Statistical Yearbook reports the GDP components using the income method. The variable 'Remuneration of workers' includes the wages and salaries earned by workers, allowances and expenses on work trips and the contribution to social security. It does not include other payments such as profits redistribution among workers or in-kind benefits such as free meals: therefore, it is an underestimated proxy. The variable refers to all formal workers in the economy, including the private, non-state sector.¹³ Therefore, the variable includes the wages of 'hired' workers in the private sector, identified in the official (non-public) surveys. It does not include the remuneration of business owners.

Despite the exclusion of the informal sector and the inability to distinguish between state and non-state workers' remuneration, we use this data to provide an estimate of total gross wages.

We subtract the contribution to social security from the workers' remuneration variable and a personal income tax.

[TABLE 3 ABOUT HERE]

We allocate the total of net remuneration of workers to social reproduction for the following reasons. Formal wages in Cuba have low purchasing power and have decreased as a share of total income, particularly for workers in the state-owned sector (Galtes 2017). In 2016, wages represented only 46 per cent of family income (Galtes 2017, cited in Rodriguez 2016). It is unlikely that households can allocate savings from wages to purposes other than social reproduction. Business financing is more likely to be financed from remittances, assets, and savings from income sources such as informal work or non-wage income in sectors with access to foreign currency, such as tourism (Torres *et al.* 2021).

3.5 Government benefits

This component includes both universal benefits and focalised services but excludes spending on public administration and security. Within universal benefits, we consider public spending in the following sectors: education, public health, science and technological innovation, culture and sports, and other activities of communal, association and personal services. Focalised government spending includes social assistance and social security. As the Cuban government supports social reproduction by subsidising basic consumption goods such as electricity, transportation, staple foods, and other items, we also include the 'Price and Product Subsidies' category. This comprises the transfer of state budget resources to subsidise relatively low prices of services and utilities, including the rationing system (the so-called *libreta*). Table 4 shows the quantities of each category for 2016.

[TABLE 4 ABOUT HERE]

Much of Cuba's public expenditures are financed by revenues from state-owned enterprises. However, social security is also funded from a direct tax on workers' wages, which we subtract from total remuneration. The amount and type of contribution vary according to the form of organisation of production of workers (see Colina Hernández 2020).

The duality of exchange rates lowers official estimates of government benefits. Social welfare spending necessitates both domestically produced goods and services as well as imported goods. For example, government spending on healthcare requires imported medical equipment that is paid for in USD. In official statistics, outlays on imports are recorded with the official exchange rate of 1 USD = 1 CUC = 1 CUP. They are then combined with outlays on domestically produced goods and services and reported in ‘total currency.’ This means that inputs are undervalued when converted to the official exchange rate, thus underestimating the true value of government services. We are unable to address this because available statistics do not make it possible to distinguish between imported or domestic inputs to government services, which is why we adjust it using Vidal’s (2017) nominal average exchange rate.

Following the framework that Moos (2021) proposed for the US case, we exclude spending on military, security and police from government benefits received by the working class, as these expenditures represent reproduction of the state, not working-class labour power. This approach contradicts the official view of the Cuban state—that the Cuban military represents a legitimate defence against imperialism and external threats to national sovereignty and is therefore crucial to the social reproduction of the Cuban people.¹⁴ Similarly, some may argue that the role of police in a capitalist country—state apparatus that disciplines and controls the working class—is distinct in the Cuban context, especially in light of reforms and community policing. However, in Cuba, state institutions such as the police have been used to repress social and political discontent, including recent political demonstrations in response to severe crises and ineffective reforms. Regardless of how distinct the Cuban context is from the US, we agree that spending on military, police and security represents the costs of reproducing the state—not the reproduction of working-class labour power—and therefore do not constitute government social benefits.

We have assumed, but not developed, the importance of external factors as given constraints on the performance of Cuban sites of social reproduction—including the state. The historical and ongoing US sanctions against Cuba have imposed severe limitations on the possibilities of the Cuban economy to carry out regular trade, investment, and exchange necessary for greater economic development (OXFAM 2021). The Cuban economy has also been structurally

dependent on foreign countries—such as the Soviet Union and Venezuela—making the Island extremely vulnerable to external shocks and international crises. While we do not minimise the role of external influences, our decision to focus on internal issues is based on the premise that the Cuban government and citizenry have more power to transform the socioeconomic conditions on the Island.

4. Results and Discussion

Our empirical results, presented in Table 5, do not imply a stable or sustainable system of social reproduction. The distribution of responsibility for Cuban social reproduction in 2016 depicts a society that has become increasingly unstable and unequal among gender and racial groups. There are several self-reinforcing dynamics apparent in the current social reproductive bargain that, if not addressed, could further threaten the Island's daily, generational and societal social reproduction.

[TABLE 5 ABOUT HERE]

Together domestic and diasporic households contribute the most to the social reproduction of Cuban labour power. Household production, which is inherently gendered and unequal, represents 31 per cent, based on a lower-bound conservative estimate. Remittances, both cash and in-kind, represents 27 per cent, which implies a particular vulnerability in terms of gender and racial equity, stability and sustainability. The relative contribution of net government social benefits represents 23 per cent. Net remuneration of formal workers in the public and private sectors represents 19 per cent, with the exclusion of informal labour contributing to its underestimation. The two latter components should be carefully contextualised and understood in terms of growing and diversified civil society that questions the legitimacy of the Cuban state.

As elsewhere in the world, the role of household labour in maintaining and sustaining Cuban society and economy is based in gender inequality. In 2016, Cuban women spent on average 36 hours a week on domestic labour and direct care work, whereas men spent an average of 22.6 hours a week (see Appendix A for detailed results of the time use survey). While the Revolution

brought important gains for Cuban women and girls in terms of education, employment and access to healthcare, it failed to denaturalise their role in household production or redistribute unpaid domestic work more fairly between the sexes.

This reliance on women's unpaid labour should not be assumed to be permanent. Cuban women have been asked to do remarkable things to ensure social reproduction despite severe economic crisis, stagnating wages, deteriorating social benefits, food and medicine shortages and other material challenges. But it should not be assumed that their willingness or ability to provide this labour is infinite. As Elson (1998) notes:

The domestic sector is most often seen as the absorber of such [private and public sectors] shocks, the safety net of last resort. But ... this is a one-sided view of the domestic sector. Its capacity to absorb and compensate for malfunctions elsewhere in the system is not unlimited. It can be undermined by lack of resources, insecurity and demoralisation; and in return it will be unable to supply, or at least will resist supplying, the demand, the labour, the intangible social assets that the public and private sectors need to reform and recover. (p.199)

It cannot be assumed that an ongoing reliance on domestic households will continue without further renegotiation of the social reproduction bargain within households and between households and the state. Until these renegotiations occur, the role of household production should be understood as an inherently unequal, and potentially unstable, aspect of the Cuban distribution of social reproduction.

The relatively high contribution of remittances points towards an unsustainable social reproduction strategy on the individual and societal level. First, as more resources come from remittances, the motivation to emigrate may intensify.¹⁵ As emigration patterns persist and birth rates continue to decline, this may exacerbate self-reinforcing crises of social reproduction that are not easily managed by social or economic policy. Second, for those who stay on the Island, remittances are subject to fluctuations due to political manoeuvres such as strict limitations—

imposed under President Trump and lifted by President Biden—as well as economic pressures faced by families abroad, such as joblessness and inflation.¹⁶ Our results imply that the second largest contributor to social reproduction in 2016 is inherently volatile and has the strong potential to create negative feedback loops.

The growth of remittances has increased economic inequality on the Island, particularly among racial groups. The Revolution had early success in addressing racial inequality—although not as completely as the official discourse claims. However, the racial dynamics of those who emigrate—predominantly White—and the racial biases affecting wages in the receiving countries means that white Cubans on the Island are more likely to receive remittances and enjoy a higher standard of living than Black Cubans (Hansing and Hoffmann 2019).

The interaction between remittances and care work also implies a system of inequality along gender and racial lines. Remittances are often used to subsidise unpaid and paid care work, which serves as another pathway for increasing gender and racial inequality. For some families, remittances allow a family member—usually a woman—to leave paid employment to care for her family. In this case, the diasporic household is subsidising the unpaid labour of the caregiver on the Island. This potentially threatens to undo some of Cuban women’s gains since the Revolution in terms of labour force participation (Stavropoulou *et al.* 2020, Maqueira Linares and Torres Santana 2021). Other families on the Island use remittances to employ paid caretakers and domestic workers. Access to remittances therefore means that, on average, White households have increased access to paid and unpaid care, whereas Black households are more likely to be employed caring for White Cubans (Herrera Fuentes 2021, 2023). In the absence of sufficient publicly provided care services—and given the racial disparities of families with access to remittances and the persistence of women’s role as paid and unpaid carers—the use of remittances for directly or indirectly funding caring labour increases inequality on the Island along gendered and racial lines.

It is important to understand the social relations underlying remittances through the lens of gender and socially reproductive work. As noted by Pearson (1998, p. 254), an important social reproduction strategy for households during the economic crisis was ‘the reactivation of links

with overseas family members.’ Maintaining close relationships and communication represents time, energy and commitment that are part and parcel of social reproductive labour (Kunz 2010). These additional social reproduction responsibilities often fall to women, who in many families take on the role of maintaining relationships with family and friends abroad even with limited access to internet or postal services. While we cannot evaluate all aspects of remittances from a gender perspective—such as the relative generosity of Cuban men and women in the diaspora—we do know that women are often responsible for maintaining kinship ties and arranging for paid care for family members. However this effort is not included in our quantitative estimates of household production.

Given the official commitments of the Cuban Revolution, government social benefits represent a relatively small percentage of Cuban social reproduction. As the non-state sector grows in terms of overall employment, the role of the state is diminished even further. Our results support the perception among Cubans that social benefits are not contributing enough to household needs to counteract the deterioration in remunerations due to unsuccessful economic reforms. As Torres Ricardo (2021) has argued, the 2010 reform was more successful in reducing government spending than in generating economic growth or strengthening productive capacities.

The retrenchment of the Cuban state in social reproduction must be carefully contextualised. While a complete comparison to other case studies is outside the scope of this paper, we argue that the Cuban experience that we illustrate with data for 2016 should not be understood as the result of a neoliberal transformation, as the underlying process is distinct. In many capitalist countries—including the US—neoliberalism has meant a ‘simultaneous expansion and retrenchment of the state’ with regard to social reproduction (Modanesi and Teitelman 2017, p. 63; see also Moos 2021a). For example, pursuing a remittances-led development strategy, Mexico exhibits a contradictory role of the state in social reproduction that challenges the ‘(re)-privatization of social reproduction thesis’ (Kunz 2010). However, what the retrenchment of the Cuban state in social reproduction does share with neoliberal countries such as the US and Mexico is that the retrenchment has led to increased inequality, instability and social protests.

5. Conclusion

This paper developed an accounting framework for understanding the distribution of the cost of social reproduction in Cuba. We have illuminated key aspects of the reproductive bargain in 2016. Our results imply that the distribution of responsibility of social reproduction has become increasingly unequal and unstable. We argue that such a distribution may not be sustainable in the long term without renegotiations within the household as well as between civil society and the state.

Official state discourse—as articulated by Raul Castro (2021 [2016]) and elsewhere—still presupposes that the Cuban government is the greatest contributor to social reproduction, as promised by the revolutionary ideals of social justice and equality (Torres Santana and Guanche 2021). But the results of our empirical exercise for 2016 suggest that households—both domestic and diasporic—are the largest contributors to Cuba’s social reproduction. We believe that the discrepancy between official discourse—which still conveys a message anchored to the ‘old’ social contract—and people’s lived realities has important implications for the legitimacy of the Cuban state.

In the context of insufficient social provisioning by the state and inadequate remuneration from both private and public sector jobs, families are required to take on the lion’s share of responsibility for themselves. Our results for 2016 demonstrate what Pearson (1998) observed in the special period:

...people’s expectations not only of what the state will provide but also of how individuals’ entitlements and economic roles will be allocated and rewarded in the long term are undergoing profound modification. Cubans are having to take back into the family and the household a more active role in their long-term reproduction and make decisions which are a response to a rational rethink of what the Cuban revolution, as well as the economy, can offer...The current changes imply not just a change in the division

of responsibility between state and household for reproductive activities, but also, as we have seen, a gendered redistribution of these responsibilities which is part of the wider changes. (p.253-4)

As noted by Pearson (1998), the additional burden on households translates into a gendered allocation of those responsibilities. Our analysis also emphasises other areas of increasing inequality—particularly along racial lines—as well as increased instability and unsustainability of a social reproduction system dependent on household labour and remittances.

The discordance between the *real* and *imagined* social reproductive bargain in Cuba is a source of conflict and struggle. The widespread frustration regarding the deterioration of social benefits coupled with low wages have become even more salient in recent years. The mass protests on 11 July 2021 of the government’s management of the Covid-19 pandemic and reduction in social welfare were the largest in Cuba since 1959 (see Torres Santana and Guanche 2021 and LeoGrande 2021). This social unrest is a demonstration of how the ‘politics of consumption’ connect waged and unwaged workers’ ‘struggles over social reproduction’ (Modanesi and Teitelman 2017, p. 46). As Katz (2001, p. 718) notes, ‘History demonstrates that struggles over the accomplishment of social reproduction and who bears responsibility for it ebb and flow... and so the struggle continues and provides ripe grounds for expansion.’ In Cuba, the July 2021 protests led to partial rehabilitation of some of the most vulnerable communities as well as political repression of dissonance.

Since the Covid-19 pandemic, Cuban political discourse is slowly shifting towards greater recognition of women’s domestic labour—but not yet its redistribution or remuneration. The 2022 Cuban Family Code formally recognised household labour. The same year, an article in *Granma*, Cuba’s publication of record, described household labour as ‘productive’ (Silva Correa, 2022). In addition, feminist scholars such as those associated with the Cuban Network of Studies about Care have begun collaborating with the Ministry of Labour on a project called ‘Unpaid Work’ with the aim of creating an integrated, nationwide care system based on successful models such as Uruguay’s. In December 2023, the Cuban Ministry of Labour announced on

Twitter that the National System of Care had been approved, but did not specify what the program comprises or how it will be implemented (Feito Cabrera 2023). Both projects appear to be in a nascent phase, and little information is publicly available. Although efforts to formally recognise household labour are crucial first steps, they are not yet sufficient to advance a redistribution-remuneration agenda that would achieve greater gender or racial equality.

We hope that this paper will inspire a more critical analysis of the state's overreliance on the contributions of households, and the gender and racial implications of the current distribution of responsibility for social reproduction. These insights could inspire political demands for a more sustainable and equitable socially reproductive bargain. We also hope to inspire future research that further analyses the processes and politics of the renegotiation of the social reproductive bargain in Cuba as well as the disparities based on gender, race, income, age, disability status, area of residency, and other categories of social difference. There is much theoretical and empirical work to be done to illuminate how social reproduction bargains in self-described socialist societies have evolved over time, and what lessons we might draw from those histories as we work towards a post-capitalist future.

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Table 1: Imputed Value of Household Production in 2016 (Specialist Method)

	Imputed Value (Millions CUP)	% of GDP
Women	25,282.81	28%
Men	16,285.07	18%
Combined (unadjusted)	41,566.52	45%
Combined (adjusted)	98,928.31	—

Source: Authors' calculations based on ENIG 2016

Table 2: Remittances Estimates in 2016

	Million Current USD	Million in Current CUP
Remittances (cash)	3,445.00	82,680.00
Remittances (goods)	2,999.68	71,992.32
Remittances (total)	6,444.68	154,672.32
Remittances social reproduction (cash)	1,908.53	45,804.72
Remittances social reproduction (goods)	1,661.82	39,883.74
Remittances social reproduction (total)	3,570.35	85,688.46

Source: Authors' calculations based on Vidal (2020)

Table 3: Net Remuneration of Formal Workers (Millions of Cuban Pesos)

	Millions, CUP	Source
Remuneration of workers	33,054.00	Table 5.14
(less) Contribution to social security	4,709.90	Table 6.3
(less) Personal income tax	2,343.20	Table 6.3
Net Remuneration of workers	26,000.90	
Adjusted Net Remuneration	61,882.14	

Source: Authors' calculations based on Cuba Statistical Yearbook (2021)

Table 4: Government Benefits Components (Millions of Cuban pesos)

Government benefits categories	Cuban Pesos (CUP)	Source
Universal Benefits:		
Education	8,235.30	Table 6.3
Public Health	10,254.60	Table 6.3
Science and technological innovation	89.60	Table 6.3
Culture and Sports	1,795.80	Table 6.3
Other activities of communal, association and personal services	1,072.80	Table 6.3
Price and product subsidies	3,211.00	Table 6.3
Focalised services:		
Social assistance	317.00	Table 7.14
Social security	5,798.70	Table 6.3
Total	29,702.00	
Adjusted Total	74,172.46	

Note: Tables numeration is taken from the 2021 Cuba Statistical Yearbook. Tables numeration may change from one-year publication to another.

Table 5: 2016 Cuban Cost of Social Reproduction

Component	2016 CUP (millions) unadjusted	2016 CUP (millions) adjusted to account for dual exchange rate	% of Total SR (adjusted)
Household Production** (imputed value—specialist method)	41,566.52	98,928.31	31%
Remittances*	85,688.46	85,688.46	27%
Net Government Social Benefits**	29,702	74,172.46	23%
Net Remuneration of Workers**	26,000.90	61,882.14	19%

*Estimated with parallel rate 1 CUC = 24 CUP

**Adjusted with Vidal (2017) average nominal exchange rates

¹ There is a diversity of thought among social reproduction feminist scholars—including on whether social reproduction constitutes a ‘theory.’ Our work is most closely aligned with an intellectual tradition that views social reproduction as a framework for analysing institutions and aims to develop a unitary theory of oppression. However, this is not the only approach to studying social reproduction (Winders and Smith 2019).

² The term post-capitalist and socialist are used interchangeably in the SRT literature.

³ In the Cuban constitution and political discourse aimed at the international community, political elites declare that the Cuban system is socialist. Within the Island, the official political and academic discourse conceives of the Cuban model as ‘in transition to socialism.’ We consider Cuba as neither socialist nor capitalist but a society ‘in transition’ that is characterised by statism.

⁴ Winders and Smith (2019) describe this approach as ‘Imaginary II: Overlapping duality of equals’ (p.876-8).

⁵ Key findings in Moos (2021) show that neoliberal policies in the US have allowed employers to reduce their relative contribution to the social reproduction of the working class, thereby increasing the role of households and, somewhat contradictorily, the state.

⁶ The dominant ideology during the first 30 years of the Revolution was that a ‘classless’ society would automatically end identity-based inequalities. Feminism was therefore thought of as revisionist, bourgeois, and divisive.

⁷ Other social reproduction scholars, such as Mezzadri (2019) and Federici (2019) argue that unpaid domestic work produces surplus value and therefore constitutes exploitation in the Marxian sense. They argue that this is a

necessary proposition for feminist theory and praxis. Importantly, our exercise is not intended as a measurement of value. One could hold a view opposite to ours and still draw conclusions from our empirical findings.

⁸ All the accounting, prices and salaries in state-owned sectors and markets operated with the official exchange rate. Therefore, when the government estimates its official statistics, including GDP, in CUP, it does so using the official exchange rate. Imported components are underestimated because they are purchased in USD, but computed in the statistics using the 1 USD = 1 CUC = 1 CUP exchange rate.

⁹ For example, in 2016, the daily average wage in the state-owned sector for cleaning services was 27.6 CUP, while the average market price for household cleaning services in Havana was about 5 CUC, equivalent to nearly 200 CUP using the parallel exchange rate. This estimation was obtained by multiplying the hourly rate of the sector ‘Other community, association and personal services activities’ by 8 hours (assuming full-time paid workday). See Table A.6 in Appendix, row 6, column 4.

¹⁰ THCG reports do not provide a description of the methodology used for obtaining the cash and goods remittances estimates. However, Vidal (2020) evaluated the consistency of the cash remittances estimates with the structure and proportion of the balance of payments and used this information to estimate the full cash remittances series until 2020.

¹¹ Results should be interpreted as a lower-bound as the share comes from a sample that is not statistically representative.

¹² Non-labour inputs used in informal work often come from either ‘detours’ from state-owned enterprises (corruption) or imported merchandise from Cubans traveling abroad or in the diaspora. Extensions of this framework could benefit from rich distributive analyses of informality.

¹³ Personal communication with Marlon Millian, Director of the National Account Department of the Cuban National Statistics Office, August 2022.

¹⁴ Cuba has a long history of internationalism and solidarity in fighting against imperialism and apartheid. Likewise, since the Revolution, the US government and some US-based Cuban-American groups have interfered on the Island through economic isolation (the embargo), as well as military and propaganda campaigns. Yet US policy against Cuba has been used to justify internal inefficiencies, and the lack of public transparency and government accountability. US policy has also been used to justify the increasing control of the Cuban military over the economy since the 1990s—intensified even further in the last decade—which impinge on a just distribution of resources and civil society, and also curtail possibilities to transition to a mature stage of socialism (López Hernández 2020).

¹⁵ Cubans’ desire and ability to emigrate to the US is heavily influenced by the Cuban Adjustment Act of 1966, which enables Cubans to become lawful permanent residents and eventually US citizens. This route is much more limited for other immigrants from Latin America and the Global South; see Eckstein (2022).

¹⁶ The Trump administration reinforced the embargo through sanctions, travel and remittances restrictions. As a result, Western Union—the main company for delivery of cash remittances—ceased service to Cuba in 2020. Under Biden, restrictions on remittances were relaxed and a Miami-based agency, VaCuba, was authorised to send remittances via a Cuban enterprise, Orbit SA.

Appendix

Appendix A: Methodology and detailed results household production valuation exercise

According to the System of National Accounts (SNA) a portion of unpaid work is included in the production boundary (and therefore should be included in the GDP). The goods produced by households' unpaid work for their own consumption (such as food from garden plots, firewood and water collection) are considered part of the production boundary, i.e., 'paid work,' in conjunction with paid employment and self-employment. Unpaid care work is defined then as the sum of unpaid domestic and caregiving services to household members within the household and community services and other households' aid. Hence, the SNA production boundary excludes 'all production of services for own final consumption within households' (Charmes 2019, p.8).

Besides these efforts from the SNA of including unpaid work in the general production boundary, measurement problems remain. Gross Domestic Product (GDP) estimates worldwide barely include the goods produced by households via unpaid work. This information, in conjunction with the unpaid direct and indirect care work, is collected via time use surveys. Cuba is no exception. Therefore, we will consider own-use household production of goods as unpaid work in the household production estimation, using the data in the ENIG 2016 report.

Information on the time use module of the ENIG 2016 survey

The survey was applied to a sample of 19,189 people between 15 and 74 years old across the Island.¹ The time use module follows a 'limited' list of activities type of survey, as do most of the time use surveys of the Latin American region, but much less detailed.² It comprises 7 questions, and lists 19 activities for a question on participation in domestic and care work, 10 activities for collecting time use information in unpaid care work and 8 activities for gathering information regarding time use in personal and social activities. In addition, it contains one question about time devoted to study-related activities, one question about time-use in paid work, one question about community time to and from employment or study place and a question about whether the person has left paid work or study in the past 5 years for some care-related motive.³ Table A.1 shows a summary of the average weekly time devoted by women and men surveyed in paid, unpaid and total work time by employment status.

Table A.1: Cuba 2016: Average weekly time of women and men, 15-74 years old

	Total 15-74			Employed			Unemployed		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
I. Paid work	28.09	34.26	22.09	49.49	50.20	49.03	N/A	N/A	N/A
II. Unpaid work	30.18	22.16	36.38	25.49	22.01	31.23	33.54	22.07	40.26
II.1 Unpaid work own household	28.22	21.04	35.20	24.52	21.04	30.28	32.16	21.05	38.50
II.1.1 Unpaid domestic work own household	22.36	17.27	26.51	19.56	17.16	23.12	25.10	17.51	29.29
II.1.2 Unpaid direct care work own household	6.27	3.38	8.29	5.36	3.48	7.16	7.05	3.14	9.21
II.2 Unpaid work other households	0.39	0.30	0.49	0.29	0.27	0.32	0.53	0.38	1.02
II.2.1 Unpaid domestic work other households	0.24	0.22	0.26	0.18	0.18	0.18	0.31	0.29	0.32
II.2.2 Unpaid direct care work other households	0.16	0.08	0.23	0.11	0.08	0.14	0.23	0.09	0.30
II.3 Unpaid work (volunteer)	1.15	1.21	1.09	1.08	1.11	1.03	0.85	1.04	1.14
III. Personal activities*	84.25	86.08	82.08	78.27	80.02	75.25	92.11	99.05	88.07
Total working time (I + II)	57.06	56.02	58.07	75.38	71.41	80.26	33.54	22.07	40.26
Total time (I + II + III)	141.31	142.10	140.15	154.05	151.43	155.51	126.05	121.12	128.33

Note: * Includes activities such as time in social media, learning and study activities, recreation, social activities and sleeping.

Source: National Survey of Gender Equality, Cuba, 2016. Table 3.1 (Authors' translation).

It is not clear from the report whether paid work follows SNA recommendations, that is, whether it includes the time in the production of goods by households for their own consumption, and what exactly is within the unpaid volunteer work. In any case, it is worth mentioning that women devoted 14 hours more to unpaid care work weekly than men. Considering the employment situation, differences between employed and unemployed men regarding unpaid domestic and care work are almost zero (22.07–22.01), contrary to women, whose differences are more than 9 hours per week (40.26–31.23). Hours of paid work barely differ between men and women (50.20 versus 49.03). Women bear the greatest burden regardless of employment situation.

A more detailed account of time spent by activity is summarised in Table A.2 below.

Table A.2: Cuba 2016. Selected activities of unpaid domestic and direct care work. Average weekly hours by sex

	Women	Men
Attending business or family enterprise	0.29	1.26
Farming of animals and crops for the family	1.12	3.09
Care, support and accompanying of sick and disabled people requiring continuous care	1.01	0.53
Care, support and accompanying of elderly people 60+ requiring continuous care	2.27	1.03
Care, support and accompanying of children	5.41	2.22
Cleaning and care of clothing (washing, ironing, sewing)	5.00	1.38
Food management, preparation and serving, washing dishes, etc.	9.03	3.19
Food shopping and doing related errands	4.25	3.40
Maintenance and household minor repairs	0.50	2.43
Household care: cleaning and sanitation	7.13	4.11
TOTAL AVERAGE TIME	36.01	22.64

Source: National Survey of Gender Equality, Cuba, 2016. (Authors' translation).

Unpaid work valuation methodology⁴

In imputing a 'value' to household production, we use an input-based method, which considers the inputs to production to value the goods and services produced by the households. We consider labour as a 'rough indication of the value added by household production,' as do so many of the applications for Global South contexts when data absence does not allow the consideration of other inputs such as 'taxes less subsidies on production, consumption of household durables, and the goods and services used in production' (intermediate goods) (Budlender and Brathaug 2002, p.5).⁵

Tables A.1 and A.2 above are the main sources of information for estimating the average number of hours of unpaid work in 2016 in Cuba. We decide to include not just the household services but also the information provided for the production of goods by households, as Cuban official statistics do not incorporate it into the GDP calculations.⁶ The time use survey did not include

information about simultaneous activities or supervisory care, so we have no decision to make for valuation purposes.

A crucial part of the valuation methodology concerns the price of labour. Four wage imputation approaches are commonly used: the mean (average) wage approach, the opportunity cost approach, the generalist approach, and the specialist approach.⁷ We use the mean (average) wage and an ‘adjusted specialist approach’ as per data availability.

In the mean wage approach the general average wage of the economy is considered, and typically disaggregated by sex. We take the average wage for 2016 for state and mixed enterprises (740 Cuban pesos per month), as it is the information reported by the official statistics office. It is not disaggregated by sex. Although in Cuba there is an equal pay for equal work policy, and hence women and men of similar characteristics doing similar jobs receive the same wage, women on average earn lower wages because they are concentrated in sectors with lower remuneration. There are reasons to consider this wage imputation an underestimation. One, as mentioned in previous sections, wages are just one part, frequently less than half, of workers’ income. Two, the official data on average wages do not consider other payments workers receive for different concepts, such as after-tax profits redistribution and bonds, and only refer to the civil sector. One limitation in this approach is that the wage imputation is based just on employed people, so it would assign a wage to the relevant population of the time use survey in another employment situation that might not be appropriate.

The second method we use is an adaptation of the specialist approach. The specialist approach ‘assigns different wages to different activities, regardless of who performs them. In each case, the paid worker whose functions and circumstances most closely match the unpaid work concerned is chosen’ (Budlender and Brathaug 2002, p.7). Labour force surveys or household surveys are the main source of information for using this approach, as it requires detailed information on the wages of different occupations. However, due to the absence of both types of surveys for the Cuban case, we adopt an ‘adjusted,’ or limited, specialist approach, by selecting average wages by sector of economic activities and matching them with the unpaid work activities. In particular, we follow the Cuban version of the International Standard Industrial Classification of all economic activities (ISIC), which in Cuba is called CNAE by its Spanish acronym, and classify each activity listed in Table A.2 in the most suitable sector according to the descriptions in CNAE.⁸ Then we choose the average monthly wage of the matched sectors for the wage imputation. As in the mean (average) approach, the wages refer only to the state-owned and mixed workers, and no sex differentiation is considered. The underlying questions of this approach are: what if all these services provided by the households were done for pay? In which sectors would the people performing those activities within the households be located?

In the mean (average) wage approach we considered all unpaid work (own-use production and care work) done for own households and for other households, and volunteer work (Table A.1, second row, first three columns). For the second approach, we use information in Table A.2, which is the more detailed time use data provided in the ENIG 2016 report.

In general, the following steps are taken for the valuation process:⁹

Step 1: Computing average annual hours of unpaid work.

To compute the average annual hours of unpaid work by sex and combined, we divide the weekly average time of unpaid work by 7 and multiply it by 365.

Step 2: We multiply the amounts obtained in step 1 by the relevant population. The ENIG 2016 focused on people between 15 and 74 years old, so we restrict the calculations to this group. As the unpaid work done by household members outside the aforementioned group is left outside, it could be considered an underestimation. However, children's unpaid labour is not as relevant in the Cuban case as it is in other Global South contexts.

Step 3: Calculating the hourly wage rates

The time use provides information on average hours of unpaid work per week, while the wages information provided by the National Statistics Office is monthly. Within each wage imputation approach, we use two ways to compute the hourly wage rate. We first assume 40 hours per week of employment, as per labour legislation. In a second moment, we use the ENIG 2016 time use information in paid work, by sex and combined, to calculate the hourly wage. We divide the corresponding monthly wage by four and then by the average time in paid work registered in Table A.1, first row, columns 4, 5 and 6.¹⁰

Step 4: We take the appropriate wage hourly averages from step 3 and multiply it by the number of unpaid work hours in a year, by sex and combined.

Step 5: We calculate the 'value' of unpaid labour as a percentage of the GDP for the year 2016.

Wage imputation approaches and results

Tables A.3 and A.4 show the results obtained using the mean (average) wage approach. In Table A.3, the hourly wage rate is identical between sexes, as 40 hours per week of employment is assumed for all the members of the relevant population. In other words, the same wage and hours of employment are imputed to both men and women.

Table A.3: Unpaid work valuation using mean (average) wage of state-owned and mixed enterprises (a)

	Women	Men	Combined
Hours per week	36.38	22.16	30.18
Hours per year	1,896.96	1,155.49	1,573.67
Population 15-74 years old	4,304,366.00	4,185,508.00	8,489,874.00
	8,165,197,829.1	4,836,294,701.0	13,360,272,145.9
Total hours per year	7	3	7
Wage per hour (a)	4.63	4.63	4.63
Total 'wages' per year (MM CUP)	37,764.04	22,367.86	61,791.26
% of GDP	41%	24%	68%

Table A.4 shows hourly wage rates that are slightly different but still very close to each other, as the same monthly wage is assumed (740 Cuban pesos). However hours of weekly employment were taken from the ENIG time use information, and even when there are no significant

differences by sex, they are not identical. We believe this second approximation is more realistic, due to its consideration of the reported hours of employment. Still, it is possible to claim there is an underestimation in both cases because the selected wage does not cover a portion of the workers in the economy—the non-state sector—in which we know earnings are higher, but official data is not available.

Table A.4: Unpaid work valuation using a mean (average) wage of state-owned and mixed enterprises (b)

	Women	Men	Combined
Hours per week	36.38	22.16	30.18
Hours per year	1,896.96	1,155.49	1,573.67
Population 15-74 years old	4,304,366.00	4,185,508.00	8,489,874.00
	8,165,197,829.1	4,836,294,701.0	13,360,272,145.9
Total hours per year	7	3	7
Wage per hour (b)	3.77	3.69	3.74
Total 'wages' per year (MM CUP)	30,808.93	17,823.00	49,942.42
% of GDP	34%	20%	55%

Adjusted specialist approach

In the adjusted specialist approach, we use time use information from Table A.4. Using the CNAE classification of Cuban economic activities and industries for the ‘paid economy’ we match the time use activities with the CNAE economic sectors whose definitions resemble the most time use listed activities (Table A.5). The only activity it was not possible to match was ‘attending business or family enterprise,’ as the type of work and business would vary. In this case, we choose the same average wage from the previous approach. Then, we select the corresponding sectoral average wages and proceed to compute hourly wages as we did before. First, we consider 40 hours per week of employment and then the reported hours of paid work in the ENIG (Table A.1).

Table A.5: Unpaid work time classification following CNAE and average sectoral wages.

Unpaid work activities according to ENIG 2016 report	CNAE matching sector	Section CNAE	Wage (CUP/month) in 2016
Attending businesses or family enterprise	-	-	740
Farming of animals and crops for the family	Agriculture, cattle raising and forestry	A	1006
Care, support and accompanying of sick and disable people requiring continuous care	Public Health and Social Assistance	Q8690	816
Care, support and accompanying of elderly people 60+ requiring continuous care	Public Health and Social Assistance	Q8690	816
Care, support and accompanying of children	Education	P8510	533
Cleaning and care of clothing (washing, ironing, sewing)	Other community, association and personal service activities	S96	503
Food management, preparation and serving, washing dishes, etc.	Hotels and restaurants	I56	556
Food shopping and doing related errands	Hotels and restaurants	I56	556
Maintenance and household minor repairs	Other community, association and personal service activities	S95	503
Household care: cleaning and sanitation	Business services, real estate and rental activities	N812	707
Notes: Activities listed do not fully match the question list. Wages refer to monthly averages of state-owned and mixed enterprises only and do not include other workers' payments.			

Table A.6: Average weekly time in unpaid activities and mean relevant sectors' hourly wages.

	Weekly average time		Average wage CUP/hr (a)	Average wage CUP/hr (b)		
	Women	Men	Combined	Women	Men	Combined
Attending businesses or family enterprise	0.29	1.26	4.625	3.77	3.69	3.74
Farming of animals and crops for the family	1.12	3.09	6.2875	5.13	5.01	5.08
Care, support and accompanying of sick and disabled people requiring continuous care	1.01	0.53	5.1	4.16	4.06	4.12
Care, support and accompanying of elderly people 60+ requiring continuous care	2.27	1.03	5.1	4.16	4.06	4.12
Care, support and accompanying of children	5.41	2.22	3.33125	2.72	2.65	2.69
Cleaning and care of clothing (washing, ironing, sewing)	5.00	1.38	3.14375	2.56	2.50	2.54
Food management, preparation and serving, washing dishes, etc.	9.03	3.19	3.475	2.83	2.77	2.81
Food shopping and doing related errands	4.25	3.40	3.475	2.83	2.77	2.81
Maintenance and household minor repairs	0.50	2.43	3.14375	2.56	2.50	2.54
Household care: cleaning and sanitation	7.13	4.11	4.41875	3.60	3.52	3.57
TOTAL AVERAGE TIME	36.01	22.64	-			

The tables below present the results. Because the disaggregated data do not have the combined information (the time spent in each activity of women and men together on average), we just combine total hours at the end of the valuation process. The adjusted specialist approach (a) considers the 40 hours per week of employment to compute hourly wages by activity, hence the wage rate is the same for both women and men by each activity. This partly explains why the percentage of GDP is higher than in the specialist approach (b) when we use the reported hours of employment in ENIG to compute the hourly wage rate. As women do paid work for slightly less time per week, the wage rates are not identical, and the ‘value’ imputed to women’s unpaid work is slightly smaller. At the same time, they contribute much more to unpaid work.

Table A.7: Unpaid work valuation using an adjusted specialist approach (a)

	Women	Men	Combined
Hours per week	36.01	22.64	-
Hours per year	1,877.66	1,180.51	-
Population 15-74 years old	4,304,366.00	4,185,508.00	8,489,874.00
Total hours per year	8,082,154,310.84	4,941,051,986.97	-
Wage per hour (b)	Differentiated		
Total 'wages' per year (MM CUP)	30,990.41	20,437.76	51,428.17
% of GDP	34%	22%	56%

Table A.8: Unpaid work valuation using an adjusted specialist approach (b)

	Women	Men	Combined
Hours per week	36.01	22.64	-
Hours per year	1,877.66	1,180.51	-
Population 15-74 years old	4,304,366.00	4,185,508.00	8,489,874.00
Total hours per year	8,082,154,310.84	4,941,051,986.97	-
Wage per hour (b)	Differentiated		
Total 'wages' per year (MM CUP)	25,282.81	16,285.07	41,566.52
% of GDP	28%	18%	45%

Finally, Table A.9 presents a comparison of the results using the different approaches. As is always the case the differences in the results are contingent on the assumptions made for the valuation procedure. Note that we have applied just two approaches, a mean (average) wage approach, and an adjusted specialist approach. But within each approach, we have made different assumptions to compute the hourly wage rate, as our wage information is monthly, and it is not disaggregated by sex. We first consider 40 hours per week of employment, as per labour legislation, for both men and women. Option (b) considers then the reported hours of paid work of women and men according to the ENIG 2016. This second option has the advantage of

including a more accurate measure of hours in employment, but the ‘imputed price’ is slightly smaller, as women do paid work a little bit less than men, while having significantly more hours of unpaid work.

Table A.9: Comparison of results of different ‘valuation’ approaches

Approach	Value (MM CUP)			% of GDP		
	Women	Men	Combined	Women	Men	Combined
Mean (average) wage (a)	37,764.04	22,367.86	61,791.26	41%	24%	68%
Mean (average) wage (b)	30,808.93	17,823.00	49,942.42	34%	20%	55%
Adjusted specialist approach (a)	30,990.41	20,437.76	51,428.17	34%	22%	56%
Adjusted specialist approach (b)	25,282.81	16,285.07	41,566.52	28%	18%	45%

We have highlighted some reasons to argue that these estimates are conservative—that is, underestimated. Some of the reasons are related to the time use data itself, as the list of activities is not sufficiently detailed, as is frequently the case in Latin American time use surveys, and no supervisory care, for instance, is considered. The other group of reasons is related to the monetary value imputation. The absence of a labour force survey or another household survey impedes having a better, although also frequently underestimated, reference for the wages that cover at least all types of workers in the economy, and not just state-owned and mixed enterprises wages. Additionally, the wages reported by the official statistics do not account for all payments done to workers, and certainly not in-kind benefits. Still, we choose the more conservative estimate for our calculations of the cost of social reproduction, although we also analyse different scenarios according to the estimates of the household component.

Appendix B: Estimating the CCSR considering a weighted exchange rate

In this appendix, we adapt the average exchange rate methodology proposed by Vidal (2017) to provide an estimate of the components of the CCSR addressing the issue of the multiple exchange rates on official statistics.

Why an average exchange rate?

In 2016, there were two national currencies—the Cuban Convertible Peso (CUC) and the Cuban Peso (CUP). Two official exchange rates were also operating in the Cuban economy in two different sectors. The ‘official’ exchange rate of 1 CUC = 1 CUP = 1 USD is applied to state spending and state businesses, mixed capital, banks, rationed consumption markets and public services. From 2005 to 2021, the ‘parallel’ exchange rate of 1 CUC = 24 CUP operated in the agricultural markets, small private enterprises, cooperatives, and goods and services produced by self-employed Cubans (Vidal, 2020, p.100).

All the accounting, prices and salaries in state-owned sectors and markets operated with the official exchange rate of parity with the dollar. Therefore, when the government estimates its official statistics, including GDP, in Cuban pesos, it does it using the official exchange rate, which implies that the ‘imported’ component of the sectors and different variables, which is paid in dollars, is computed in the statistics using the 1 USD=1CUC=1CUP exchange rate, and therefore is underestimated. Similarly, as Vidal explains, when the government presents the Cuban statistics in dollars, for instance, GDP, the GDP in dollars would be overvalued, as ‘it is ignoring that a proportion of the monetary values in the economy used the 24 CUP = 1 USD rate’ (p.100). Also, the apparently obvious solution to divide the official statistics presented in CUP by 24 would also be a mistake, as this exchange rate was consistent with the monetary values of certain markets. In this case, the GDP value in dollars divided by 24, for example, will be undervalued.

Vidal’s objective is, of course, different from ours. He aims to provide a new measurement of the Cuban GDP using purchasing power parity (PPP) rates for regional comparison purposes. Hence, to compute the Cuban GDP in dollars, he proposes an ‘average nominal exchange rate’ that ‘considers the proportion in which each of the two rates responds to the monetary values of each economic area in which it operates.’ The calculation is ‘simply a weighted average of the shares that the state and non-state sectors had within the national accounts in the period of interest: 94 per cent for the official exchange rate in the state sector and 6 per cent for the parallel exchange rate in the non-state sector’ (p.101-2). Then, to obtain the average nominal exchange rate, Vidal multiplies the official exchange rate (1) by the share of the state sector and the parallel (24) by the share of the non-state sector. See Vidal (2017, p.11) for more details.

We use Vidal weights to estimate the CCSR components. In other words, we follow Vidal in assuming that, on average, 94 per cent of the monetary values of the economy were made in economic circuits that operated with the official exchange rate (state spending and state businesses, mixed capital, banks, rationed consumption markets, and public services), and 6 per cent were conducted in economic circuits that operated with the parallel exchange rate (agricultural markets, small private enterprises, cooperatives, and goods and services produced by self-employed Cubans). Hence, except for remittances, we multiply the 6 per cent of our estimates in Cuban pesos by 24 and the 94 per cent by 1. The new estimates ‘adjusted by exchange rates duality motive’ are shown in Table B.1 below.

Table B.1: 2016 ‘Adjusted’ Cuban Cost of Social Reproduction

Component	2016 CUP (millions) unadjusted	% of Total SR unadjusted	2016 CUP (millions) adjusted to account for dual exchange rate	% of Total SR (adjusted)
Household Production** (imputed value—specialist method)	41,566.52	23%	98,928.31	31%

Remittances*	85,688.46	46%	85,688.46	27%
Net Government Social Benefits**	29,702.00	17%	74,172.46	23%
Net Remuneration of Workers**	26,000.90	14%	61,882.14	19%

*Estimated with parallel rate 1 CUC = 24 CUP

**Adjusted with Vidal (2017) average nominal exchange rates

¹ A probabilistic multi-stage method of household selection was applied. The final household sample size was 14,099, and within household all members between 15 and 74 years old were interviewed.

² The 2001 time use survey style was a diary.

³ The question specifically asks for time devoted last week to work for which the person received some payment.

⁴ The 'valuation' methodology generally follows Budlender and Brathaug (2002) and Budlender and Brathaug (2004), adjusting to data availability and Cuba's particularities.

⁵ There are different ways to decide which goods purchased by the household are used for final consumption, which for intermediate consumption and which are fixed assets. See for instance Bridgman *et al.* (2012) methodology for the US case.

⁶ In the questionnaire, just two questions capture household production of goods, as shown in the first two rows of Table A.2.

⁷ See Budlender and Brathaug (2002) for a detailed explanation of each approach.

⁸ The CNAE has been used recently in Cuba to classify the sectors in which the SMEs and the own-account workers are involved.

⁹ Adapted from Budlender and Brathaug (2004).

¹⁰ According to the information in the ENIG report, paid work seems to be equivalent to employment. In the wording of the question and after some calculations it seems the survey did not follow the SNA classification on paid work and consider paid work as employment. This is the reason why we took hours of paid work in Table A.1 to the hourly wage calculations. However, it is not clear whether or not it includes the time in transportation to and from employment.