The historical evolution of the cost of social reproduction in the United States, 1959–2012

Katherine A. Moos

Economics, University of Massachusetts Amherst, Amherst, MA, USA

ABSTRACT
Using data from the US Bureau of Economic Analysis (BEA) National Income and Product Accounts (NIPA) – including a BEA satellite account that imputes monetary values for unwaged household production – this paper provides a feminist, class-based framework for estimating the annual cost of social reproduction in the United States from 1959 to 2012. The key finding is that for US working-class households, the cost of socially reproducing labor-power has risen relative to the cost of employing labor-power, implying that employers are paying for a decreasing proportion of the total societal cost of socially reproducing labor-power. These results are discussed in relationship to growing income inequality and the contradictory role of the state in the US neoliberal era.

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1. Introduction
For decades, Marxist-feminists have argued that capitalist production would be impossible without the social reproduction of labor-power, but that much of labor’s social reproduction is unremunerated by capital. Members of working-class households, particularly women, provide unpaid work that is necessary for the care of current, future, and previous generations of workers. Unwaged household work is not the only contributor to the social reproduction of labor-power that is outside of the wage-labor relationship. In advanced capitalist countries, other contributors to labor’s social reproduction – including the social wage and consumer borrowing – supplement, and in some cases supplant, earned incomes and employer-based benefits.
Based on an interpretation of social reproduction theory that implies that the total societal cost of socially reproducing labor-power is greater than the cost of employing workers, this paper asks the following questions. If measured in price terms, how much greater is the cost of socially reproducing labor-power than the cost of employing labor-power? How has the relationship between the cost of employing and the cost of socially reproducing workers evolved in the United States in the late twentieth and early twenty-first centuries?

To answer these questions, this paper proposes a basic framework for estimating the annual aggregate cost of social reproduction in the United States from 1959 to 2012. Inspired by the work of Shaikh and Tonak (1994), these estimates utilize data from the US Bureau of Economic Analysis (BEA) National Income and Product Accounts (NIPA). The paper also utilizes a BEA satellite account created by Bridgman, Dugan, Lal, Osborne, and Villones (2012), which imputes monetary values for unwaged household production. Data from Mohun (2016) that estimates the size and income shares of the capitalist, managerial, and working classes is used to distinguish the cost of socially reproducing the working class from total US households. Additional data on average tax rates found in Piketty and Saez (2018), and data on consumer borrowing from the Federal Reserve are also used.

The key findings are that, for US working-class households, the ratio of the cost of employing labor-power to the cost of socially reproducing labor-power has declined steadily in the time period studied. In other words, the cost of social reproduction has continued to rise as real wages and employer-based benefits have stagnated (Bivens & Mishel, 2015). These trends have important implications for understanding the full extent of the exploitation of US workers and working-class families in the context of neoliberal reforms, which have cheapened the value of labor-power and increased precarity. Employers are paying for a smaller share of the cost of reproducing working-class labor-power than ever before, while household production and state spending continue to play a significant role in the reproduction of the working class.

This paper will have the following structure. Section 2 will describe the theoretical issues involved in conceptualizing and measuring the cost of social reproduction. Section 3 will present the method used to estimate the

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1 Drawing inspiration from Marxian macroeconomic analysis, this paper aims to answer this question using available data that is in price quantities. As Freeman (1991) writes,

The most contentious debates in Marxist theory have all turned in one way or another by problems posed by social reproduction. It is ironic that these debates rage on the terrain of pure and often exotic theory, while the NIAs [National Income Accounts], descended from Marx’s own thinking, have produced the very data against which to test them. (pp. 84–85)

2 In this paper, I use the phrases ‘household’ and ‘tax units’ interchangeably, however they are not the same. In 2013 there were 1.33 tax units per household (Mohun, 2016, p. 336).
cost of social reproduction of labor-power. Section 4 will present and dis-
cuss the results. Section 5 will discuss the limitations of the current frame-
work and possible extensions. The final section will offer brief concluding
remarks.

2. Conceptualizing the cost of the social reproduction of
labor-power

Social reproduction theory has enjoyed sustained and renewed interest, inspir-
ing several generations of Marxist-feminist thought (Federici, 2017). Drawing
on the first volume of Marx’s Capital (1867) and Engels’s Origin of the Family,
Private Property and the State (1884), Marxist-feminists have proposed various
definitions of social reproduction.3 Laslett and Brenner (1989) make an analyti-
cal distinction between the ‘societal reproduction’ of the capitalist system, and
the ‘social reproduction’ necessary for ‘maintaining life, on a daily basis and
intergenerationally’ (p. 382). Bhattacharya (2017) begins from this definition
and emphasizes that labor-power is ‘not simply replenished at home, nor is
it always reproduced generationally’ (p. 7). Instead, Bhattacharya emphasizes
that public education, healthcare, pensions, and recreation are all part and
parcel of the social reproduction of labor-power.4

This paper abstracts from several important aspects of the social repro-
duction of the patriarchal-capitalist system and its institutional structures, to
allow for a focused quantitative analysis of the social reproduction of labor-
power. The underlying assumption is that, as Marx writes, ‘The maintenance
and reproduction of the working class remains a necessary condition for the
reproduction of capital’ (Marx, 1867/1990, p. 718). Labor-power, the capacity to
work, plays a central role in the Marxian economic system. As the sole source of
surplus value, labor is a necessary input into the capitalist production process.
An estimate of the aggregate annual cost of labor-power’s reproduction gives
us insight into the institutional structures and political struggles underlying a
society’s social reproduction processes. As Vogel (2013) notes, ‘the processes
of the reproduction of labour-power in class-society ordinarily constitute an
important terrain of battle’ (p. 156). Questions regarding the reproduction of
labor-power – in particular with regard to working-class living standards and

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3 Edholm, Harris, and Young (1978) distinguish between the reproduction of the conditions of production,
reproduction of the labor force, and biological reproduction. Bakker (2007) discusses the three aspects of
social reproduction as biological reproduction of the species (which includes the reproduction of mother-
hood), the reproduction of the labor force (including education and training), and care work provisioning
through kinship networks and the state (p. 541).
4 As Bezanson and Luxton (2006) emphasize,
who bears the costs of social reproduction – are at the heart of class and gender struggle (Folbre, 1994).

The current analysis focuses on the cost of reproducing and employing labor-power, measured in price terms.5 Wages, salaries, employer-based benefits, and contributions to social insurance serve as an ‘appropriate base for estimates of variable capital, since it represents the total cost of labor power to the capitalist’ (Shaikh & Tonak, 1994, p. 304). Crucial to the empirical analysis and argument advanced in this paper is that the cost of employing working-class labor-power – the cost to capital – is less than the total societal cost of socially reproducing working-class labor-power.

The difference between the cost of employing and reproducing labor-power highlights an essential distinction between capitalist, feudal, and slave systems. In capitalism, wage workers are ‘free,’ as they are not bound by law, coercion, or social custom to any particular employer, lord, or master. However, this ‘freedom’ also entails that workers are responsible for their own social reproduction. As Suzanne de Brunhoff notes, capitalists ‘absolve themselves of responsibility of the upkeep of the workers by the payment of wages’ (de Brunhoff, 1978, p. 13). Implicit in the wage-labor bargain is that workers will do what is necessary to make themselves able to return to work each day. Due to what Marx calls ‘the laborer’s instinct for self-preservation and of propagation’ (1867/1990, p. 718), capitalists can assume that workers will care for themselves and their kin, and replenish the supply of available labor by raising children. The capitalist wage-labor relationship is a great ‘bargain’ for the employer, as it leaves the tasks necessary to ensure daily and generational social reproduction to the social relations within private households.

Patriarchal relations ensure that the bulk of social provisioning and care work is accomplished by women for little or no pay. Gender norms that require women’s compliance and conformity to domesticity have been cited as a major source of women’s oppression (Benston, 1969; Morton, 1971; see also Vogel, 2013, pp. 17–21). The naturalization of women’s capacity for caring labor is why women are segmented into paid care work, especially in lower paid positions in education, healthcare, and the service sector (Duffy, Albelda, & Hammonds, 2013). The ‘care penalty’ is a major driver of pay disparities between men and women (Folbre, 2018). Due to shifting gender norms, technical change, and women’s increased labor force participation, women’s hours of unpaid household production and care work have decreased since the 1980s, as men’s have increased. However, women continue to do more unpaid household and care

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5 There is an interesting debate on the commodity or noncommodity nature of labor-power, and its value and its relationship to the commodity bundle. This paper will not recount nor attempt to resolve this debate, as the current analysis is not about the value of labor-power nor about the intricacies of its commodity nature. See Quick (2018) for a discussion of how different authors attempt to address this theoretical ‘dilemma.’
work than men in the United States and elsewhere (Benería, Berik, & Floro, 2016; Bridgman et al., 2012; Kan, Sullivan, & Gershuny, 2011).

Household production is different from commodity production because it is outside the direct relations of capitalist production. Unlike commodity production, unwaged household labor does not have an objective process for assigning value because it is not subject to the price mechanism nor competitive market pressures. When performed outside of the formal economy and not for pay, domestic and care work does not create surplus value (Himmelweit & Mohun, 1977). Market substitutes for goods and services previously provided by unwaged household production and care work contribute to a number of paid sectors of the economy, particularly as more women have joined the formal labor force (Himmelweit, 2007; Nelson & Folbre, 2000).

The time and effort necessary for household labor — and the hourly wages paid to domestic workers in the formal market — can help us conceptualize and impute the cost of unwaged household production. Economists have developed various methods for imputing the monetary equivalent for unwaged household labor (Bridgman, 2016; Bridgman et al., 2012; Duffy et al., 2013; Folbre, 2006; Landefeld, Fraumeni, & Vojtech, 2009). Most methods rely on time-use surveys and multiply the hours spent in housework by a wage — either based on a single average wage of a ‘generalist’ domestic worker or on various average wages for cooking, cleaning, and childcare ‘specialists.’ Other estimates are based on the opportunity cost of engaging in unwaged household production rather than market work, although this approach is typically not recommended (Abraham & Mackie, 2005; Benería et al., 2016).

Estimating a cost of unwaged household production has a substantial economic effect. Imputing a monetary equivalent for unwaged household production increases nominal Gross Domestic Product (GDP) considerably — an increase of 39 percent in 1965 and 26 percent in 2010 (Bridgman et al., 2012). Including household production in estimates of GDP reduces estimates of economic growth between 1965 and 2010 from 6.9 percent to 6.7 percent (Bridgman et al., 2012). This is because some of the GDP growth experienced in the US during the twentieth century was the result of the marketization of household goods and services. Estimating household production demonstrates that some GDP growth resulted from the shift of care work from the unpaid to the paid sectors of the economy and is therefore a product of measurement rather than genuine economic expansion. Furthermore, there are various reasons to believe that the value of household production is underestimated, particularly for childcare (Duffy et al., 2013; Suh & Folbre, 2016).

Social provisioning does not occur only in the market and the household, but also through state policy-making (Mutari 2003). The state plays both direct and indirect roles in the reproduction of labor-power by providing public goods and services, redistributing income, and regulating industrial relations. Through a variety of mechanisms, including fiscal policy, the state stabilizes
and facilitates labor’s social reproduction (Harman, 2008; Miller, 1989; Moos, 2019). As Suzanne de Brunhoff writes, ‘... the main task of the state’s management of labour-power is to assume responsibility for the part of its value which capitalists do not directly remunerate’ (de Brunhoff, 1978, p. 19). Depending on the financing mechanism and its overall effect on labor relations, state intervention into labor’s social reproduction can represent a subsidy to capital, labor, or both. The debate between different estimation approaches – the citizen’s wage as employed by Bowles and Gintis (1982) and the net social wage developed by Shaikh and Tonak (1987, 2000) – has demonstrated the importance of considering the effect of labor taxation as well as benefits.

Recent empirical analyses of the US net social wage show that the net effect of redistributive policy appears to have been positive in the twenty-first century, leading to a higher net social wage (Blank, 2014; Fazeli & Fazeli, 2012; Moos, 2019). This is largely, but not entirely, attributed to an aging population, rising healthcare costs, and the Great Recession (Moos, 2019). This research supports the observation that neoliberal attacks on labor and social spending have not led to a full retrenchment of the welfare state (Hacker, 2004; Pierson, 1996). These findings do not deny that in the neoliberal era, austerity and attacks on the welfare state have worsened the working and living conditions of the US working class. Instead, Moos (2019) argues that the US net social wage has risen in the twenty-first century in response to the growing insecurity of workers in neoliberal capitalism. It is precisely because conditions for the US working class have worsened in recent years that state spending for public benefits has risen, despite neoliberal rhetoric. Furthermore, while the bulk of tax cuts in the neoliberal era have gone to the corporate sector and the wealthy, modest income tax cuts have allowed workers at the bottom of the income distribution to keep more of their earned income (Howard, 1997; Steinmo, 2010). Refundable tax credits are used to incentivize and subsidize low-wage work (Gautié & Schmitt, 2010; Hungerfold & Thiess, 2013).

Nonprofits, also called nongovernmental organizations (NGOs), play a role in the social reproduction of US households by providing housing, food, health, education, and other necessary goods and services, on both an emergency (short-term) and ongoing basis. While nonprofit organizations have existed in the US since the early nineteenth century, the US ‘third sector’ has grown substantially since the 1970s (Hammack, 2001). In the context of a broken system of bureaucratic relief, nonprofits patch the holes in the US social safety net. When they can, households borrow to finance their social reproduction. Consumer borrowing has become more important in the neoliberal era due to financialization. As Himmelweit (2017) writes, ‘care has become increasingly dependent on households’ direct and indirect engagement with the global financial system’ (p. 14). Low- and moderate-income people in the US often pay for necessary social reproduction expenses such as groceries or, increasingly, healthcare bills using credit cards. Roberts (2013) argues that ‘debt has become
an increasingly important means of financing social reproduction – or, to put it another way, that debt has been used as a private, market-based form of social policy’ (Roberts, 2013, pp. 27–30). Student loans for post-secondary education are a prime example of the financialization of labor’s social reproduction.

Together, net earned incomes, employer-based benefits, unwaged household production, government social benefits, nonprofit expenditures, and consumer borrowing all contribute to labor’s social reproduction.

3. Measuring the cost of social reproduction: method and data

Estimates of the cost of social reproduction have been produced for all US households, working-class households, and supervisor households (the sum of working capitalists and managers). The class categories and their measurement come from Mohun (2016).

Mohun (2016) draws on the work of Piketty and Saez (2003), including data updated in 2015, to create ‘sociologically meaningful’ thresholds used to determine categories that can be used to understand the ‘class-divided reality’ underlying US income distribution (pp. 337–338). In contrast to the classical political economic definition that assumes that capitalists do not work because they own the means of production, Mohun argues that, ‘a modern approach to class cannot rest on a minimal binary opposition of capitalist class and working class’ (p. 343). Instead, it is necessary to define and delineate three categories of income-earners: capitalists, managers, and workers. Mohun defines capitalists as business executives and other high-income earners who have enough wealth that they do not need to work for wages, although they often do work and earn exorbitantly high salaries. Managers are also among the highest earning, but they differ from capitalists in that they do not have enough wealth to forgo working for income. Like the working class, managers must sell their labor-power to earn a living. However, ‘by their exercise of a supervisory function, managers are not members of the working class’ (p. 345). Mohun (2016) describes the sum of working capitalists and managers as supervisors (p. 349).

The working class comprises the majority of people and households. Including a wide range of income-levels, occupations, and social identities, workers have neither enough wealth to forgo labor, nor supervisory roles in their jobs. Mohun (2016) writes that ‘in capitalism, the working class is defined by its subordination’ (p. 344). In other words, members of the working class have no option but to sell their labor-power, and do not exercise command or control over other workers in the workplace.

Figure 1 plots the income shares of the working, managerial, and capitalist class over time. What is most striking is that the working-class income share has declined steadily and substantially over the time period: from 66.16 percent in 1959 to 46.26 in 2012. Conversely, the income share of the capitalist class has increased substantially, particularly since the late 1980s and 1990s.
As Piketty and Saez (2003, 2014), Duménil and Lévy (2004), and others have shown, income gains in the late twentieth and early twenty-first century have been concentrated at the top 1 percent of the US income distribution. This stylized fact became the rallying cry of the Occupy Movement (Jacobs, 2011; Stiglitz, 2011).

Figure 2 plots the percentage of total tax units that each class represents. The capitalist class is on average approximately 1 percent of total tax units during the period. The managerial class grows as a percentage of total tax units after 1980. The working class has a high of 89.49 percent of total tax units in 1965 to a low of 79.79 tax units in 1986, with an average of 84.30 percent of total tax units (see Table 1). In 2010, the top 1.09 percent of tax units earned
Table 1. Summary statistics for class income shares and size of tax units, 1959–2012.

| Variable                          | Min  | Median | Mean  | Max   | Std.dev |
|-----------------------------------|------|--------|-------|-------|---------|
| Capitalist income share           | 6.92 | 9.220  | 12.36 | 23.28 | 5.33    |
| Managerial income share           | 23.75| 32.99  | 31.45 | 37.49 | 4.22    |
| Working class income share        | 44.82| 55.30  | 56.18 | 67.73 | 8.23    |
| Capitalist % of total tax units   | 0.059| 1.06   | 1.067 | 1.77  | 0.27    |
| Managerial % of total tax units   | 9.41 | 15.79  | 14.63 | 19.56 | 3.20    |
| Working class % of total tax units| 79.79| 82.99  | 84.30 | 89.49 | 3.25    |

Source: Mohun (2016)

18.83 of total income, and the bottom 83 percent of tax units earned 43.45 percent of total income.

3.1. The cost of the social reproduction of total US households

The cost of social reproduction for all households $CSR_A$ can be described as:

$$CSR_A = W + F - T_A + G + N + H + B$$

where $W$ is earned wages and salaries, and $F$ is employer-based ‘fringe’ benefits, which include employer-based pensions and health insurance. These figures are taken from the NIPA accounts. It is assumed that all wages and salaries, less taxes, are used to finance a household’s social reproduction.6

Total taxes for all households, $T_A$, are computed by taking the average tax rate for all households in Piketty and Saez (2014) and multiplying it by wages and salaries.7 The average rate of taxes includes taxes on income, contributions for social insurance, property taxes, and sales taxes. Estimated taxes are deducted from wages to derive disposable income, which is used for social reproduction.

Total government benefits, $G$, are the sum of total social expenditures. The selection of social expenditures includes spending for universal social programs such as Social Security, Medicare, education, means-tested programs such as Medicaid, public assistance, nutrition, housing, and refundable tax credits, as well as for public goods and services such as transportation, postal services, and the environment. The selection of government expenditures included in this schema is inspired by the net social wage (NSW) method developed by Shaikh and Tonak (1987).8 However, the treatment is distinct.

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6 Savings are abstracted from this analysis. The implicit assumption is that all wages, less taxes, are used for either present or future social reproduction.

7 By employing average tax rate data from Piketty et al. (2018), this paper includes the tax incidence assumptions embedded in their analysis. The question of tax incidence could be further explored from the perspective of Marxian or heterodox public finance theory, but is beyond the scope of this paper.

8 This method excludes police and defense spending, as Shaikh and Tonak (1987) consider those costs of socially reproducing the state. Likewise, veterans’ benefits are excluded, as they are considered costs of war. Reclassifying veterans’ benefits for healthcare and pensions as social reproduction would increase total social spending, but not substantially.
In the current method, all social expenditures are attributed to total US social reproduction.9

Household production, $H$, is from the BEA satellite account created by Bridgman et al. (2012) and updated by Bridgman (2016). The method assumes a market-cost approach of valuing nonmarket household services. Total household production is composed of three variables. The first and main component is the production of nonmarket services. This is calculated by taking the aggregate of total time spent on different activities – housework, cooking, odd jobs, gardening, shopping, childcare, and domestic travel – multiplied by the wage rate of general-purpose domestic workers.10 The second component is the return to consumer durable goods.11 The third component is the return to government capital attributable to home production.12

The BEA Satellite account represents a conservative estimate of the cost of a household’s socially reproductive labor. A number of essential socially reproductive activities – including the biological aspects of social reproduction, such as gestation and childbirth – are not included. In addition, Suh and Folbre (2016) argue that estimates of the value of household production are underestimated for a number of reasons. First, they are based on an underestimation of the hours spent in childcare because they do not include ‘supervisory care,’ in which the caretaker may be responsible for caring for a child or adult while doing other housework. These measures do not account for the ‘intensity of care activities,’ nor do they account for the level of education of the care provider (p. 675). Suh and Folbre (2016) argue for a specialist approach in valuing care services. For these and other reasons, the BEA satellite account utilized in this paper can be thought of as a lower bound of the value of both household production and broader notions of unwaged socially reproductive labor.13

Nonprofit contributions to social reproduction, $N$, are the final consumption expenditures of nonprofit institutions serving households (NPISH). This is

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9 In the net social wage (NSW) method, social benefits are divided into two types of categories: those only benefiting labor, and those benefiting labor and capital. This approach has been modified in light of Mohun’s class categories. Instead of estimating labor’s share of certain social expenditures, as in the NSW method, spending is allocated to working capitalists, managers, and working-class households. See Appendix 1 for further details.

10 A specialist cost method applies different average wages to each corresponding category of home production. For example, an hour of cooking is valued at the average cook’s wage.

11 Consumer purchases of durable goods are treated as an investment. A measure of capital services is attributable to them.

12 The authors assign 50 percent of the value of road capital to personal transportation and add a measure of capital services to this value.

13 Some argue that comparisons of market and nonmarket work can be problematic, as there are competitive pressures on hours minimization and labor productivity in paid work that are not put on performing nonmarket household production. It is true that market-based substitutes for some household goods and services (such as cleaning and cooking) may be done more efficiently due to better technology, specialization, competition, or economies of scale. However, it is not true that all household tasks can be completed more efficiently if and when they are done for pay. For example, an hour of childcare takes the same amount of time whether or not done within the context of wage-labor relations.
Table 2. Imputation measures used in estimating working-class cost of social reproduction (CSR$_W$).

| Measure                              | Source                  | Use                                                                 |
|--------------------------------------|-------------------------|----------------------------------------------------------------------|
| Working-class income share (% of total earned income) | Mohun (2016)           | Wages and salaries, employer-based benefits, some social benefits, consumer borrowing |
| Working-class tax units (% of total tax units)         | Mohun (2016)           | some social benefits, household production                              |
| Average tax rate for bottom 90%    | Piketty, Saez and Zucman (2018) | taxes on working-class income                                         |

Consumer borrowing, $B$, is from the Federal Reserve, G.19, converted from monthly into annual flows. This includes all consumer borrowing, except mortgage debt. Mortgages are an important aspect of social reproduction, however, this paper abstracts from both mortgage debt and housing wealth. The estimates that result can then be thought of as a conservative (and incomplete) estimate of the role of consumer borrowing and debt in financing the social reproduction of labor-power.

3.2. The cost of social reproduction of working-class households

Based on Mohun’s class categories, we estimate the aggregate annual cost of social reproduction of the working class. Three different measures are used to impute the working-class share of components of the cost of social reproduction: the working-class income share, the percentage of working-class tax units, and the average tax rate for the bottom 90 percent of the income distribution (see Table 2).

The cost of social reproduction for working-class households, CSR$_W$, can be described as:

$$CSR_W = \omega W + \omega F - T_W + G_W + N + \xi H + \omega B$$  \hfill (2)$$

where wages and salaries, $W$, as well as employer-based ‘fringe’ benefits, $F$, are multiplied by the working-class income share, $\omega$. The amount of taxes paid by the working-class, $T_W$, is estimated by taking the amount of income estimated to go to workers and multiplying it by the average tax rate of the bottom 90 percent of the population (from Piketty & Saez, 2014).\(^{14}\) This is the closest approximation for estimating the tax rate on the working class.\(^{15}\)

\(^{14}\) Note that taxes are not paid on employer-based benefits.

\(^{15}\) The working class is between 79 and 89 percent of total tax units during the time period studied. Toward the end, when the percentage of working-class tax units gets smaller, this may overestimate the amount of taxes that the working class pays and underestimate their disposable income. If disposable income is underestimated, then the actual CSR$_W$ may be higher than that reported in this paper, and the role of net wages and benefits would also be higher.
Table 3. Government social benefits allocated to the working class ($G_W$).

| Type of social benefit                  | Program expenditures                                                                 | Percentage attributed to working-class households |
|----------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------|
| Means-tested benefits                  | Medicaid, public assistance, nutrition assistance, SSI, refundable tax credits, employment and training, housing and community services, income security, etc. | 100%                                             |
| Universal benefits, Income-based       | Social security, unemployment insurance, retirement and pension guarantee, workers’ compensation, etc. | Based on working-class income share               |
| Universal benefits, Population-based   | Medicare, education, energy, transportation, natural resources, hospitals and clinics, recreation and culture, postal services | Based on % of working-class tax units             |

This figure is deducted from working-class wages to derive working-class disposable income, which is a component of the cost of social reproduction.

Government social benefits for the working class, $G_W$, have been divided into two main categories: universal and means-tested benefits. 100 percent of means-tested benefits are allocated to the working class. For universal benefits, some are multiplied by the working-class income share because benefit levels for those programs, such as Social Security, are proportional to workers’ earnings. Other benefits, such as Medicare, are not proportional to income, and are therefore multiplied by the percentage of tax units which are in the working class $\xi$ (see Table 3).

Household production, $H$, is multiplied by the percentage of tax units that are in the working class, $\xi$. All of nonprofit spending, $N$, is allocated to the working class. Consumer borrowing, $B$, is multiplied by the working-class income share, $\omega$.

4. Results

The relationship between the cost of reproducing and employing labor-power gives us insight into the institutional arrangements underlying a society’s social reproduction processes. This data demonstrates the ex post distribution of responsibility for labor’s social reproduction among capital, labor, and the state. Following Shaikh and Tonak (1994), the cost of employing labor-power is the sum of wages, salaries, as well as ‘supplements to wages and salaries,’ which include employer-based pensions and health insurance, as well as employer

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16 Note that some of the programs that are listed as ‘universal’ use factors other than income (i.e. age, disability status, or work history) to determine eligibility.
contributions to government social insurance (p. 304).\textsuperscript{17} Taxes on capital, profits, rents, or other taxes and fees paid by capitalists are not included, as they do not represent the cost of hiring labor-power, but costs imposed on other aspects of the production process and surplus value appropriation. The cost of employing working-class labor-power can be described as:

\[ CE_W = \omega W + \omega S \]  \hspace{1cm} (3)

4.1. The historical evolution of the cost of employment and the cost of social reproduction

We can write the relationship between the cost of employing labor-power (CE) and the cost of socially reproducing labor-power (CSR) as a ratio (CE/CSR). This can be thought of as the percentage of total societal social reproduction that is covered by capital through its payment of wages, employer-based benefits, and contributions to government social insurance.

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\frac{CE}{CSR} = \frac{W + S}{(W - T) + F + G + H + N + B} \]  \hspace{1cm} (4)

A shrinking CE/CSR ratio implies that the social contract underlying the wage-labor relationship favors the ability of capital to free-ride on ‘noncapitalist’ social reproduction processes.

Figure 3 plots the CE/CSR ratio for all US households from 1959 to 2012. There does not seem to be a clear trend with regard to the evolution of the CE/CSR for the total US households ratio over time, but there is a strong cyclical component. When overlaid with NBER recessions – marked in grey-scale – we can see that during and after a recession, the CE/CSR ratio declines. This could be the effect of a decline in employment when the economy contracts. When employment falls, so do earned incomes and benefits, which lowers CE. During a recession, major components of the CSR increase, particularly counter-cyclical government spending in the form of automatic and discretionary stabilization policy. In response to joblessness, households may increase their hours of housework to substitute for purchasing goods and household services on the market, although this effect is not directly observable from the data presented in this paper.

Figure 4 plots the CE/CSR ratio for supervisor households, a term Mohun (2016) uses for the sum of working capitalists and managers.\textsuperscript{18} We see a similar business cycle effect for supervisor households as for all households: the

\textsuperscript{17} Note that in calculating CE, we include S, which includes both fringe benefits and employer contributions to government social insurance (NIPA Table 2.1, lines 3 + 6). In calculating CSR, we only include wages and salaries, W, and employer-based ‘fringe’ benefit, F (Table 2.1, lines 3 + 7) as employer-based contributions to social insurance are a tax, and the benefits (parts of Social Security and Medicaid) are included as part of government spending.

\textsuperscript{18} The cost of social reproduction for supervisors, CSR_S = CSR_A - CSR_W.
CE/CSR ratio tends to fall during recessionary periods, and recovers during economic expansions. The most striking difference is how much higher the CE/CSR ratio is for supervisor households than for all households and especially in comparison to working-class households (Figure 5). Whereas the average CE/CSR ratio for working class households is 0.44, the average for supervisors is 0.87 (see Table 4). This demonstrates that employers pay for a substantially larger share of the total cost of social reproduction for the capitalist and managerial classes than for the working class. As the CE/CSR ratio for supervisor households is closely tied to economic downturns and recoveries, we can
interpret their economic interests to be aligned to the business cycle. Interestingly, the CE/CSR ratio for supervisor households fell from 1959 to 1984, but by the mid-1980s began to increase (not withstanding recessionary periods). The recovery of the US supervisor CE/CSR ratio can be interpreted as one of the effects of the neoliberal era – and the corresponding explosion of high incomes.

Figure 5 shows the CE/CSR ratio for working-class households. The evolution of the CE/CSR for the working class displays a remarkably different pattern than for all US households or supervisor households. First, the working-class CE/CSR displays a clear downward trend, implying that the cost of employing labor-power has become cheaper for capital relative to the total societal cost of employing working-class labor-power. While the CE/CSR ratio typically goes down during recessions, most clearly following the 1973 oil shock and the 2007–2008 financial crisis, the working-class CE/CSR ratio does not appear to be as closely driven by the business cycle. Instead, there appear to be other factors affecting the decline of the CE/CSR ratio for the working class.
The historical evolution of the components of the cost of social reproduction

The evolution of the cost of social reproduction for US households can only be understood through institutional and historical analysis. To do this, we can look at the evolution of the real cost of each of the components of the CSR over time and observe some of the effect of neoliberal policy on US social reproduction processes.

Figure 6 shows the real prices (in 2010 dollars) of the components of the cost of social reproduction for all US households. A few points are worth mentioning.

The inflation-adjusted price of household production and the combination of net wages and benefits are closely related between 1959 and 1985, implying that ‘breadwinners’ and ‘caregivers’ contributed more or less equally to all household social reproduction during the 1960s, 1970s, and early 1980s. Beginning in the late 1980s, net wages and benefits grow relative to household production. Nevertheless, unwaged household production does not disappear, and until 2001 represented a greater contributor to total US social reproduction than government spending.

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19 As noted by Humphries and Rubery (1984), ‘Social reproduction develops in response to changes in the productive system but the form of this response must be understood historically’ (p. 332).

20 Market substitution and greater access to consumer goods such as washing machines and microwaves reduce the necessary hours of household production. However, changing societal norms have led many parents to spend more time caring for their children, even if they also pay for childcare (Suh & Folbre, 2016).
The sizable increase in net wages and benefits relative to the aggregate imputed value of household production for all households in Figure 6 demonstrates the effects of two important changes in the labor market structure in the late twentieth century and early twenty-first century. First, we can observe the increase in the number of women in the formal workforce – and the corresponding breakdown of the ‘family wage’ in the neoliberal era. As the formal labor force grows, so do wages and benefits. This was accompanied by a shift toward greater marketization of domestic goods and services, which appears in the data as more formal wages and less household production. Second, as described earlier, the all households category includes high-income earners classified as working capitalists and managerial class. Households that are at the top 10 percent of US income distribution – and even more dramatically, the top 1 percent – have experienced enormous income gains since the 1980s. The divergence in the relative shares of earned income and employer-based benefits relative to household production since the 1980s is being driven in part by the explosion of earned income by the ‘working rich’ in the neoliberal era.

The steady increase in government spending observed in Figure 6 is the result of the growth of the US welfare state over this time period, particularly the expansion of social spending during the ‘Great Society’ era. While neoliberal cuts to the welfare state have been painful, they have not resulted in net government saving on social spending. Despite political attacks, spending on the ‘big three’ – Social Security, Medicare, and Medicaid – have not declined. Social Security and Medicare rise as a result of an aging population. Medicare and Medicaid spending has increased due to rising US healthcare costs, a symptom of the US healthcare system’s pathology. Automatic stabilizers and means-tested benefits grow as the economy becomes more volatile and employment more precarious.

While the role played by non-profits and consumer borrowing in financing total social reproduction is dwarfed by the other variables, that role is no less interesting. To an individual, a hot meal, a free bag of groceries, and pro bono legal services are significant. But in the aggregate, the expenditures of non-profits serving households represent a small share of the total societal cost of social reproduction, demonstrating the limitations of the US nonprofit sector. The limited role of consumer borrowing in this analysis is due to the abstraction from mortgage debt and other simplifying assumptions. Otherwise, ‘the contradictions of the state-led strategy of financing social reproduction through debt’ and the effect of financialization would be more pronounced (Roberts, 2013, p. 38). The role of NGOs is greater in the social reproduction for working-class households, as all of these benefits are allocated to the working class.

Figure 7 shows the components of the cost of social reproduction for supervisors. Here we see that for capitalists and managers, net wages and employer-based benefits have been the greatest contributor to social reproduction over
the entire period studied. The dramatic increase of incomes for the ‘working rich’ – capitalists and managers – is demonstrated by the steep increase in net wages and employer-based benefits after 1980. As discussed earlier, the increase of earned income for workers at the top 10 percent – and especially the top 1 percent – of the income distribution plays an important role in shaping the trends in all households. Interestingly, the contribution of household production and government benefits to supervisor households were approximately equal throughout the 1960s, 1970s, and 1980s. In the 1990s, government spending began to outpace household production, reflecting the growth in spending on Social Security and Medicare.

Figure 8 shows remarkably different patterns than Figure 6 or Figure 7. The differences in the components of working-class social reproduction demonstrate a number of important aspects of class- and gender-based material conditions in US society.

The first difference worth noting is that, for the entire period, household production was valued higher than the total of working-class disposable income plus employer-based benefits. This demonstrates the economic importance of unwaged care work for working-class social reproduction – a point that feminists have been making for years. We see that in the aggregate, the unpaid household labor of working-class caregivers – most of whom are women – makes a more substantial contribution to working-class social reproduction than does disposable income and employer-based benefits.

It is increasingly common for working-class people of all genders to combine ‘breadwinning’ and ‘caregiving’ responsibilities. In light of our findings

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21 Shifting gender norms, technological change, and the increased participation of women in the formal labor force have caused men’s hours of unpaid household labor to increase and women’s hours of unpaid
on the aggregate level, this paper argues that the working-class household bears the greatest burden of working-class social reproduction. A shift toward greater convergence of hours spent in household work between men and women, as documented by Kan et al. (2011), does not contradict our findings that the US patriarchal-capitalist system of social reproduction is deeply gendered and classed.

The relationship between disposable income, employer-based benefits, and state social spending is also illustrated in Figure 8. From 1959 until the 1990s, disposable income and employer-based benefits contributed more to working-class social reproduction than state spending. However, due to wage stagnation in the 1980s, 1990s, and early 2000s, state spending catches up with net wages and employer-based benefits. During the financial crisis of 2007–2008, state spending grows rapidly, overtaking net wages and employer-based benefits, as well as household production. While this can be interpreted as the result of the increases in state spending during the Great Recession, it is interesting that earlier in the neoliberal era, government spending grows relative to other main components of social reproduction. The tangle of economic variables occurring in the early twenty-first century could be interpreted as quantitative evidence of the state responding to what Fraser (2017) describes as the ‘crisis of care’ under neoliberalism.

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22 The argument that the working-class household as a unit is made to bear the burden of its own social reproduction does not deny that there is often an unequal distribution of total labor hours, consumption, and leisure. Folbre (1982) describes this as exploitation within households.
5. Limitations and extensions

Further research is needed to sharpen this framework as an analytical tool. A micro-level Marxian accounting of social reproduction in value terms would be an especially promising area of research and would benefit from insights and methods in feminist time-use research. Even at the aggregate level, a number of extensions of this framework are possible.

First, the analysis presented here abstracts from temporal questions and collapses the costs of social reproduction over the lifecycle, evaluating it on a yearly basis. The current estimates treat earned-income as going to either future or present social reproduction. This schema has excluded compound interest, discount rates, and returns and losses on savings or investments, as well as dissaving to finance social reproduction.

Second, this paper has abstracted from wealth, finance, and homeownership. The role of financialization in labor’s social reproduction cannot be ignored (Bryan, Martin, & Rafferty, 2009; Himmelweit, 2017; Roberts, 2013). A more detailed examination of working-class assets and liabilities must be brought into the analysis to capture the role of the financial sector and the effects of financialization on working-class social reproduction (Himmelweit, 2017). Fees paid for financial services consumed by working-class households should be deducted from disposable income, and understood as profits that financial capitalists extract from working-class social reproduction. As Froud, Johal, Montgomerie, and Williams (2010) have shown, ‘an extension of cheap credit in rising asset markets is no substitute for growth in earned incomes and adequate social protection’ (p. 163).

Third, the current framework implies a closed system of social reproduction. An analysis of working-class social reproduction in the United States that excludes migration is incomplete. The migration of working-class individuals and families, as well as remittances sent to finance the social reproduction of people in other countries, must be incorporated into this framework. The movement of working-class people – even those deemed to be ‘low-skilled’ – implies a transfer of embodied social reproductive labor from the sending country to the receiving country.

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23 Homeownership is an important source of asset-building in the United States, even among the working class. The sub-prime mortgage crisis demonstrated that homeownership for the working class is doubled-edged (Roberts, 2013). The net effect of homeownership on the working class – which includes the middle class as well as the poor – is ambiguous and unequal. Neoliberal policies that promoted homeownership but did not safeguard against discriminatory lending practices led to the subprime mortgage crisis and lost assets.

24 As early as the mid-1970s, lawmakers enabled employers to undermine secure sources of retirement security such as traditional defined benefit (DB) pensions, causing workers to participate in defined contribution plans (DC) and other investments such as 401ks (Hacker, 2004, pp. 253–255).

25 The United States’ long history of colonialization, slavery, and forced migration further complicate this analysis.
Fourth, while gross wages and benefits relative to the total costs of social reproduction are problematized, the amount of disposable income is taken as given. This ignores tax policy as a powerful lever of social policy. As noted by Howard (1997), much of the US welfare state is ‘hidden’ in the tax code. In particular, the use of tax expenditures in the neoliberal era amounts to an important, if somewhat incoherent, approach to redistributive policy. Additional analysis would deepen our understanding of the effect of US tax policy on working-class social reproduction. Additional study would illuminate the effect of specific types of tax policy on the working class, as well as facilitate comparisons of orthodox and heterodox theories of tax incidence.

Finally, an aggregate class-based analysis necessarily abstracts from conflicts, divisions, and inequalities related to the diversity of social identities within the US working class (Folbre, 2012). More can be done to build on insights from intersectional feminism and to emphasize how social differences – and the institutions that govern them – are embedded in our social reproduction realities. New applications of information theory to US income data reveal compelling statistical evidence of the pecuniary rewards of white and male privilege (dos Santos & Wiener, 2019).

6. Conclusion

The goal of this paper was to compare the cost of employing and reproducing labor-power. The main finding – the decreasing CE/CSR ratio for working-class households over the time studied – implies that employers are paying for a lesser proportion of the total cost of social reproduction for working-class households. This is consistent with the work of researchers on US income inequality, feminist economics, and Marxian political economy.

This paper has proposed a class-based, feminist-Marxian accounting method for estimating and analyzing the aggregate annual cost of US social reproduction. The cost of social reproduction represents the private and public expenditures spent on US social provisioning and care for the current, future, and previous generations of workers. At the aggregate level, the US patriarchal-capitalist system puts the greatest burden of social reproduction on working-class households. This framework is meant to empirically evaluate and illustrate some of the implications of Marxist-feminist social reproduction theory using aggregate price data. Just as Marxian economic theory is more robust when incorporating feminist insights, Marxian accounting methods can be used to evaluate and advance social reproduction theory. This paper should

26 For example, this analysis is further complicated when considering that many immigrants, especially immigrant women, are employed as care workers. The low-wages offered to feminized and immigrant work is another factor that puts downward pressure on the wages of workers in socially reproductive sectors. This in turn affects the imputed cost of household production, which is based on average wage rates for paid domestic workers, who are overwhelmingly female, immigrants, and/or people of color.
be read as an invitation to explore the empirical validity of social reproduction feminism using quantitative Marxian analysis.

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Notes on contributor

Katherine A. Moos, PhD is Assistant Professor of Economics at the University of Massachusetts Amherst and a Research Associate in the Political Economy Research Institute (PERI), Program on Gender and Care Work. Her research interests include feminist political economy and the welfare state.

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