

Careworn: The Economic History of Caring Labor

JANE HUMPHRIES

Economists ignore caring labor since most is provided unpaid. Disregard is unjust, theoretically indefensible, and probably misleading. Valuation requires estimates of time spent and the replacement or opportunity costs of that time. I use the maintenance costs of British workers, costs which cover both the material inputs into upkeep and the domestic services needed to turn commodities into livings, to isolate the costs of *paid* domestic labor. I then impute the value of *unpaid* domestic labor from these market equivalents, and aggregate across households without domestic servants. Historically, unpaid domestic labor represented c. 20 percent of total income, a contribution that suggests the need to revise some standard narratives.

While Adam Smith defined economics in terms of wealth creation and Lionel Robbins in terms of limited means and unlimited ends, Alfred Marshall thought of it as "...a study of men (sic) as they live and move and think in the ordinary business of life." Nothing could be more ordinary than caring. It takes place all the time and all around us. It involves diverse tasks, many of which add significantly to wellbeing and enhance productivity. However, caring work is hidden in plain sight, carried out in private households, and often for free. Moreover, commercialized care is also overlooked and undervalued. It takes a pandemic of catastrophic proportions to reveal care's importance. But while we

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applauded our caregivers not so long ago, they and their work are already fading from our economic consciousness. My task is to identify caring's importance historically, not only to secure a more complete account of the ordinary business of life, but also to augment, perhaps even correct, standard interpretations of economic history framed in terms of Smithian enrichment or Robbinsian rational allocative order.

Caring's component tasks, which I list later, overlap with household or domestic labor and the more contentious framing of "social reproduction" (Beneria 1979; Rao and Akram-Lodi 2021).¹ In this address, I concentrate on what feminist economists have called "indirect care," such as cooking, cleaning, and laundry; commonly summarized as domestic labor or housework (Folbre 2018; Duffy 2011; Moos 2021). Although some such labor is provided commercially, in the past as well as today, most is undertaken unpaid by family members and is ignored in conventional macroeconomic accounting. I join the global feminist lobby in arguing that this lack of recognition is not only unjust but misleading, promoting misestimation of output, productivity, growth, and wellbeing. Inspired by earlier approaches to the valuation of unpaid labor, I use estimates of the difference between the costs of the *complete* maintenance of working people in Britain 1270–1860 and standard estimates of the cost of living restricted as they are to the *commodity* inputs to try and identify the contribution of domestic labor *when it was paid for*. These estimates then provide the basis for the imputation of value to the vast quantity of work that was unpaid, allowing for the computation of its aggregate value relative to total output at various times in British history.

In this paper, I first introduce caring labor and its component tasks. I then describe how economists and economic historians have indefensibly neglected domestic labor despite its essential role in the transformation of commodities into the consumables needed for living, and sketch feminist economists' long-standing efforts to bring this work from the "statistical shadows" (Benería, Berik, and Floro 2015). However, it is not enough to *notice* caring and domestic labor; we need to value it. Here, the elephant in the economist's study is that most of this work is performed unpaid. I next look at how pioneers have imputed the value of unpaid work. These usually involve estimating the time spent on domestic labor and the value of that time inferred from either its replacement cost

¹ Social reproduction involves: (1) the basic sustenance of workers; (2) the intergenerational reproduction of the labor force, including biological reproduction and care of dependents; and (3) the transmission of the norms and skills required to reproduce working people, which must include unpaid as well as paid caring labor.

if a substituted worker were to be hired or its opportunity cost if the unpaid provider were to re-orient her activities to the market. The difficulties faced by economic historians in trying to adapt these approaches to a context lacking key evidence, for example, on time use, are recounted.

I then dive into the empirical evidence, presenting the data on maintenance costs drawn from the British historical record. These costs relate to the support of decent working people at respectable standards and, crucially in this context, include not only the cost of material inputs into livings, but also the cost of the domestic labor needed to transform these commodities into consumables and so support living. These costs are then compared with the cost of an index of the cost of living created by Allen (2001, 2009), which consists of a representative basket of commodities. Differences identify times and places when living costs drifted away from or converged with those of the standard basket. These capture the evolution of material inputs, but they also reflect the extent and cost of the component domestic labor. Unfortunately, these two factors are conflated, as more extensive and sophisticated consumption requires more household services to transform commodities into livings. The sources of divergence are investigated by relating the trends to the qualitative evidence on consumption and to women's wages to reflect the costs of domestic labor.

I then use regression analysis to control for the heterogeneity of the evidence on maintenance costs and to estimate the value of the inputs of household labor in different contexts. These estimates are spot-checked against historical evidence on the cost of particular domestic labor services to test their reliability. The cost of the domestic labor needed to support a male adult is multiplied up to cover the support of a family and then aggregated over all families that did not contain domestic servants and so presumably needed substitute labor to be provided by unpaid family members. The numbers of such families are estimated from the well-known social tables for England/Britain constructed by King, Massie, and Colquhoun and revised by both Lindert and Williamson (1982) and, more recently, Allen (2019). Finally, I relate these provisional estimates of the aggregate value of this kind of domestic labor to the estimates of national income provided by the early political arithmeticians in their tables, and relate these figures to other estimates of the value of domestic labor relative to total output. In closing, I remind readers that these estimates relate to only one part of the caring labor provided in the past and underline its significance in estimates of output and growth, as well as the extent of misunderstanding generated by its neglect.

CONTEXT: CARING LABOR

The Savoy Hospital, in caring for men made sick and injured in the English Civil War and Interregnum, employed nursing sisters and subsidiary staff. A mundane aspect of the care provided involved help with elimination. The bedridden had chamber pots stored in bedside “close stools” and supplied with tow for hygienic purposes. To complete the caring labor, the Savoy employed one Goody Swayne to empty the close stools every morning and evening, for which she was paid 2 shillings a week (Gruber von Arni 2007, p. 141). Of course, such labor was general. Outside hospitals, in all walks of life, and involving all classes, somebody had to clean up after others had pissed and shit. For the elite, traditional forms of indoor lavatory, such as chamber pots and close stools, needed a retinue of servants. Long into the nineteenth century, battalions of housemaids and general skivvys serviced aristocratic and bourgeois needs, for it took decades for technical improvements in sanitary ware to make them sufficiently attractive for inclusion within the home (Lucey 2020, pp. 67–72). Lower down the social scale, in servant-less households, outdoor privies, often shared, continued to serve, with the young, elderly, and, in fact, most people at night and in winter resorting to chamber pots and slop buckets emptied and rinsed by family carers. Millions of Goody Swaynes were required to perform this function well into the twentieth century, given the sluggish investment in the sanitation needed to supply running water to working and even middle-class housing. Even if water closets were provided, they often remained outside, prolonging reliance on pots and buckets and those who emptied and cleaned them.

Goody Swayne is a rarity. Despite its ubiquity, this labor is rarely noted. Sources offer only occasional glimpses. In work with Ryah Thomas (2023, p. 118), on the basis of evidence provided by miners’ wives in interviews and life writing, we estimated that even in the early twentieth century, seven hours of labor per week were required to cope with the particularly wretched sanitation and lack of running water prevalent in pit villages: emptying chamber pots; carrying away “slops”; scrubbing out the dry lavatories (middens); and cleaning the seats of these installations, “the rottenest job of all” according to one miner’s daughter, but best done “as often as you could” according to another!

Although the workers are only glimpsed, it is clear that cleaning up after elimination was gendered labor. Mary King provided a telling reflection on parental specialization in early twentieth-century rural Scotland. The bad housing and primitive sanitation “...wis lot o’ work for ma mother. She wis a hard workin’ woman.” She provided an example: cleaning out

the dry lavatory. “[O]h, it would be ma mother likely that cleaned oot the toilet... ma mother was the worker...ma father widnae dae it” (cited in Humphries (2020, p. 332)). Emptying, cleaning out, and then replacing indoor lavatory ware was just one of myriad caring tasks undertaken in the past, though its hidden status, awkward straddling between commercial and family provision, unpleasant dimensions, and relentless repetition are universal characteristics of such work.

Here I concentrate on the subset of caring tasks usually denoted as domestic labor, identified in bold in Table 1. Housework historically involved different tasks from today, covering water and fuel collection, washing by hand, mending clothes and shoes, replacing candles and trimming lamps, etc., in many ways resembling women’s work in today’s global south, where it remains a particularly heavy burden in households that lack access to basic services such as sanitation and safe water. It was generally an enormous task but varied over time in composition and extent and, I will argue, became more onerous as families remained large, housing poor, and domestic equipment rudimentary, though standards were rising.

Most of this labor (as noted earlier) is unpaid, and so it is ignored, perhaps the most egregious omission of modern economics. When Marshall advocated the exclusion from the estimation of total output the value of all services that people “render to themselves, members of their families, and friends” of the services he had in mind, as Clark (1958, p. 205) noted, housework was the most important. Marshall’s advice was essentially pragmatic. Exclusion was indefensible on theoretical grounds, as Pigou famously underlined by his *reductio ad absurdum*, since it meant that “if a man marries his housekeeper or his cook, the national dividend is diminished.” Moreover, as Clark noted again, when a service, for example, the use of a house, was sometimes the subject of a monetary transaction but sometimes enjoyed as a result of the householder’s ownership, the usual accounting procedure was to include in national product an estimate of the value of the use of the house or other service, whether the subject of a cash transaction or not, so long as the service was one that was customarily exchangeable for money (1958, p. 205). By this criterion, attempts should have been made to include an estimate of the value of housework performed, albeit not exchanged for money; indeed, many early macro-economists in the United States and Europe did attempt such an exercise. Hawrylyshyn, in a survey in the *Review of Income and Wealth* in 1976, reported 13 relevant studies published in mainstream outlets between 1919 and 1973 using various methodologies. We will have cause to refer to their findings later, in the

TABLE I
THE CONTENTS OF CARE

Tasks
Enabling eating and drinking, that is, cooking, baking, brewing, serving food, scouring pewter and pans, washing dishes, etc.
Enabling elimination, that is, emptying, cleaning and replacing chamber pots, pans in close stools, emptying “slops,” providing tow and moss for hygienic purposes, cleaning outhouses, etc.
Enabling personal cleaning and dressing, that is, providing water, washing elderly people, children and the sick, laundering clothes, etc.
Enabling the control of body temperature, that is, providing clothing, washing, drying, and mending clothing, including knitting stockings, repairing shoes, etc.
Enabling the expression of sexuality
Enabling sleep and repose, that is, cleaning and dressing beds, washing bed-linens, cleaning interiors, etc.
Nursing, that is, setting limbs, pulling teeth, helping to survive sickness, etc.
Helping to endure pain, that is, providing herbal analgesics, etc.
Assisting the dying
Laying out the dead
Midwifery
Breastfeeding
Childcare
Safeguarding the young and the elderly
Ensuring warmth, that is, providing fuel, lighting and building fires, replenishing fires, cleaning grates, etc.
Providing light, that is, trimming lamps, lighting candles, etc.
Providing water
Cleaning domestic space
Teaching children
Training children

Sources: Roper et al. *Elements of Nursing* (1985); Priscilla Wakefield's Outline of and Recommendations for the Second, Third and Fourth Classes of Society, in Rostek, *Women's Economic Thought in the Romantic Age* (2021, table 6.4); Berik and Kongar, eds., *Routledge Handbook of Feminist Economics* (2021).

meantime reflecting on the treatment of caring and domestic labor in modern economics and associated accounting systems.

ONGOING NEGLECT: ECONOMISTS AND
ECONOMIC HISTORIANS ON CARE

These concerns continued to be raised at the birth of national income accounting. Messac (2018) has highlighted the unease of Phyllis Deane, then a young researcher working under the supervision of Richard Stone, one of the founding fathers of national income statistics. Deane struggled to measure the “national” incomes of mostly rural subsistence economies in British Africa using a conceptual framework designed for market economies. Deane strove to come up with a monetary estimate of production consistent with the convention that activities outside market exchange should be excluded from national income, while recognizing the value of own-use production, which in her context was ubiquitous. Deane’s dilemma was re-lived by successive generations of national income accountants around the world as they wrestled with where to locate the “production boundary,” which is the dividing line between those productive activities that would be included in national income and those that would not. As Messac emphasizes, this issue became most contentious with respect to self-provisioning by unpaid women workers. While some statisticians included firewood collection, beer brewing, and cooking, others considered such activities outside the economy. This limited recognition of production for its own use and the unpaid labor that gave rise to it was then built into the international standards enshrined in the United Nations System of National Accounts (SNA) and associated measures of GDP.

While GDP expanded over time to include forms of unpaid work such as the subsistence agriculture that had so concerned Deane, the exclusion of unpaid household *services* remains entrenched in international statistical standards, despite contestation by economists, statisticians, and feminist scholars (Braunstein 2021). According to DeRock, while statisticians in the statistical departments of international agencies such as the United Nations, International Monetary Fund, and World Bank are aware of criticisms, they represent a united front against the inclusion of household services as a result of “shared norms (about the quality of official statistics) and ideas (about the boundaries of markets)” (2021, p. 31). So, although the SNA’s production boundary has expanded, unpaid care work remains beyond the pale despite its economic importance.

Feminist theorists identified women’s unpaid care as a major source of gender inequality, underpinning dependence, giving rise to unequal

bargaining power in the household, and, via the “care penalty,” disadvantaging women in the paid labor market. Consequently, the global feminist community has long campaigned for the recognition of caring labor as work. Reid’s (1934) definition of work as any task that could be delegated, the “third person criterion,” provided feminist economists with a way to conceptualize cooking, cleaning, and childcare as work, and Reid’s early methodological contributions laid the foundations for subsequent development of alternative ways to quantify its economic value (Yi 1996; Ironmonger 1996; Waring 1988). While the UN World Conference on Women in Beijing in 1995 offered support for the recognition of unpaid work and the International Conference of Labor Statisticians recommended including unpaid household care workers as part of the labor force in 2013, the main concession in terms of SNA has been that national statistical offices have been encouraged to produce “satellite accounts” that incorporate unpaid care work. Feminist economists have expressed some disappointment at the pace at which such accounts have progressed (Braunstein 2021). One important stumbling block that we will also see in historical endeavors is the absence of robust evidence on time use, a necessary input into such satellite accounts (Floro 2021). Current feminist calls for the systematic development of time-use surveys find an echo in historians’ intensified efforts to establish accounts of how time and work were allocated from disparate historical sources (Ågren 2017; Burnette 2023).

It is important to emphasize that ignoring women’s unpaid care work not only involves an injustice to women workers but is also likely to distort our understanding of the macro economy. The available evidence suggests that neglect is likely to result in mistaken estimates of growth and output. Estimates of the value of unpaid household work, including cooking, cleaning, and care, in a sample of mostly OECD countries amount to between 1/3 and 1/2 of total economic activity (Miranda (2011), cited in Braunstein (2021, p. 353)). We might expect contributions to be higher for the Global South, where the commodification of women’s work is less advanced (Budlender 2008). The same must surely also be true of the past, although in both cases estimates based on either replacement or opportunity cost will be low because of women’s poor wages, especially in care work (Clark 1958). Moreover, it is unlikely that the value of women’s unpaid work is an unchanging proportion of GDP as activities move in and out of the “production boundary” and relative wages change. Modern definitions of “work” are ahistorical (Whittle 2019), and related conceptualizations of GDP likely misrepresent growth and the evolution of wellbeing (Stiglitz, Sen, and Fitoussi 2010), creating

problems for long-run analyses. Under these circumstances, have we done better than economists in recognizing the importance of unpaid work and imputing its value?

Standard economic history texts provide no references to domestic or caring labor, while historical accounts of economic development either ignore care and housework completely or treat them as constants. For example, the latest two editions of the *Cambridge Economic History of Modern Britain* include neither care nor domestic labor in their indexes, although both contain chapters with brief reference to labor commodification and the movement of activities from the home to the market (Floud and Johnson 2004; Floud, Humphries, and Johnson 2014). Broadberry et al.'s recent study of British growth from medieval to modern times assumes that throughout women contributed only 30 percent of total days worked because of their "child-rearing and household duties" (Broadberry et al. 2015, p. 348). The output of these latter duties remains unrecognized, its only importance being the unchanging (over six centuries) distraction afforded to women's participation in paid work.

This neglect is underpinned by the dominance within economic history of standard concepts that rule much female labor out of consideration. Thus, our conventional measure of living standards, welfare ratios, uses the prices of the goods contained in a standard basket of commodities to deflate incomes with no attention to the work, whether paid or unpaid, that is required to turn these commodities into the consumables that support living: transforming foodstuffs into meals, linen and thread into mended or new clothing, lamp oil into illumination, and fuel into warmth. In fact, for much of our past, somebody had to fill the basket in the first place, that is turn earnings into commodities and then begin the task of turning these into sustenance and comfort.

There are exceptions. Historians of consumption have recognized that the use of commodities, even the consumption of food, involved significant amounts of labor to turn goods into lifestyles. Historian John Crowley, for example, concluded that late medieval man's requirements for comfortable living were "clean clothes, a well-appointed bed, a fire, and someone to serve him these amenities" (2000, p. 18, own emphases). Nor is Katherine French alone in recognizing that this labor changed in both extent and kind over time as consumption became more sophisticated and households acquired more consumer durables (French 2021). Gender historians have highlighted the importance of both subsistence production and caring in the early modern economy, but their accounts have stopped short of trying to quantify its value (Ågren 2017; Whittle and Hailwood 2020; Macleod, Shepard, and Ågren 2023). On the other hand,

feminist economists, inspired by Reid, Waring, and Benería, have not only recognized the value of unpaid domestic services and campaigned for them to be included in national income accounts, but they have also publicized the empirical strategies that would enable valuation alongside illustrative examples for various times and places, as noted previously (see also Folbre 2023).

Empirical studies suggest that unpaid household services were not of the trivial importance assumed by a reviewer for the *Journal of Economic History* who thought that any attention to them required “justification.” Modern estimates can reach 60 percent of GDP, but even these are dwarfed by Colin Clark’s approximations for Great Britain, which extended back into the nineteenth century. These suggested that the valuation of housework represented 90 percent of the money national product in 1891 and exceeded it in 1871, though this was at 1956 prices. More conservatively, the statistical inquiries of the 1920s–1960s surveyed by Hawrylyshyn (1976) generally estimated housework’s value at around a third of national income. Let us then turn to empirical studies and the various methodologies proposed to measure the value of women’s unpaid work.

VALUATION STRATEGIES

Hawrylyshyn identifies three conventional approaches to the valuation of the mountain of women’s work that is unpaid and so outside the conventional production boundary. While these approaches sketch the methodologies considered some 50 years ago, they remain the basis of modern imputation.

The first uses opportunity costs of labor:

$$H = (QT \times W) \times 52 \times P,$$

where H is the value of housework, QT is the number of hours devoted to housework weekly, W is the opportunity wage cost of relevant individuals, and P is the number of individuals providing unpaid household services.

The second extrapolates from the costs of paid domestic servants:

$$H = D \times N,$$

where H is the value of housework, D is the annual average salary of a domestic, and N is the number of households without commercial domestic services.

The third calculates the total value based on wages for specific occupations:

$$H = P \times 52 \sum_{i=0}^n (QT_i \times W_i),$$

where H is the value of housework, QT_i is the number of hours per week devoted to housework of kind i , W_i is the hourly rate in the market for occupation i , and n is the number of functions in aggregation.

The third methodology is the most satisfactory in that it disaggregates the tasks involved in housework, the time each takes, and the pay rates per task. While offering a gold standard approach to valuation, it is very demanding of the evidence base. It requires detailed data on time use and market wages for different kinds of caring and domestic labor. Such data is rarely available, even for modern economies, and is missing historically. The second methodology is rather crude in assuming that all households without commercial services enjoy family-provided housework of equal value to a full-time housekeeper and leads back to the kind of unchanging assignment to unpaid work for which we have criticized Broadberry et al. (mentioned earlier). The first approach, while requiring some evidence on time use, is less demanding than the third and does allow for variation in service provision.

All three approaches require evidence on the time devoted to household services, in greater or lesser detail. This is difficult to estimate in the absence of survey data. The earliest British study dates from 1909–13, when Fabian women persuaded a sample of working-class London wives and mothers to record their daily activities, providing the background to Pember-Reeves's (2008) *Round About a Pound a Week*. All three approaches echo Reid's third-person criterion and resort to market equivalents to value the time devoted to domestic labor. Hawrylyshyn refers to this as the opportunity wage cost, though rather than being an estimate of what the household worker could earn were she to transfer her efforts to the market, it actually refers to the standard wage prevailing in the market, which we would term a replacement cost. Finally, they all also require information on the number of households that do not benefit from commercial provision (included in national income data, albeit often incompletely), and so presumably rely on unpaid assistance from family members in order to aggregate to the macro level and be able to relate the findings to GDP.

I propose a hybrid methodology that combines elements of all three approaches described but is adapted to the historical evidence. It also draws on a fourth methodology, used by Clark (1958), which Hawrylyshyn

mentions but does not specify in detail. Clark estimates the costs of domestic services as the costs of the complete maintenance of people in care homes and institutions minus the costs of their consumption of food, fuel, light, and clothing, a methodology that inspires my own approach.

I estimate the value of household services from a long-run and in-depth analysis of what it cost to maintain working people in the past, when for one reason or another that support was costed and recorded. Following Clark's strategy, I then subtract from this complete cost the cost of the intermediate inputs into maintenance, that is, the costs of food, fuel, light, and clothing, as estimated in Robert Allen's "respectable" consumption basket. Unfortunately, this difference conflates the costs of the domestic services needed to support living with any drift of consumption away from the basic provisions included in the basket. I try to separate these two components and control for the heterogeneity of the maintenance data using regression analysis, relating the gap in costs to exogenous confounders such as region and duration of support as well as to women's wages, taken from my own earlier work with Jacob Weisdorf (2015). The coefficient relating women's nominal daily wages to the gap between maintenance costs and the cost of living commodity basket suggests the proportion of a woman's working day needed to support a working man's consumption. The wages that women could command when working casually by the day can then be used to impute the value of the domestic labor when provided unpaid. The estimate is then multiplied up to cover family needs and aggregated across all households without commercial services, which are assumed to need unpaid provision. The final step involves relating this total to estimates of nominal national incomes to gauge the macro significance of women's unpaid work.

APPLYING THE METHOD: THE EMPIRICAL EVIDENCE

My maintenance cost data is drawn from over 300 principally archival or printed primary sources and consists of over 4,600 observations, over 80 percent relating to the maintenance of men, but including some women and children. Table 2 lists the kinds of sources used alongside illustrations.² The data is distributed (unevenly) over the centuries covered by the study, and although source types cluster in particular time periods, there is a reasonable spread. The sources and measurement protocols are described in related papers (Humphries 2023, 2024).

Many observations are gleaned from account books that record the costs when employers fed and/or accommodated workers so that they did

² Controls for source types are included in the regression.

TABLE 2
TYPES OF SOURCE WITH EXAMPLES OF OBSERVATIONS

Type of Source	Example
1. Accounts: costs of workers' board and lodging	In 1548, the Boxford Churchwardens employed Thomas Armysbye for "dawbyng of the town shoppes." He was paid 12d for 3 days work, his "meate & dryke" was costed separately at 9d, and his bed at 1d (Northeast, ed., 1982).
2. Accounts: differences in wages between with and without board and lodging	In 1578 at Stanford in the Vale, a thatcher's servant was paid 8d for two days work "with meat" in addition, while in 1580 he was paid 5d per day but had to "boorde himselffe" (G.A. Berks, 80 550).
3. Accounts: direct payments to providers of board and lodging	Admiralty records record payments c.1562 to "Joan Kinge, Alice Bary, Elizabeth Ffrances, Joan Rocke and eighteen other persons of Deptford, Greenwich, Lewisham, and thereabouts for the lodging of 170 shipwrights, caulkers, sawyers, smiths....." (Hattendorf et al. 1993).
4. Estimates by social commentators	Arthur Young estimated harvest board in the 1770s as high as 10d per day (Young 1772).
5. Grain liveries	In 1303–5, on various Durham Priory manors ploughmen received 4.33 quarters of wheat, which Richard Britnell (2014) valued at 21s per year.
6. Billeting soldiers and sailors, etc.	Billeting in Hertfordshire of 5 men for 3 days was costed at 7s 6d in 1643 (Thomson 2007).
7. Maintenance contracts, corrodies, pensions, etc.	Agnes att Wode, "the lord's beadswoman" on the Manor of Mote was boarded with a servant for 3 months in 1479 at a cost of 2s 6d (Gardiner and Richardson 2008).
8. Wage Assessments: differences in wages with and without food and drink	A 1724 Kent wage assessment determined that the "second sort" of artificers were to get 14d per day in summer or 7d and food (Waterman 1928).
9. Board wages	In February 1756, Duke Duck received 15s for 5 weeks "board wages" alongside his regular remuneration for the same time period (Wiltshire Record Office, 2664/2/1B/10).

Source: Compiled by author.

I Amelia Thomas do hereby agree to take the young
 Preachers of Board and Lodging on the following terms: (viz)
~~Eighteen~~ ^{Twenty} ~~Shillings~~ per quarter for their washing, Lodging, and
 Gardell. The sum to be paid quarterly.
 Meals Three Pence for Breakfast and Four Pence for Dinner
 To be paid by the Preachers Saturdays before repairing to their
 next appointments.
 Mrs Thomas will be allowed the use of 2 Blankets, 2 Sheets,
 2 Bolster cases, 4 Pillow Slips, 2 Towels, 1 Counterpane, 1 Matt
 1 table, 1 Wash hand Basin, 1 Jug and Basin, and 1 small Looking
 Glass, belonging to the young Preachers and at present in use.
 But to have no further claim on the Society when they are worn
 out. Mrs Thomas will then have to provide all that is necessary.

Penzance June 30th 1815.

Signed + In Witness of Mrs Thomas
 John Brown Pastor of the Circuit

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 11/11/15
 A152
 MR/PZ 484

FIGURE 1
 AGREEMENT BETWEEN MRS. AMELIA THOMAS AND
 THE CORNISH METHODIST CIRCUIT

Source: From the collections at Kresen Kernow – MRPZ/484. Used with permission.

not need to return home to eat or sleep. Such boarding and lodging was common in the past when commuting would have been time consuming or even impossible. A closer look at two examples might be useful.

Figure 1 illustrates source type 3. It is a contract with Mrs. Amelia Thomas found in the Cornwall Record Office. Mrs. Thomas agreed to

- **System Reference:** XMO/445/14/252

Details

- **Level:** file
- **Date:** 29 February 1632
- **Description:** 1. Anne Donne of Rowton widow

2. Henrie Donne of Brome yeoman

Consideration; yearly rent of 8.8.0

“from Ladyday next for a term of 3 years and so from 3 years to 3 years for the term of her living and if she publish her dislike 6 months before the end of the term, Henrie shall deliver up quiet possession, Henrie to have the right to give her the same warning. He shall keep her with a convenient chamber for lodging with a chymney therein, finding her fuel and wood to be brought into the same by himself or his servants to be burnt at her pleasure, also convenient diet to be taken and eaten by herself or with Henrie and his wife Henrie shall keep and maintain the stock of sheep with their increase, Anne to shear sell or take the profit of them For these considerations, Anne will allow him 6.8.0 yearly to be deducted from the rent”

Mark of Anne Donne

Witnesses:- Francies Palmer, Richard Ball, Edward Brome, John Hamonds (mark)

The last day of February 1631/2

FIGURE 2

TRANSCRIPTION: REMISE, ANNE DONNE OF ROWTON, WIDOW

Source: Shropshire Archives Catalogue.

supply board and lodging of a specified standard and clearly included domestic services for the young preachers when they passed through her village in return for payment from the local Methodist circuit. Figure 2 relates to a maintenance contract and illustrates source type 7. In the past, people sometimes surrendered property in return for support, usually in old age; agreements were recorded in the manorial and other courts, examples of which occur throughout the centuries covered by my study. Thus, in 1632, Shropshire widow Anne Donne contracted with her yeoman son, Henrie, allowing him a significant reduction in the rental on her land in exchange for maintenance. But the canny widow included a get-out clause: if she was not satisfied with her living, she could resume effective possession of her property. Of course, Henrie would then have to pay the

market rent on any land, and Anne would have to maintain herself. The rental consideration captures the cost and value of the widow's support.

As these cases show, my maintenance costs come with descriptions of the goods supplied, and most importantly, they cover the *services* necessary to turn these commodities into livings. Thus, they *include* the cost of the household services needed in the ordinary business of historical life, here provided in return for financial consideration but often given unpaid.

Figure 3 graphs the decade averages of my data excluding observations for women and children, 3,867 observations (83.7 percent of the total sample), compared to the costs of the “respectable” consumption basket.³ Panel 1 shows the growth over time of maintenance costs in comparison with the cost of the respectability basket, both in nominal terms. Not surprisingly, nominal maintenance costs follow changes in the price level indicated by changes in the cost of the respectability basket, registering short-run blips as well as long-run trends. But the maintenance costs are always higher, and the disparity has evolved over time.⁴ This gap represents two components: (1) the difference in value between the actual commodities needed for respectable maintenance and the commodities contained in the standard basket, and (2) the cost of the household services needed to turn commodities into livings, which is ignored in the cost of the basket. Panel 2 graphs the nominal costs of maintenance divided by the nominal costs of the basket. Maintenance for the respectable working men covered by my data usually costs between 1.5 and 3 times the respectability basket, though it reached 4 times that level in the late medieval period.⁵ Since the basket costs capture changes in the prices of the basics, divergence indicates the inclusion of other goods and services and differences in their relative prices.

The Black Death clearly marked a break with earlier standards, inaugurating improved diets and more comfortable living. Levels fell back in the 1500s as Tudor inflation eroded real values, as shown in Panel 2. But decent maintenance even at its trough costs half as much again as the basket, implying a substantial difference in real consumption. Note that this nuances the apparent steady improvement in livings implied by the monetary costs of maintenance taken in isolation, as in Panel 1. By allowing for price changes, the evolution of maintenance costs is reconciled with mainstream accounts of a profound decline in

³ The maintenance costs of women and children are significantly lower than those of men, and so their non-random frequency within the data could confound findings. Their analysis is a project for the future.

⁴ Increasing, though not without interruption, from about 200 percent of the cost of the basket in 1270 to 300 percent in 1870.

⁵ The graph refers to the raw data.

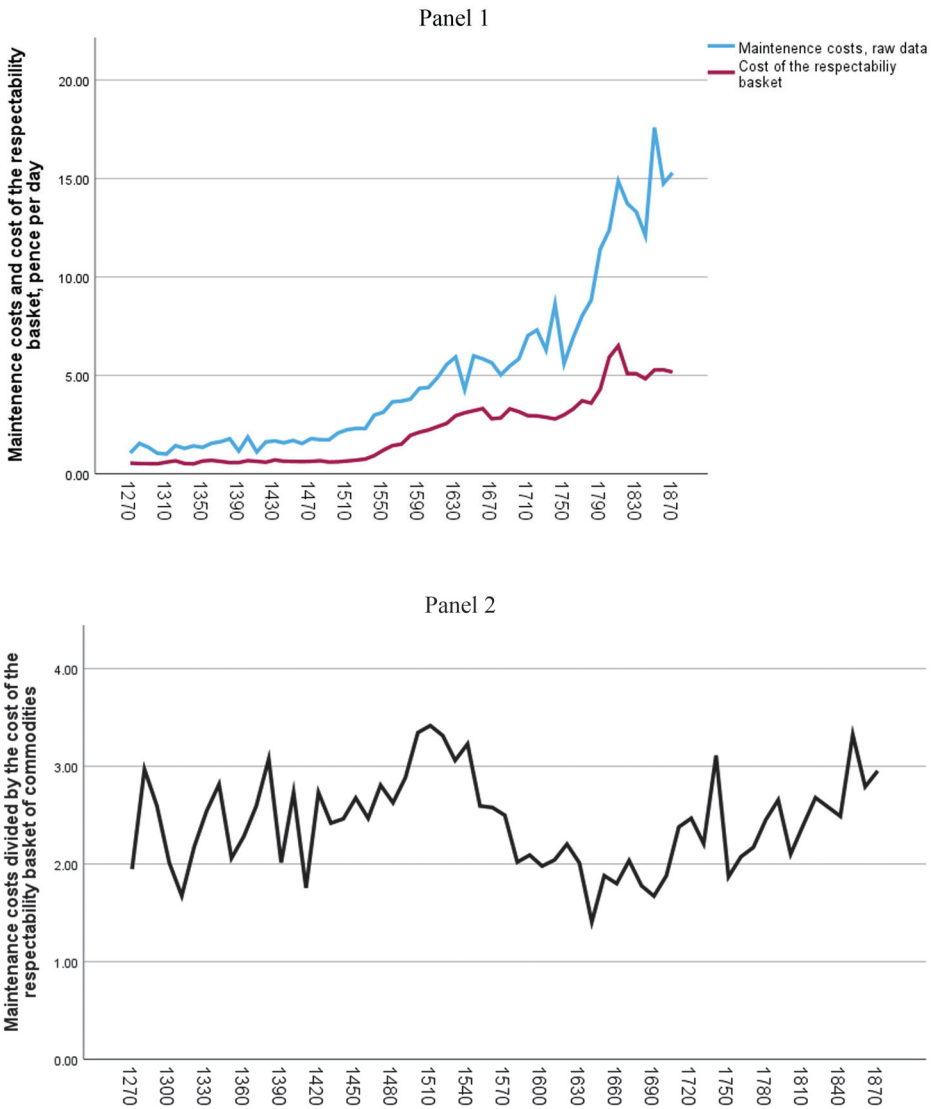


FIGURE 3
 MAINTENANCE COSTS COMPARED WITH THE COST OF
 THE RESPECTABILITY BASKET, BY DECADE

Source: Author’s illustration from data compilation.

real consumption from the middle of the Tudor period. However, this cutback did not last until the nineteenth century, as some both classic and more recent commentators have suggested (Rogers 1949; Clark 2005). Instead, the reopening of the gap c. 1630 confirms the standard timing of the consumer revolution and the increasing pursuit of comfort. The difficult decades at the end of the eighteenth century saw standards trimmed

back toward those implied in the basket, but there was a resurgence in relative real consumption thereafter.⁶

The trends also reflect the changing consumption and price of domestic services, which are included in the maintenance costs but ignored in the basket. Thus, while medieval life involved limited *quantities* of domestic labor, its price, not included in the basket cost-of-living, increased as a result of the growth in women's casual wages, augmenting costs. Retrenchment c. 1450–1600 reflects stagnation in both the quantities and prices of the domestic labor needed to deliver contemporary lifestyles, while renewed divergence post-1600 relates to the increasing labor intensity of the more sophisticated livings and the renewed growth of their price in terms of women's wages (Humphries and Weisdorf 2015, pp. 424–25).

The problem is that these two components are deeply confounded. A decent lifestyle involved more and better food, a comfortable domestic setting, and increased hygiene, as documented by consumption historians and clear in the qualitative detail from my sources. Yet it also required more household services, as those same historians emphasized. Thus, when the use of chamber pots and commodes spread down the social hierarchy, as probate inventories and working people's diaries document, the work involved in emptying them and cleaning them was added to the duties of unpaid household workers. In short, as the composition of consumption changed and new goods and services were added while older ones disappeared, the extent and nature of the transforming domestic work expanded, especially as housework technology lagged general progress. The task is to separately identify the value of domestic services.

With this in mind, let's turn back to my data base of maintenance costs. Making this diverse historical evidence amenable to quantitative analysis is challenging. However, the record shows that maintenance came in various packages and that their relative frequency appears to change over time, consistent with the account of the consumption historians. Five packages are identified.

1. Being fed provides a baseline.
2. Board offered more involving daily meals in a domestic setting and some basic housing.
3. Lodging improved on board by providing access to a specific, though not always private, space, implying more comfort.

⁶ The variation of maintenance costs in real terms is explored in more detail in related papers; for example, see Humphries (2023).

4. Washing added the laundering of clothing and bedding and provision of other household services.
5. Varied components refers to non-standard packages that might combine some food service with occasional nursing, supervision, in cases of mental and/or physical infirmities, specific domestic labor such as bedmaking, and so on.

Costs varied by package. All included food, so the variation in quality and cost as well as the cost of the labor of those women who cooked, baked, brewed, and served the meals can be assumed to be similar across packages. Where packages really differed was in other aspects of their domestic-labor intensity. More time was needed to furnish board than just food, and more again to service lodgers and provide laundry services, so the costs of the packages depended to an increasing extent on the wages/opportunity costs of female providers. The more extensive packages were more common over time, reflecting trends in what was needed to constitute a respectable living, a finding in tune with both the conclusions of historians of comfort and my own qualitative evidence. This is reflected particularly in the spreading demand for better accommodation and for laundry services, traceable back in the British evidence to the late medieval period, but becoming more common over time, so that by the late eighteenth century even humble apprentices and shop assistants sought contracts that specified board, lodging, and washing (Heywood (1815) cited in Barker and Hughes (2020); Marshall 2013). While food-only packages dominated observations in the earliest centuries, by the 1700s they had fallen to only 18 percent of the total, while packages that included washing made up over a quarter.

I recorded the nature of the package in each case, along with the type of source. Other probable confounders were also noted: level of skill (status hierarchy); geographical location (regional differences in costs); and duration of maintenance (economies of scale). These variables can then be used in regression analysis of the costs of maintenance to control for the effects of confounders, as in standard analyses of wages where data has also been collected from heterogeneous sources (Clark 2005, 2007; Humphries and Weisdorf 2019; Horrell and Humphries 2019).

REGRESSION ANALYSIS

The main aim of the regression analysis is to try to identify the contribution of the cost of domestic labor to maintenance costs and get a clearer idea of the value of the domestic labor needed to turn commodities into

lifestyles when the workers were unpaid. The difference between the maintenance cost of each individual and the time-specific cost of the respectability basket constitutes the dependent variable. This gap captures the quantities and costs of goods and services needed for a respectable lifestyle but not included in the basket, most importantly the cost of the necessary household labor. It was regressed on time, the skill status of the individual, source type, region, and duration of support to control for the heterogeneity of the data.⁷ To further decompose the contributors to this gap, in one model I included the cost of the respectability Allen Basket to control for price changes. Most importantly, I also included contemporary levels of women's wages from my earlier work with Jacob Weisdorf to identify their impact on maintenance costs and infer the contributions of domestic labor to livings. Given that I expected the cost of domestic labor to have a greater effect on the costs of the more extensive packages of support, which included food service, bed-making, room-cleaning, washing, and mending, women's wages were weighted by the different packages to reflect (and try to estimate) their differing domestic labor intensities.⁸ The regression results are presented in Table 3.

The estimated relationships are significant and make good historical sense. For example, although the initial relative positions of the regions are poorly specified because of thin data, by the late medieval period, the relative prosperity of the south and London was clearly apparent, with the gap between maintenance costs and the costs of basic subsistence higher than most other regions, which lost even more ground over time, the exception being East Anglia, which was not significantly different from the South-East (the reference category). The duration dummies confirm that it was cheaper to maintain somebody for longer than shorter periods, with costs converging toward the basket in the latter case.

Interest here is in the relationship between women's wages and maintenance costs, as highlighted in Table 3, for this helps estimate the time and infer the replacement cost of the household services needed to convert commodities into livings. Women's wages are positively and significantly related to maintenance costs, as domestic labor was an input into all packages in all locations.⁹ Even more telling are the significant coefficients when wages interact with the package dummies. These show that women's wages had a significantly greater impact on maintenance

⁷ A control was also included when maintenance was for groups that might have included women and children.

⁸ Analogous results are obtained by regressing maintenance costs on the same list of independent factors.

⁹ The variable is the decade average of women's casual day and annual (per day) wages, as reported in Humphries and Weisdorf (2015).

TABLE 3
CONTRIBUTORS TO THE DIFFERENCE BETWEEN MAINTENANCE COSTS AND
THE COSTS OF THE RESPECTABILITY BASKET

Constant	-0.150 (1.084)
Skill (relative to skilled)	
Semiskilled	-0.975 (0.101) ***
Unskilled	-1.646 (0.107) ***
Mixed group of workers	-0.777 (0.233) ***
Type of source (relative to accounts: direct estimates)	
Accounts: differences between with and without maintenance	-0.422 (0.091) ***
Accounts: direct payments to providers	0.229 (0.120)
Estimates by social commentators	-0.287 (0.373)
Grain liveries	-1.114 (0.272) ***
Billeting, etc.	-2.542 (0.301) ***
Maintenance contracts, corrodies and pensions	-0.614 (0.252) *
Wage assessments	-0.380 (0.123) **
Board wages	0.180 (0.298)
Duration (relative to day)	
Week	0.288 (0.159)
Annual	-0.471 (0.240) *
Other	-0.299 (0.101) **
Region (relative to London and South East)	
Scotland	26.168 (7.891) ***
Wales	26.828 (2.282) ***
East Anglia	0.418 (1.318)
Midlands	11.708 (1.843) ***
North East	9.312 (2.213) ***
North West	-1.206 (3.012)
Other	2.898 (4.518)
South West	6.575 (1.208) ***
Scotland x year	-0.016 (0.005) ***
Wales x year	-0.019 (0.002) ***
East Anglia x year	0.000 (0.001)
Midlands x year	-0.008 (0.001) ***
North East x year	-0.006 (0.001) ***
North West x year	0.000 (0.002)
Other x year	-0.002 (0.003)
South West x year	-0.005 (0.001) ***
Cost of respectability basket	-0.500 (0.114) ***
Women's daily wage (mean of casual and annual)	0.680 (0.069) ***
Food and board (package 2) x women's casual wage (relative to food only (package 1))	-0.059 (0.039)
Food, board and lodging (package 3) x women's annual wage (relative to food only (package 1))	0.182 (0.033) ***
Food, board, lodging and washing (package 4) x women's annual wage, per day (relative to food only (package 1))	0.376 (0.034) ***
Sundry provision (package 5) x women's daily wage (relative to food only (package 1))	0.063 (0.068)
Year	0.001 (0.001)
R-squared (adj)	0.622
SEE	1.79175
F	172.574 ***
N	3,867

Notes: OLS regression; robust standard errors in parentheses; *** $p \leq 0.001$, ** $p \leq 0.010$, * $p \leq 0.050$.

Source: See text.

costs if accommodation and then washing were included, pushing them further above the costs of commodity inputs as predicted by the greater domestic labor intensity of these more elaborate packages of support.¹⁰ Interestingly, in the case of the relatively simple provision of food and “board,” women’s wages had no *additional* purchase on costs compared with the reference category of food alone. The negative coefficient on the cost of the basket shows how higher prices of foodstuffs and other basics eroded the gap between overall maintenance and this benchmark. The retrenchment of support in times of inflation reflects the classic argument that higher food costs put pressure on the costs of boarding employees and encouraged employers to abandon live-in service in favor of wage labor (Kussmaul 1981).

I infer the time taken to provide the necessary household services from these regression results. Since a penny increase in women’s mean wages would boost all types of maintenance costs by .68 pence, these estimates suggest that simply processing and serving food (excluding the cost of the inputs) entailed about 2/3 of a working woman’s daily hours. Further household services, such as accommodation with its requirements to clean rooms, make beds, and sort furnishings, would add more time, and washing would push the total to account for just over a working day. In short, I am arguing that the analysis of maintenance costs implies that the baseline provision of food involved some 2/3 of a working woman’s daily labor. When meals were provided in a domestic setting, the additional labor was insignificant, but accommodation required another .182 of daily hours and washing another .194 (.376 – .182).

I spot-checked the cost of particular services as predicted from the regression equation against occasional evidence of costs for individual services in the historical record. Sometimes these were close, as in 1805, when James Oakes paid 10s 9d for 41.5 days of laundry for himself and his servant (1.55d per day) in comparison with the predicted cost of 1.57d. Occasionally the spot checks are well wide of the mark, as when Bromholm Priory in 1415 paid its washerwoman 15s for washing for 15 monks “taking for the whole year 12d per monk” (Redstone 1944)—malodorous monks or an exploited laundress!

When extended from the marketplace to the home, the estimates also appear reasonable and consistent with fragmentary historical evidence on time use. For example, according to the regression, washing for a single man would have taken .194 of a working woman’s labor time per day. If an unpaid housewife washed just once a week, she would have faced a

¹⁰ The more extensive packages were also assumed to be supported by the services of professional (non-casual) working women, though this makes little difference to the results.

long day of work (1.36 times her hours when working for pay). Of course, doing the family wash would increase this labor time, but there were economies of scale, and sharing the work with other family members or spreading it out over time would offer some respite. Not surprisingly, wash day was dreaded by working-class women who expected to be “a bit done by” after its toll, especially if there was no water on tap (Pember-Reeves 2008, p. 148).

These (admittedly) rough estimates of the time reasonable domestic provision required can then be used to impute values to the more general case where the labor was provided unpaid in the household. To impute value to unpaid household work, I take the wages of women working casually by the day as the opportunity cost of household labor.

TOWARD A MACROECONOMICS OF CARING LABOR

My estimates of maintenance costs relate to individuals and must be upscaled to cover the domestic services required by families. The multiple conventionally applied to Allen baskets in going from husbands and fathers to families is 3 or 3.5. But given the evidence on the cheapening of maintenance when it was provided for a longer duration (p. 21), and on economies of scale in household production and consumption in the wider literature (Folbre, Murray-Close, and Suh 2018), I conservatively double the requirement for an individual to gauge the needs of a family. Since my housework estimates relate to daily maintenance, there is also the question of how many days were worked per year, an issue that has tormented economic historians attempts to transition from day wages to annual incomes. But the problem has no counterpart here, as one characteristic of domestic labor is its relentless repetition: it needed to be done 24/7 and 365 days of the year.

So now what remains is to estimate the number of households in which such unpaid services were provided. Here I resort to the well-known social tables provided by the early political arithmeticians and used by modern economic historians to provide snapshots of English social structure. The task was to select families that did not have servants. Allen’s recent (2019) revision of King, Massie, Colquhoun, and Smee provides guidance.

Given that the average resident kin group was around 4.5, larger families are assumed to contain servants who supplied services that were paid for and so included in income. In my revision, I also excluded the poorest families. These were the families in which married women and mothers continued to work outside the home, the imperative to earn money crowding out housework (Humphries 2010). Thomas Barclay described

such circumstances in his desperately poor early nineteenth-century family: “Mother did all that was possible, but she had neither time nor means to boil our rags of shirts and sheets when washing [so] *pediculus* thrived greatly in his two principle species, *capitis* and *vestimenti*, and God’s beautiful image was preyed upon daily and nightly. No fault of mother’s” (Barclay, cited in Humphries (2010)).

Some agricultural families were larger than 4.5 persons and so were thought to contain servants, but (following Allen), I assumed these were farm servants and so included them in the category of non-poor families without *domestic* servants. I also provide analogous computations for 1290, drawing on Bruce Campbell’s social table and nuanced Smee’s account of social structure with reference to census data and its interpretation by demographic and social historians. The resulting thumbnails of social structure are shown in Table 4. The number of non-poor households without domestic servants and so needing family members to provide the amenities is shown in Column (4) of Table 5.

HISTORICAL ESTIMATES OF THE VALUE OF WOMEN’S UNPAID DOMESTIC LABOR

So now we have estimates of what it would cost to provide the household services needed if purchased and the number of households requiring such services at discrete points in time. Multiplying out and then dividing by total incomes provides estimates of the relative value of unpaid household services as imputed from market equivalents (all at nominal prices). The results are shown in the far-right column of Table 5.

The main finding is that although the proportions and numbers of families requiring household services increased over these centuries and the time needed also increased as lifestyles became more domestic labor-intensive, the ratios of values to total incomes appear to hover around 20 percent, somewhat smaller than other estimates. The reason, of course, as Marshall knew and Clark underlined, is that women’s day wages were low and lagged the growth in incomes more generally, putting a cap on our imputed values.¹¹ More unpaid labor was provided to a greater proportion of families. Yet its total value was limited by the relative cost of this labor in the market, women’s casual day wages, which are used to impute

¹¹ Between 1290 and 1688, women’s nominal wages increased by a factor of 5, whereas total nominal incomes increased by a factor of 13; between 1688 and 1759, women’s nominal wages were practically stagnant while total nominal incomes increased by 26 percent; between 1759 and 1801, women’s nominal wages increased by 28 percent while total nominal incomes increased by 63 percent; and between 1801 and 1846/51, women’s nominal wages stagnated or even declined while nominal incomes more than doubled.

TABLE 4
THE SOCIAL STRUCTURE FROM ENGLAND'S SOCIAL TABLES

Source	Date	Families with Servants, %	Families with Domestic Servants, %	Non-poor Families without Servants, %	Non-Poor Families without Domestic Servants, %	Soldiers and Sailors, %	Poor, %	Unclear, %
Campbell (2016)	1290	31.4	13.8	27.4	45.0	4.6 ¹	14.6 ²	21.9 ³
King, as revised by Allen (2019)	1688	14.7	5.5	47.1	56.3	6.1	11.6 ⁴	20.5 ⁵
Massie, as revised by Allen (2019)	1759	16.4	6.5	50.4	60.4	5.1	12.5 ⁶	15.6 ⁷
Colquhoun, as revised by Allen (2019)	1801–2	22.4 ⁸	10.8	50.2 ⁸	61.8	7.7	19.6 ⁹	15.3 ¹⁰
Smee, as revised by Allen (2019), Wall (1977), Armstrong, (1972), Ebury and Preston, (1976)	1846/51		9.9		82.6 ¹¹		7.6	

Notes: ¹Includes miners and fishermen; ²includes rural craftsmen and non-agricultural laborers; ³cottagers and agricultural laborers; ⁴cottagers, paupers, and vagrants; ⁵laborers and outservants; ⁶cottagers, paupers, and vagrants; ⁷laborers and outservants; ⁸includes 1/2 debtors; ⁹paupers at work, vagrants, and lunatics; ¹⁰includes agricultural laborers; ¹¹includes lower middle class, farmers, and workers.

Source: Compiled by author.

TABLE 5
VALUATION OF WOMEN'S UNPAID DOMESTIC LABOR

Date	Source of Social Table	Maintenance Packet	Value Added by Unpaid Domestic Labor, £ per Annum for Single Adult Male/ for Family	Estimated Number of Non-Poor Households without Domestic Servants (Percent of All Households)	Value-Added by Unpaid Domestic Labor as Percent of Total Income
1290	Campbell (2016)	Food and board	0.94/1.88	492,500 (45.0)	22.1
1688	Revision of Gregory King (Allen 2019)	Food, board, and lodging	8.27/16.55	782,459 (56.3)	23.4
1759	Revision of Joseph Massie (Allen 2019)	Food, board, lodging, and washing	10.17/20.35	929,010 (60.4)	25.1
1801-2	Revision of John Colquhoun (Allen 2019)	Food, board, lodging, and washing	13.07/26.15	1,377,971 (61.8)	17.6
1846/51	Revision of Smee (Allen 2019; Wall 1977; Schwarz 1999)	Food, board, lodging, and washing	14.38/28.76 ¹	3,490,825 ² (82.6)	23.3

Notes: ¹Using women's day wages in 1850 as opportunity cost; ²comprises lower middle class, farmers, and workers.

Source: Compiled by author.

value to the unpaid work provided within households. Nonetheless, the value of unpaid household services was far from trivial in the past or in the present. And there is some suggestion that it increased over time, as we might expect, as more comfort, cleanliness, and caring were pursued.¹²

Moreover, these numbers capture only a fraction of caring labor. For one reason, although poor families are excluded from the calculations on the grounds that the domestic work required to turn their barebones baskets into livings would be negligible, it might well be that women in these families had to work particularly long hours to secure survival from the meager provisions of the subsistence basket and that these hours had some opportunity cost. Similarly, women in many of the households with servants probably also worked to manage, augment, and enhance the services supplied commercially, contributions again ignored here.

For another reason, these estimates relate only to a subset of the tasks involved in care—the indirect care we normally equate with domestic labor. All the other tasks identified in Table 1 require historical investigation and evaluation. Most importantly, the time and effort put into child-care must be valued, including the vital task of suckling. Breastfeeding was historically regarded as work (Shepard 1017); indeed, it formed the basis of a flourishing cottage industry in Britain, Europe, and the United States (Fildes 1982; Sarasúa 2021; Sarasúa, Erdozain, and Hernández 2023; Rhodes 2015). Study of this commercialized service provides data on the time spent in and the payment for wet nursing: the raw materials for an analogous computation of the value of unpaid (maternal) nursing, my next research project.

CLOSING COMMENTS

Before I close, I must come back to my opening remarks, for I somewhat cavalierly promised readers that attention to unpaid caring labor would provide challenges to the meta-narratives of economic history. So here are four ways in which acknowledging the value of domestic labor nuances, if not contests, our standard stories:

1. Beginning with the obvious, its valuation in absolute terms and in relation to total income influences both levels and trends in the latter. As a result, growth rates between periods may prove to have been overestimated or underestimated, as both Wagman and Folbre (1996) and Clark (1958) have demonstrated.

¹² Partly accounted for in the assumption that over time more extensive packages of support were required.

2. It represents a significant challenge to our understanding of the industrious revolution as a reallocation of time (particularly women's time) from household production to market work to earn the money needed to purchase the new and desirable commodities of flourishing imperial trade and nascent industrialization. In one brilliant intervention, Jan de Vries (2008) explained how a consumer revolution in the late seventeenth century shifted both the demand and supply of labor as a precursor of the industrial revolution. While this story has much to recommend it, not least the inclusion of women as economic agents, it never quite fitted with either the long-run evolution of consumption or female participation rates. My interpretation suggests instead that trends in consumption simultaneously increased demands for women's household services, often resulting in an early version of the double shift, but by the late eighteenth and nineteenth centuries, giving rise to married women's partial withdrawal from paid work. For them, industriousness took a domestic form, obscuring their contribution both to economic growth and improvements in the standard of living.
3. Exposing the importance of domestic labor makes it clear that wage earners did not support household workers out of magnanimity; they needed them, and increasingly so over time, if they were to aspire to a better standard of living. Wages had to stretch to pay for domestic service as well as the respectability basket of commodities, either by buying such service on the market or by supporting family members who would provide it *gratis*. Figure 4 relates my raw data on maintenance costs per decade to a standard series of male wages to generate "maintenance ratios," comparable to the welfare ratios now so familiar from analyses of living standards. While the Black Death raised maintenance standards, the cost was less elastic than male wages, creating a muted golden age. But this situation did not last, and the extent to which male wages could support two maintenance packages became increasingly uncertain by the late 1400s as the commodity and service contents of the packages became increasingly expensive. Nor was there any sustained recovery from then on, as maintenance costs did more than keep pace with wages. Unskilled workers could barely support themselves once domestic costs are included, let alone support their families. Men supporting families on unskilled wages likely reduced their standards and fell back to a bare bones level or worked longer and harder to live in relative comfort. Post-1600, even men on better wages probably had to follow suit if they were to keep a whole family, including members dedicated to domestic labor. Here

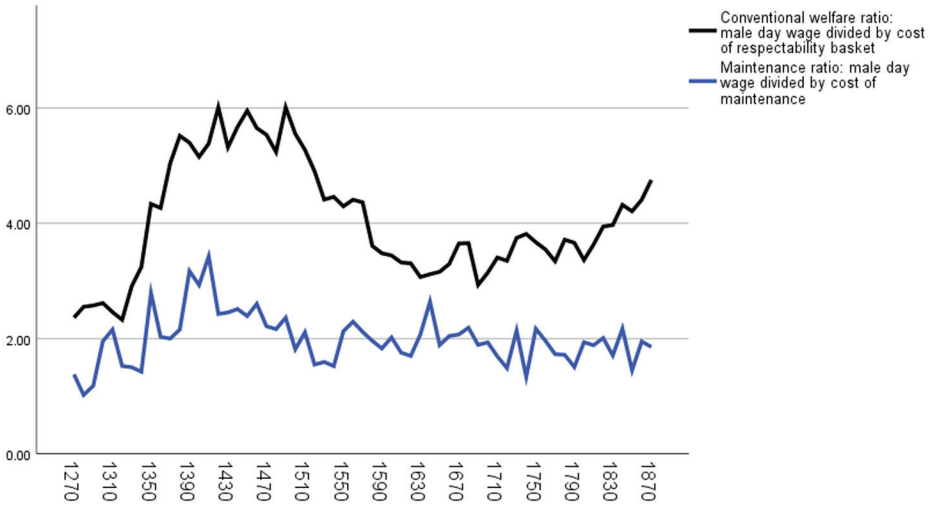


FIGURE 4
MAINTENANCE AND WELFARE RATIOS

Sources: For male day wages see Clark (2005); for cost of respectability basket see Allen, <https://www.nuffield.ox.ac.uk/people/sites/allen-research-pages/>; for maintenance cost see text.

then is a motive for industriousness that does not rely on the temptations of individual commodities and relates to skilled artisans and ambitious working men, who were obliged as “breadwinners” to work longer and harder or show enterprise and ability to innovate. Such men were the kind of workers who spearheaded industrialization and drove growth. The need for domestic labor and the quest for incomes sufficient to support family members who could supply such labor offer an alternative lens on the well-springs of long-run development.

4. Finally, in thinking about care in terms of the national accounts and looking to impute its “value” from market equivalents, I flirt with that stereotype of the economist as a cynic, somebody who knows the price of everything but the value of nothing. Caring labor is essential for the production, reproduction, and maintenance of both the workforce and our broader society, and in this “social reproduction” sense, its worth is only imperfectly and feebly deduced from market equivalents. In other words, there is a huge externality involved in care, as feminist economists have long made known and which Folbre (2023) emphasized in her plenary lecture. To fully understand care’s importance, we must extend our macro statistical scaffold to recognize the ways in which feeding, cleaning, nursing, educating, training, socializing, and loving not only made life possible but worth living in the past as such activities do today.

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