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### THE WAGES OF WOMEN IN ENGLAND, 1260-1850

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*ECONOMIC HISTORY*



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# THE WAGES OF WOMEN IN ENGLAND, 1260-1850

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Discussion Paper No. 9903  
March 2014

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## ABSTRACT

### The Wages of Women in England, 1260-1850\*

This paper presents a wage series for unskilled English women workers from 1260 to 1850 and compares it with existing evidence for men. Our series cast light on long run trends in women's agency and wellbeing, revealing an intractable, indeed widening gap between women and men's remuneration in the centuries following the Black Death. This informs several recent debates: first whether or not "the golden age of the English peasantry" included women; and second whether or not industrialization provided women with greater opportunities. Our contributions to both debates have implications for analyses of growth and trends in wellbeing. If the rise in wages that followed the Black Death enticed female servants to delay marriage, it contributed to the formation of the European Marriage Pattern, a demographic regime which positioned England on a path to modern economic growth. If the industrial revolution provided women with improved economic options, their gains should be included in any overall assessment of trends in the standard of living.

JEL Classification: J3, J4, J6, J7 and N33

Keywords: Black Death, England, gender segregation, gender wage gap, industrial revolution, wages and women

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# I

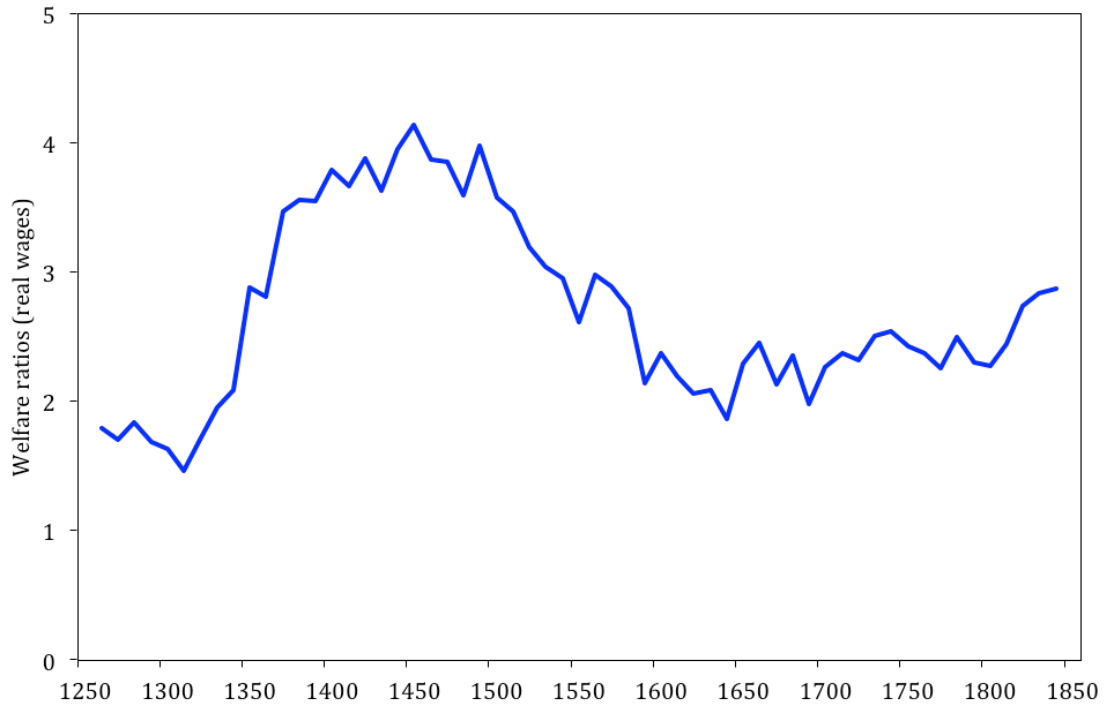
## Introduction

The graph below is very familiar to economic historians for long run trends in men's real wages configure British economic history. They have been used to indicate developments in wellbeing, map structural changes in employment, drive demographic trends and, in recent accounts, even explain the causes and chronology of the industrial revolution. Yet adult men constituted a minority of the population, not all families had male breadwinners, women played a role in the decision when to marry (and hence the size of families), and labour markets and their wage outcomes were segmented. Most economic historians recognise such complications. Several have tried to document women and children's economic experience in different times and places; but they have been discouraged from attempting to match the classic evidence on the evolution of male wages assembled by scholars such as Feinstein, Allen and Clark with a comparable series for women workers. It is easy to see why. Women's economic activities are hard to document. Data on their remuneration is fragmentary and difficult to interpret. Women were more likely paid as part of a team, by task or in kind. Day wages, where they exist, are hard to compare with longer term contracts which usually involved a significant element of board and lodging. Yet comparisons are vital as the value of daily/weekly wages relative to remuneration from longer term service casts light on the nature and efficiency of the female labour market in the past.

This paper presents a first attempt to circumvent these problems and sketch a long-run wage series for unskilled women workers. We stand on the shoulders of other economic historians who have assembled data for particular periods (for example, Burnette, 2004, 2007; Field, 2013). Much of our work has involved collecting and linking this material, as acknowledged below, but we have also supplemented existing evidence with sizeable amounts of new data. Gleanings from primary and overlooked secondary sources have sometimes been meagre but occasionally proved unexpectedly rich and even small numbers of observations added together begin to tell a story.

Section II provides a guide to our sources, and explains the methods used to construct the series and sketches the main findings. The series casts light on secular trends in women's agency and wellbeing, showing a persistent, indeed widening, gap between male and female wages as the economy developed. To investigate these overall trends we have sought to chart the variation over time in women's casual daily rates and rates associated with longer term contracts. This comparison bears on the question of whether and when women could do better by opting for one or the other form of employment. Our findings here are striking. For long periods of time, in fact from the Black Death until the late 1500s, women's daily or weekly wages from casual or short term work exceeded the implicit equivalent available from longer term contracts. Of course, casual employment did not provide the continuity of support that was available via a longer commitment; wage differentials included a premia for the risk of periods without work. However, this finding supports the view that medieval and early modern day labourers could collect higher sums by working day rates than from a yearly wage (Richie, 1962, p.93; Penn and Dyer, 1990, pp. 368-70; Youngs, 1999, p. 158). More generally, the differences between women's daily and longer term wages reveal the working of the market for female labour and cast light on several unresolved debates in economic history.

**FIGURE 1**  
THE REAL WAGES OF UNSKILLED MALE FARM LABOURERS (BY DECADE)



*Note:* The real wage is computed as the annual nominal wage divided by the annual cost of a consumption basket (see text). The annual wage is obtained by multiplying the daily wage rate by 260 days. *Sources:* Wages: Clark (2007). Cost of consumption basket: Allen ([Link](#)).

One such debate is taken up in section III, which explores whether “the golden age of the English peasantry” allegedly inaugurated by the Black Death included women, and more particularly whether demographic disaster and any resulting shift to animal husbandry advantaged women whose wages and opportunities increased (Goldberg, 1986; Mate, 1985). Was the period after 1348-9 a ‘golden age’ for women? In particular, did increases in women’s wages represent a gendered silver lining to population collapse (Bardsley, 1999; Hatcher, 2001; Langdon, 2011)? Or were women locked out of the benefits deriving from the tight labour market, trapped by patriarchal custom and practice in low paid women’s work (Bennett, 1988). Our findings here are negative. Female casual wage-earners benefitted in the short term from demographic collapse but unlike men they do not appear to have been able to sustain gains in the long run, as women’s pay eventually fell back from the dizzy heights achieved in the second half of the 1300s. Significantly, women on stable contracts seemed to be particularly stuck with pre-plague customary wages in the centuries following the Black Death.

The gap between women’s daily and annual remuneration suggests why perhaps women workers appear less able than their male peers to have sustained the improvements in terms and conditions which followed the Black Death. The post-Black Death attempts to control workers’ movements and cap pay through the Ordinance of Labourers (1349), the Statute of Labourers (1351) and the Statute of Cambridge (1388) are widely known (Putnam, 1908; Penn and Dyer, 1990); what is suggested here is that the law and its enforcement had particular bite for women workers. The legal framework and its patriarchal context did not encourage women to display the independence and mobility needed for success as casual

workers. Indeed longer term contracts were legally and socially prescribed suggesting a powerful mechanism through which female labour could be controlled. Moreover, since annual 'service' was often the preserve of younger domestically unencumbered unmarried women who perhaps preferred, and were certainly socially encouraged to 'live in', comparison of the returns by type of contract has implications for an assessment of the costs and benefits of marriage, a point taken up later.

Our negativity about the rewards to longer term employment contracts has important ramifications since both De Moor and van Zanden (2010) and Voigtländer and Voth (2013) have linked the longer term growth of Western European economies to the demographic and economic legacy of the Black Death. Hajnal (1965) long ago noticed that for much of the medieval and early modern period a line drawn from St Petersburg to Trieste demarcated distinctive demographic regimes: in the east, women married young and almost everybody married; in the west, brides were older and celibacy higher. De Moor and van Zanden and Voigtländer and Voth have interpreted these distinct scenarios in terms of differences in female economic opportunities. Improved wages and opportunities for women in the west changed demographic behaviour delaying marriage, promoting celibacy and reducing fertility, with the resulting so-called *European Marriage Pattern* raising incomes and promoting further growth. Our new empirical evidence and particularly the relatively high rewards to casual employment, open to married as well as single women, and relatively low rewards to annual fixed term work, by and large restricted to single women, for much of the medieval period raises doubts about the standard story.

More generally, our evidence at last allows economic and demographic developments to be understood against a background not only of the gender wage gap but the difference between women's annual and daily wages. For women the benefits and costs of marriage traded off the ability to tap into husbands' wages against the difference between what they could earn as single or married women. This involved a comparison of the rewards from longer term service contracts, usually only available to single women, with the opportunities for wage labour, which might well be enhanced by marriage which often involved women working alongside husbands in agricultural tasks, building labour or artisanal work. Marriage also provided women with access to productive resources which by raising the opportunity costs of labour time underpinned market wages. This trade off changed over time. Thus Section IV takes the comparison between women's casual daily wages and the day rates implicit in annual contracts forward into the early modern and industrial eras, where it has powerful implications for the longstanding debate about the effects of industrialization on women's economic opportunities, dependence on men and overall wellbeing (for a recent survey of this debate see Goose, 2007). The gap between types of women's wages narrows and reverses, with those associated with annual contracts moving ahead in the late 1500s and becoming markedly and consistently superior after 1700. The disappearance of well remunerated casual work for unskilled women reflects the fundamental changes in the British farm sector with the closure of the countryside and the disappearance of small scale production units. Casual jobs for women became less numerous and the opportunity cost of women's day labour fell as their independent access to productive resources was curtailed. As the eighteenth century wore on, hand spinning, another significant source of earnings for relatively unskilled women, also began to decline and fell precipitously at the end of the century, further eroding the opportunity costs of women's casual day labour (Valenze, 1995; Muldrew, 2012). In conclusion, we use the long term perspective on women's wages to shed renewed light on the questions of the male breadwinner model and the size of women's

contribution to household income relative to that of men (Horrell and Humphries, 1995; Schneider 2013). Crude comparison of men's and women's wages over centuries suggest that married women became more and more dependent on men if they were to share in the gains promised by modern economic growth.

## II Data and Methodology

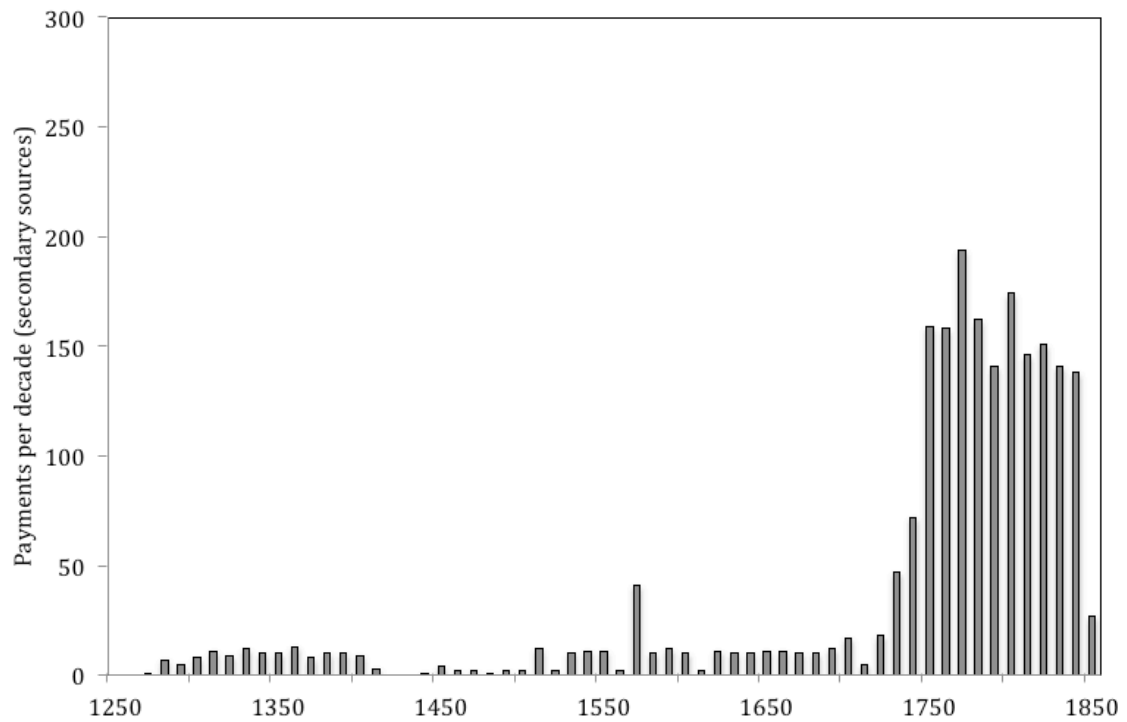
This section explains how we have dealt with the issues that arose while building the series. As noted above, we began by assembling the material from well-known secondary sources, based on particular bodies of primary material. Several authors provided us with their own data files for which we are grateful and the period after 1750 is particularly well documented (see figure 2). Material was also extracted from classic accounts for example by Thorold Rogers and William Beveridge. Other secondary sources were searched for additional observations. These works are all listed in the bibliography. However, evidence from secondary sources is very patchy as figure 2 suggests, leaving huge swathes of time completely undocumented.

We put considerable effort into minimizing these gaps, adding material from diverse sources, both archival and printed primary, including: manorial accounts, farm accounts, wage books, household accounts, Chamberlains' accounts, Churchwardens' accounts, settlement examinations, diaries and memoirs. Gainsaying the view that women's wages were insufficiently documented, we have uncovered substantial evidence. Our sources cover provincial and peripheral areas, making it comparable to the authoritative series for unskilled male farm labourers provided by Clark (2007). Like Clark, we have avoided London which was a distinctive high wage labour market with the potential to distort time trends, and to be consistent with the male series, we have not included harvest wages. Figure 3 below shows the extent of the data collection which draws on over 179 distinct sources and provides observations of more than 5000 payments spread over 600 years.

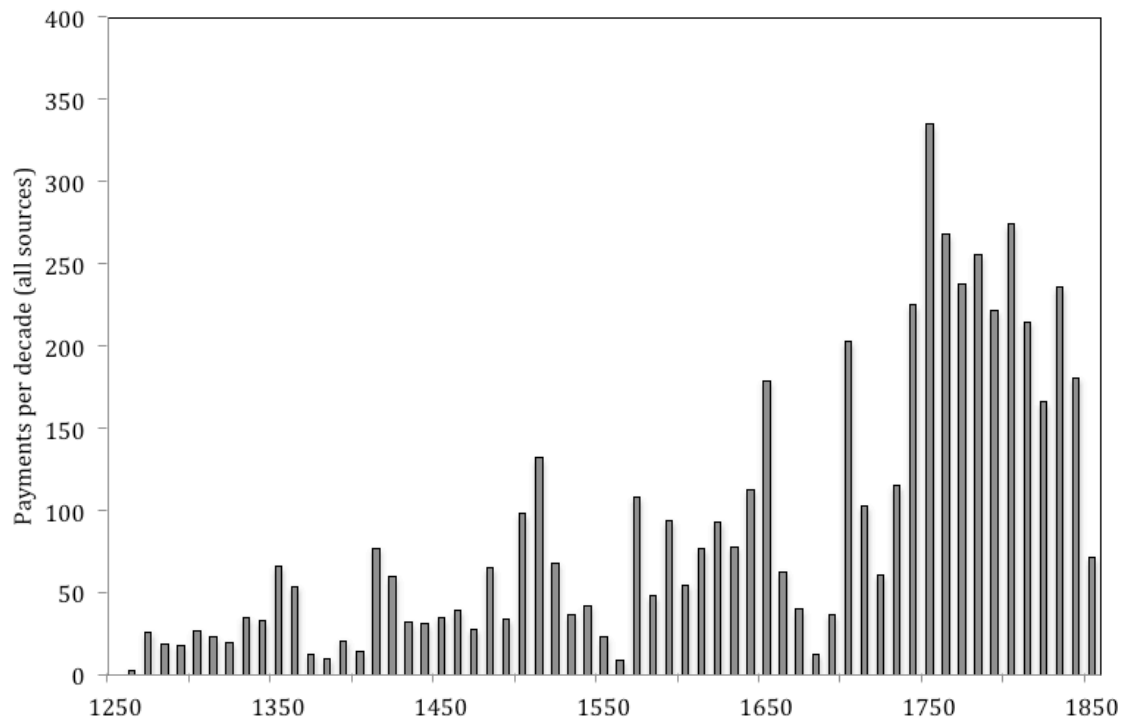
The new material shatters some stereotypes of women's work. For example, several sources record women employed on early modern construction sites. Thus the account book of New Haven, Chester, 1567-8, records women involved in the initial tasks of moving stones at a standard rate of 3d per day. Further, when a "crane" was installed to lift the stones into place on the workings, women were regularly and in some numbers employed to set the machinery in motion via a sort of treadmill, "mayds in the craine" becoming a regular charge (Rideout, 1928).



**FIGURE 2**  
THE FREQUENCY OF PAYMENTS FROM SECONDARY SOURCES (BY DECADE)



**FIGURE 3**  
THE FREQUENCY OF PAYMENTS FROM PRIMARY AND SECONDARY SOURCES (BY DECADE)



Our biggest problem was how to process and treat consistently very heterogeneous data. The sample of observations shown in table 1 illustrates the range of problems. Starting first with the least complicated, we had to decide how to report the observations. We have followed other authors (notably Clark) in using decadal averages as well as linear interpolation in those (rare) decades without any observations. Second, we had to separate skilled from unskilled workers. We use the so-called HISCO/HISCLASS systems to determine doubtful cases. The HISCO system categorizes over one thousand historical occupations by the type of work carried out by the workers (van Leeuwen et al 2002). In a subsequent book, titled, *HISCLASS. A historical international social class scheme*, labour historians have ranked all the occupations coded in HISCO based on an assessment of the working skills required for an average performance on the job (van Leeuwen and Maas 2011). Building on this expertise, the payments included in our wage series are paid to women whose work (when reported) was labelled *unskilled* in the HISCLASS system. What kinds of female jobs have been excluded as a result? We have left out observations which relate to domestic servants whose jobs involved responsibility and management (housekeepers, ladies maids, nurses), and ignored skilled domestic manufacturers (weavers, lacemakers, glovers, etc.)<sup>2</sup> and midwives, schoolteachers and governesses. Thus Sir Thomas Puckering's wife's "waiting gentlewoman" paid the princely sum of £6 per annum in 1620 is excluded while his "Drudg Maide" paid £1 10s, and his chamber maids, working maid, dairy maid, laundry maid and "Malt-maide and Powltrie-Crammer" all feature (Merry and Richardson, eds., 2012).

A more difficult problem is illustrated by the examples listed in table 1. Those appearing in the left hand column relate to day wages even when a specific task is reported (as in the case of Ann Parry). Those appearing on the right concern annual contracts where remuneration almost always included other perquisites: board, lodging and sometimes even a clothing allowance. We collected wage data relating to both casual daily or weekly work and longer term permanent contracts. Thus alongside Puckering's women servants we included the wages he paid to the women he hired casually to help with the washing, weed and tidy his garden, and rake up the fallen leaves in his orchard (Merry and Richardson, eds., 2012). Daily wages represent 29%, weekly wages 3% and annual wages 68% of total observations (totalling 5,496).

It will help in the subsequent analysis if we emphasize the nature of the differences here. We interpret daily and weekly payments as remuneration for casual work. This was sometimes for one-off employment as when Sir Thomas Aubrey in 1638 employed a large number of men and women "for the repairing of the sea banke" on his estate (Bowen, ed., 2006). Frequently, however such casual work involved extended employment as in the case of Avis Starling who (though with various spelling of her name) crops up regularly in the Earl of Bath's household accounts in 1640-9 paid for washing clothes, cleaning the house and performing outdoor farm work (Gray, 1996). As the latter suggests, casual employment was not limited to agricultural tasks; women were employed by the week, day or half-day as garden labour, cleaners, scourers, laundresses, messengers, construction workers, and transport workers.

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<sup>2</sup> Occasionally we have included spinners' wages. An ubiquitous female occupation, it could be undertaken with little training, though returns were greater for skilled workers. It was however usually paid by the piece which raises additional complications (see, Muldrew, 2012). Further work incorporating spinners' wages is planned.

**TABLE 1**  
OBSERVATIONS OF WOMEN'S WAGES

<ul style="list-style-type: none"> <li>• Oxfordshire manor of Glympton, in 1324, two women were paid 1s 6d “for cleansing the wheat in sheaves for sowing” for 12 days “each one taking by the day <math>\frac{3}{4}</math>d”</li> <li>• In 1530, William Brereton of Malpas paid 11 women for 2 days work “sheryny of shepe, every women 4d the daye”</li> <li>• Tudor Churchwardens of Knebworth paid 2 women for sitting up with a sick neighbour day and night for 9 days, 2d a day/night</li> <li>• In 1629, Nicholas Birch and “his wif” (Jenet) were paid 7s for a week’s work in the Thieveley lead mines</li> <li>• In April of 1759 on an unknown farm near Oxfordshire, Goody Currell was paid 4d for weeding 1 day</li> <li>• In 1736, Ann Parry, “the Dumbwoman” was paid 2s at Henblas “for knitting stockings at the rate of a penny a day”</li> </ul>	<ul style="list-style-type: none"> <li>• Reeve’s draft accounts of the Wiltshire lands of Adam de Stratton record for 1275-6 “In stipendis famulorum—deye” 3s plus livery in mixed grains</li> <li>• The “Drudge Maid” of Sir Thomas Puckering in 1620 was paid 15s per half year</li> <li>• In 1640s Colonel Henry Bradshaw recorded paying his woman servant between £1 - £1 10s plus various gifts and perquisites in addition to her board</li> <li>• In 1690-1 Sir Daniel Fleming paid Mary Hall his cook’s maid 11s twice a year and gave her new husband 1s in November 1691</li> <li>• In 1799, a new general servant was hired by Matthew Flinders, a surgeon, apothecary and man-midwife of Lincoln at £4 4s per annum</li> </ul>
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We associate casual employment with married women, since workers were often (though not always) described as such in the sources. Thus, “John Wilson’s wife” was employed for 16 days in December 1698 “salveing and tobaccoing of sheep” according to the estate and household accounts of Sir Daniel Fleming (Tyson, ed., 2001); “Peter Hearder’s wife” worked for 10 days mowing in 1649, according to the household accounts of Henry fifth Earl of Bath (Gray, 1996); “Jenet the wiffe of Nic Birch” appears regularly in the accounts of the Thieveley Lead Mines, 1629-1635 (Sharp, ed., 1951) and, “Richerd Postilthwaitt wiff” in the castle household and demesne farm accounts at Millom in 1513-14 (Winchester, 1982). Many of these women accessed their employment through husbands who shared employer and often even task. In medieval and early modern England, marriage rather than excluding women from economic activity often actually provided them with the means to work productively and should be interpreted in this light.

On the other hand, the bulk of wage observations relate to annual service contracts. These should not be read as necessarily involving long term commitment. Many servants changed jobs every year, and a significant number even within the year contrary to agreed terms, though some like Margaret Moorhouse, who served Sir Daniel Fleming in various domestic capacities from 1689 to 1696 and then “came again” for three further years in 1697, were long-term employees (Tyson, ed., 2001). Such stalwarts aside, annual service appears to have been dominated by young unmarried women, for living in as a farm or household servant was difficult if not impossible to combine with marriage and a family. Women were employed on

an annual basis for outdoor agricultural work and as indoor domestics and indeed often appear to have performed both kinds of work on a regular basis.

Given the two kinds of data, casual daily and weekly rates and annual stipends, we had to make a series of assumptions to render them comparable with each other and with the existing series of male wages. One such assumption concerns the length of the work week. We have opted for a five-day working week. With 52 weeks per year, this comes to total of 260 annual work days, virtually matching the usual assumption of a pre-modern working year of 250 days (see Allen and Weisdorf, 2011). The few sources that specify the number of days worked per week, suggest that five or six days was the norm, depending on the season. While the assumption of a six-day working week would shift the imputed daily rates for women on fixed contracts downwards and alter the size of the wage gaps, our conclusions are robust to such a change.

A more challenging complication arises in that nearly all our stable (and a few of our casual) contracts came with payments in kind. Some (although very few) contracts even came without any cash payment their holder reliant entirely on the payments in kind. In the medieval period, the in-kind payments were allowances in mixed grains, although *famuli* (as the Lord's servants were called) often though not always resided in the manor and may also have enjoyed other perquisites such as additional food, particularly at harvest time, and the use of manorial equipment and draft animals on their own smallholdings (Poos, 1991; Hilton, 1975; Hanawalt, 1986; Dyer, 1988, 1989). Interestingly, wages which might be contracted for in cash were apparently also sometimes paid in food and clothing (Youngs, 1999); certainly advances against wages were common (e.g. Bird, ed., 2013; Wiltshire Record Office, 811/207). In the early modern period and on into the nineteenth century, most farm and household servants continued to live in and room and board was an essential part of the employment bargain.

Ideally, such in-kind rewards should be valued in each and every case and added to cash payments to work out overall remuneration. Unfortunately the historical record is insufficiently detailed to support such a labour intensive exercise. An alternative way to 'monetize' in-kind payments is to assume that they were based on a worker's subsistence as valued via a historical consumer price index. Bob Allen's so-called 'respectability' consumption basket provides an excellent tool for this, capturing and valuing the goods commonly consumed by an average person during the pre-modern era (Allen 2009). The commodities included in the basket, as well as their quantities, are presented in table 2.<sup>3</sup> An annual series of the daily costs of the basket, covering the years 1264 to 1850, are all provided by Allen.<sup>4</sup> The basket does not include a direct cost of housing, but Allen solves this by adding five per cent of overall costs to capture rent requirements. We assume that in-kind benefits were equal to 100 per cent of the value of the basket even though women possibly ate fewer calories than this allows. Note that we also made use of Allen's baskets in figure 1 and will do so again later on when expressing our female wage series in the form of real wages.

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<sup>3</sup> Reproduced from Allen (2009).

<sup>4</sup> Allen ([Link](#)).

**TABLE 2**  
ALLEN'S 'RESPECTABILITY' CONSUMPTION BASKET (FOR ONE ADULT PERSON)

Good	Quantities per Year	Calories per Day
Bread	234 kg	1571
Beans/peas	52 L	370
Meat	26 kg	178
Butter	5.2 kg	104
Cheese	5.2 kg	54
Eggs	52 each	11
Beer	182 L	212
Soap	2.6 kg	---
Linen	5 m	---
Candles	2.6 kg	---
Lamp oil	2.6 L	---
Fuel	5.0 M BTU	---
Rent	5% allowance	---
<b>Total</b>		<b>2500</b>

*Source: Allen, British Industrial Revolution, pp. 36-37.*

To turn the remuneration from an annual contract (the cash and the imputed values of the in-kind payments) into a day rate comparable to the casual day rates of males and females, we have done the following. First we estimate the value of the in-kind payments per year by multiplying the daily cost of Allen's baskets by 365 days. To that, we then add the cash wages recorded in our sources. Then, we divided that number by the assumed work year, i.e. the 260 days, to arrive at our day rate. Let us take the year 1600 as an example. We have two different sources for this year with two annual payments each. One source is the household papers of Henry Percy Ninth Earl of Northumberland, which records two women in receipt of annual stipends of £1 and £1 13s 4d (Batho, ed., 1962). The other source is the house and farm accounts of the Shuttleworths of Gawthorpe in which two women receive annual stipends of 15s and £1 6s 8d, respectively (Harland, ed., 1856-7). These payments may all have been at the high end of the distribution as Jacob Field finds some evidence that female domestics employed in gentry or aristocratic households received superior wages (Field, 2013, p. 268). Our four women all lived in, which we assume meant they received board and lodging. The implied value of these in-kinds comes from multiplying the daily cost of Allen's consumption basket (2.42d for the year 1600) by 365 days. The monetary value of the in-kinds in 1600 was £3 13s 5d, considerably more than the cash wages. The total values of the cash wages and the imputed values of board and lodging were then £4 8s 5d, £4 13s 5d, £5 1d and £5 6s 9d, respectively. Spread out across 52 weeks of five working days each (i.e. 260 working days in total) we find our maids received daily rates of 4.08d, 4.31d, 4.62d, and 4.93d. This comes to an average of 4.49d, which can then be compared with the observed day rates of men and women for the same year.

Of course it is possible that Allen's subsistence basket misestimates the value of in-kind payments received in any particular case or worse still that trends in the value of the basket do not follow trends in the value of the perquisites attached to permanent contracts. Occasionally in-kind benefits are described in sufficient detail for us to be able to calculate (or at least approximate) their absolute value and then compare this with our guesstimate based on Allen's basket. In the medieval period, when long-term contracts often included payments in grain, we use a procedure similar to that of Penn and Dyer (1990, p. 369). For example, Rogers's account of the standard perquisites of a dairy maid has her lose a quarter (grain measure equivalent to 8 bushels) of wheat every 14 weeks, which is 0.08 bushels of wheat in return for a day's food in the manor house at harvest (Rogers, 1866-1902). Around 1300, a bushel of wheat cost close 8d (Rogers, 1866-1902). So the 0.08 bushels of wheat were worth 0.64d. The cost of the basket in 1300 was 0.55d per day. So the value of the wheat was not too far from the board we estimate she received.

Similarly, on the manor of Cuxham, 1278-9, the dairymaid received a quarter of mixed grains every 14 weeks (i.e. 30 bushels per year) as well as 4 bushels of wheat and 4 bushels of barley but no harvest at the lord's table and no cash (Harvey, 1960). The mixed grains would probably have consisted mainly of inexpensive sorts, for example, one-third peas, one-third rye, and one-third oats. This means that the value (using prices from around 1300) of all her grains (10 bushels of peas at 4d/bushel; 10 bushels of rye at 5d/bushel; and 10 bushels of oats at 3d/bushel; plus 4 bushels of wheat at 8d/bushel; and 4 bushels of barley at 5d/bushel) would come to 13s 9d per year. Allen's basket cost 0.51d per day in 1278, or 15s 8d per year, this time slightly more but not completely adrift from the value of the in-kinds.

On rare occasions the sources themselves cost up room and board: for instance, on the Manor of Mote in 1474-5, Agnes atte Wode fell ill for a month and was lodged with another servant member of the household at a cost of 2s 8d (Gardiner and Whittick, eds., 2008). If we subtract from this charge the average monthly cash payment to women servants at the Mote, which was 16d, to pay for Agnes's nursing care, it leaves 16d to cover the old woman's board and lodging. The cost of Allen's basket in 1474-75 was 0.64d day or 19d for one month, once again not far from the allowance her employer made for Agnes's room and board.

In the late middle ages, when it became common for casual wage workers to demand food as well as cash (Richie, 1962, p. 97), careful stewards often accounted for the provisioning with an eye to working out the most cost effective bargain. Thus in 1588, 11 women employed to work the hemp at Gawthorpe and Smithills were paid 1d per day in cash but their "tablynge" cost 3d a person; subsequently 15 women who were employed on pulling flax were paid only (but very well) in terms of food and drink which cost somewhere between 3d and 4d per person. The following year, 4 women who "did brake hemepe and swinglye" were paid 4d per day but with no food allowed and when we track the activity through to 1597 this generation of hemp workers were firmly "upon their hone table" (Harland, ed., 1856, p. 46, p. 61, p. 108). With a cash component of 1d per day with food, the in-kind compensation would have come to around 3d per day, not far off from the average cost of Allen's basket in the 1590s of 2.3d per day.

Later, explicit references to board wages, that is wages paid when employers sought to retain servants' services but had temporarily shut up a household within which they were not currently resident, provide further direct indication of the value of living-in. For example, in 1745 Lord Hatton's Steward paid Hannah Hoycock and Ann Hawkins £4 9s each for 25 weeks and 3 days "bord and wages", that is 6d a day (NRO, FH 291). However, we also know from earlier in the accounts that these women's annual cash pay was £3 per annum i.e. 2d per day (with 260 days of work), implying that their board was valued at 4d per day. The daily cost of Allen's basket that year was 3d.

Similarly, agricultural wage assessments are often given with and without meat and drink which indicates the value of diet. Thus the Assessment of Wages and other Regulations made by the Justices of the Peace for Buckinghamshire in 1561 posted the maximal rate for women "Rakers & Cockers & such lyke" at 2d with "meate & drinke" but 5d without (Tawney and Power, 1924; Evans, 1936; Thompson, 1904) which suggests that food and drink was expected to cost 3d per day. In 1561, the basket cost 1.5d per day, or about half of the cost implied in the difference between the assessment with tabling and the assessment without, a gap closed partially by the fact that the wage assessments were considered maxima, and partially by recognition that the food offered to workers in the harvest season was likely at the apex of working-class consumption, in quantity and quality better than anything obtained in the rest of the year.

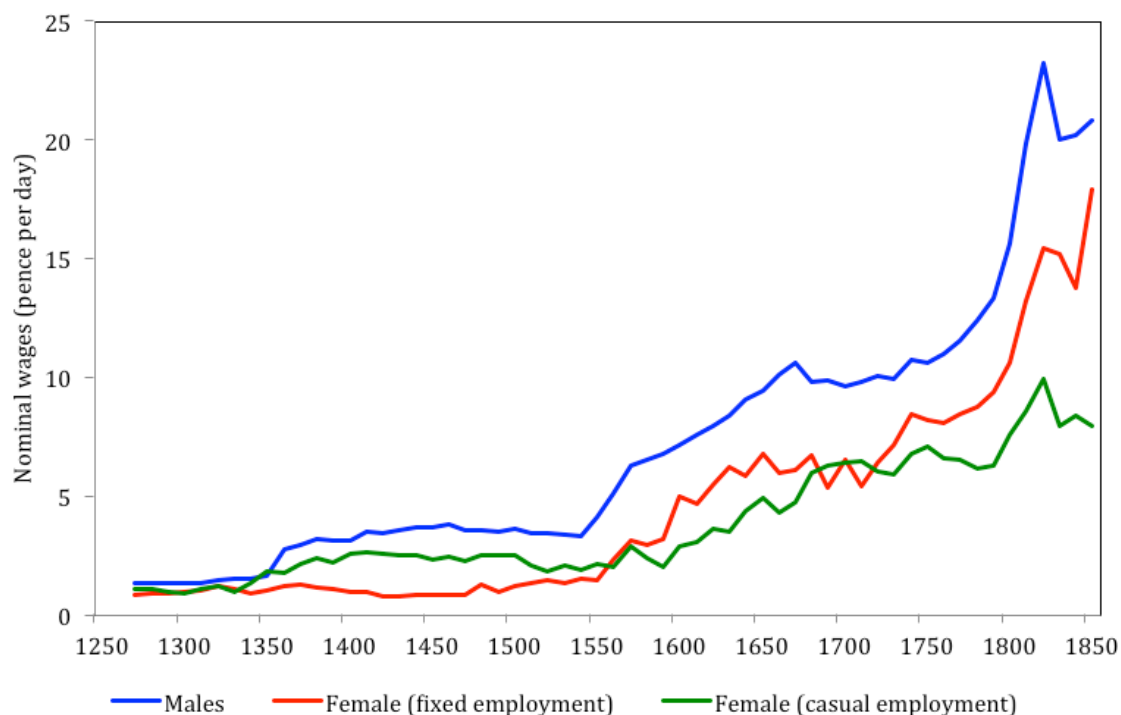
Turning to another kind of source: Chancellor's farm accounts for 1766-7 have the annual cost of housekeeping at £39 8s, and with five working residents (3 women and two men) this means board cost 5d per person per day (Munckton, ed., 1994). Allen's basket costs close to 4d per day in those years, so again we slightly underestimates the actual value of the in-kinds, which were probably boosted in this case by the presence of the farm manager and his wife at table.

Overall our spot checks build confidence in our necessary approximation; though sometimes in the low end, we do not think that our valuations of the in-kind benefits associated with permanent contracts are misleading. In any case, the estimated daily costs of living simply capture the expenses that an average person would otherwise hold, had she not been living in. The great benefit of our strategy is that it facilitates the separate computation of the daily remuneration in cash and kind for women working on a short term casual basis and those working on more permanent contracts, and so facilitates a comparative analysis as well as a first round depiction of long run trends in women's wages.

Figure 4 presents our main findings in terms of the evolution of both types of wages, with male farm labourers' wages shown alongside to illustrate trends in the gender gap. All wages (decadal averages) are reported in Table A1 in the appendix. While the differences in the evolution of wages will be even clearer when we deflate with reference to living costs, the comparison of casual work and annual contracts is instructive at this stage. Women's daily remuneration from permanent contracts remains roughly constant from 1300 to 1500. There is some modest evidence of improvement in the immediate aftermath of the Black Death but this is neither sustained nor significantly different from certain pre-plague years. Indeed, in well documented cases such as Cuxham in Oxfordshire, remuneration returned to pre-1349 levels by 1353 (Harvey, 1960, 1976). Women's casual daily rates, on the other hand, are clearly boosted by the labour scarcity that followed the Black Death, and indeed track the trend in male rates all the way up until the late fifteenth century. These differences in the

evolution of casual and stable payments perhaps explain the unresolved debate between the gender historians and the market optimists with the dismal continuities of patriarchy represented in the static returns to annual service and market gains evidenced in the better-sustained boost to casual pay.

**FIGURE 4**  
THE DAILY WAGES IN PENCE OF MEN AND WOMEN (BY DECADE)



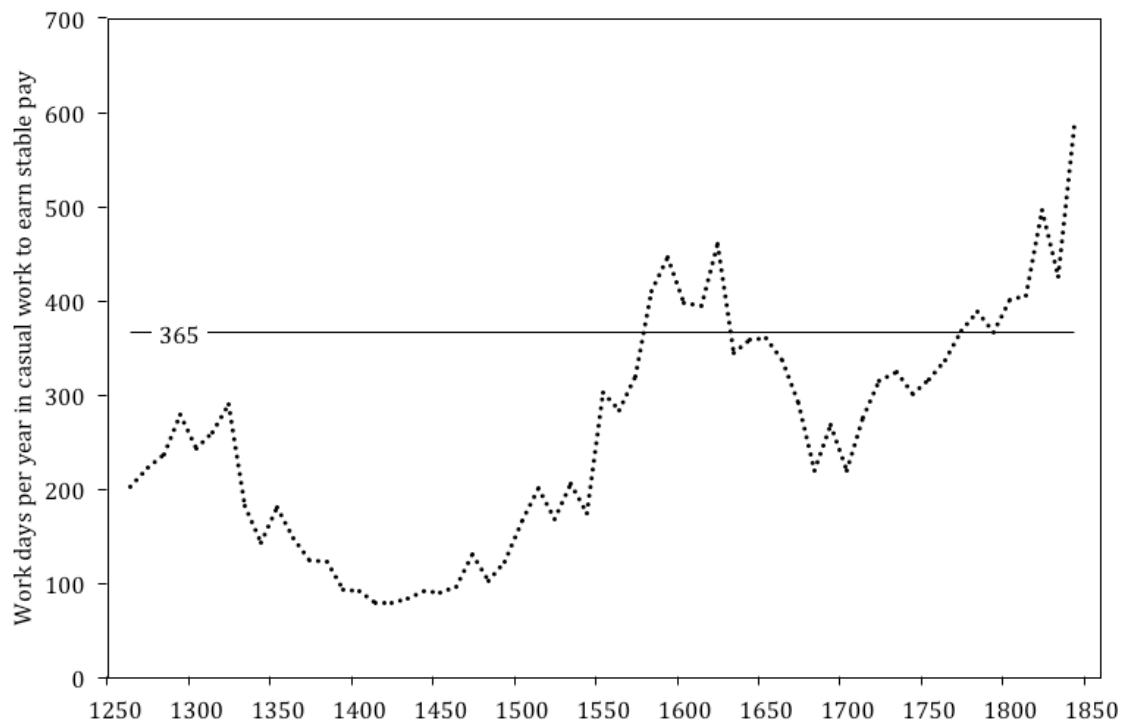
*Note:* The figure shows the nominal day rates of men and women by decade from 1260-70 to 1840-50. Women’s remunerations are divided into those paid for casual employment and those paid for fixed employment (see text). Annual and weekly payments are turned into day rates on the assumption of a five-day work week (totalling 260 working days per year). In those (very rare) decades with no observations (see Table A1) the gaps were closed using linear interpolation. *Sources:* Female wages: see text. Male wages: Clark (2007).

The gap between the daily wages implicit in permanent contracts and those earned casually persists until 1500, when it begins to be slowly eroded as captured by figure 4. Figure 5 offers a different way of thinking about this, illustrating the working year in casual employment needed to earn the income from stable work, and how this working year increased steeply after the mid-fourteenth century. From the late fifteenth century, the returns to longer-term contracts began to increase and converge on (diminishing) casual earnings, moving ahead after 1550. The illustration of our methodology sees this trend in progress, for we can compare the daily rates we imputed from the annual cash payments and valuation of in-kinds enjoyed by Sir Henry Percy and the Shuttleworths contracted servants, who remember probably benefitted from working in high-status households, with a daily wage rate for 1600. We could infer this from a sermon delivered by Thomas Carew, the well-informed puritan rector of Bildeston, who claimed that the women who prepared wool and spun yarn, earned only 3d or 4d per day without food, less he believed than was paid to women who made hay, reaped grain, or carried ale (quoted in McIntosh, 2013). Carew’s estimate is admittedly hearsay, but supported by other observations of casual day rates for



this exact year from the Grassmen's Accounts of St Giles Durham (Barmby, ed., 1896) and (again) the house and farm accounts of the Shuttleworths of Gawthorpe (Harland, ed., 1856), which added together yield a mean of only 3.25p less than the mean value of the four imputed day rates for the annual servants of Henry Percy and Shuttleworths, at 4.49d. Of course, the day rate for men remained well above even the latter figure at 7.55d.

**FIGURE 5**  
THE CASUAL WORKING YEAR NEEDED TO EARN THE ANNUAL STABLE INCOME (BY DECADE)



*Note:* The graph shows the number of days of work required in casual employment to earn the annual income in stable employment. *Sources:* Female wages: see text.

For periods in the 1600s, in contrast to the medieval era, permanent contracts might have been more rewarding than casual work, and although casual remuneration made a comeback in the late seventeenth century (relative to stable payments but also in absolute terms) this was not sustained and annual contracts became consistently better paid from the early 1700s against the backdrop of the industrial revolution. Figure 5 captures this well, showing that after 1550 women earning casual rates almost always had to work more than 260 days to keep up with stable payments and, indeed, sometimes would have had to work more days than there are in the year! The next two sections of the paper tease out the implications of our findings for two important debates in economic history, beginning with the legacy of the Black Death.

## II

### **The Black Death, the European Marriage Pattern and Western Economic Growth**

Medievalists have debated the extent to which women shared in the “golden age of the English peasantry” that followed the demographic catastrophe of the Black Death. The plague killed between 30 and 45 per cent of the population in its initial visitation and recurrences meant that by the 1370s the population had been halved. Recovery was slow. The silver lining, for the peasantry at least, was the dramatic increase in workers’ remuneration, especially (but not only) in agriculture as landowners struggled to recruit and retain labourers. The results are apparent in the rapid increase in male casual (nominal and real) wages circa 1349 (see figures 1 and 4). Some historians have argued that women’s gains were even more marked as they could find employment in jobs which had earlier been the preserve of men, migrate to towns to work in the growing textile industries or commercial service sectors, or become members of an expanding class of household servants and so came to enjoy “a high degree of economic independence” (Goldberg, 1986; 1992). Others however have suggested that whatever the long term implications of the Black Death for male workers, the rigid grip of the sexual division of labour prevented women from seizing or consolidating the opportunities created by the labour shortage. “[W]omen tended to work in low-skilled, low-paid jobs... This was true in 1300 and it remained true in 1700” (Bennett, 1988, p. 278; 1996; Mate, 1998). The debate has devolved into an argument about the continuities of gender subordination even in a world where labour was at a premium with feminist historians arguing for the “triumph of patriarchal structures ... over demographic crisis” and their opponents contending that “ a situation where women’s labour was both excessively cheap and reluctantly and sparingly used by farmers, is hard to sustain” (Bardsley, 2000, p.29, 2001; Hatcher, 2001, p. 195; see also, Langdon, 2011).

The findings we bring new to this debate concern the different trends in casual and permanent wages. These are consistent with, indeed quantify and extend the claim by both contemporaries and labour historians that workers in the late middle ages preferred employment on a daily or weekly basis because it offered the possibility of higher returns and more leisure (Bailey, 1994, p. 162; Dyer, 1980, pp. 367-9; Kenyon, 1962; McIntosh, 1986). Our evidence suggests that women in particular lost out by permanent contracts. Drilling down into the data, Deborah Youngs has shown that on the late medieval demesne of Newton Cheshire, although male and female workers were both employed on long term contracts, women appear to have been more dissatisfied by the terms and conditions offered; they were less likely to renew after a year, and more likely to leave early, indeed to have early departure entertained as a possibility in their contracts (Youngs, 1999, p. 149). Examples of women’s anticipated or actual dissatisfaction with the returns to permanent contracts and employers’ recognition of this are evident in many of the sources, which depict the latter seeking to reward servant for working to term and the former quitting prematurely nonetheless.

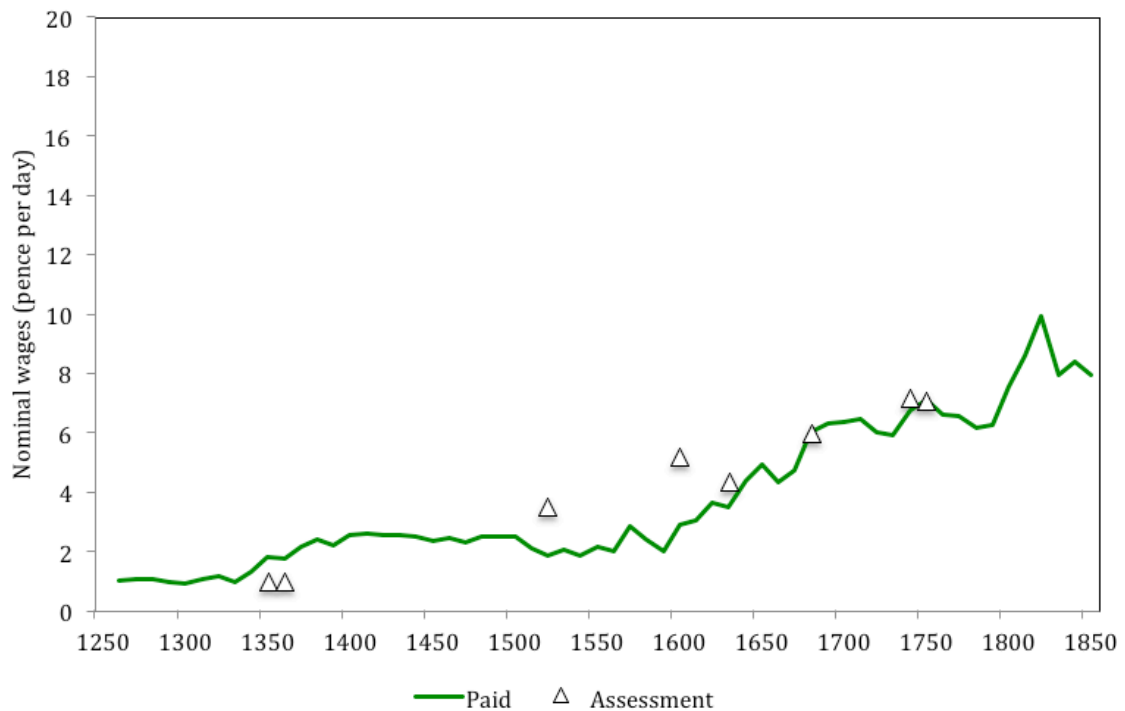
Given the apparent disadvantages associated with permanent contracts and the auxiliary evidence of women’s discontent with them, why did the gap between casual and permanent rates persist for centuries? Why didn’t women reject the longer term contracts with higher frequency and arbitrage the labour market into convergence? One important reason is that the permanent contracts carried with them security of employment. If women were unsure of sufficient casual work for their support, they would be prepared to accept the drawbacks of permanent contracts. Undoubtedly this was partially the case but consider how many days work would have been needed at casual rates to match the annual pay (including

in-kinds) on permanent contracts? In the medieval period, working half the year was usually more than enough! Many young and healthy women might be persuaded that harvest, haymaking, and other seasonal demands for agricultural work along with occasional labouring jobs and opportunities in cloth production would see them through (and this is to ignore opportunities in subsistence agriculture). So a second answer has to reach beyond a model of the labour market that features rational and mobile workers. This answer invokes the legal response to the Black Death in the form of the provisions of the Ordinance and Statute of Labourers.

Most economic historians are agreed that the labourers and artificers who had survived were not slow to take the opportunity afforded by the consequent scarcity of their class by demanding more wages and higher profits for their crafts and wares (Putnam, 1939; but see also Cohen, 2007). Bertha Putnam, in her classic account, while acknowledging the likely hyperbole of the chroniclers agreed that the “malice of servants” appears to employers the only appropriate phrase to describe the attitude of the labouring classes” (1908, pp. 91-2). However, the reason we know about the peasantry’s hardball is because the state too was in reaction to the labour shortage. In England, as elsewhere, the ruling class’s response to the sudden increase in the peasantry’s power was a mix of concession and repression, with the latter exemplified by legislation to hold wages and prices down to levels prevailing before the Black Death, thereby to prevent peasants and craftsmen from exploiting their scarcity. Thus on the manor of Cuxham response to the dislocation of 1349 involved additional payments of 1s to the famuli “to do the lord’s business the better” but then putting up stocks within which to punish recalcitrant workers as required by the Ordinance and Statute of Labourers (Harvey, 1960, p. 89). Two hundred years later, the Shuttleworths of Gawthorpe were contributing to the fabrication of a new “cook-stole and whipp-stock” (Harland, ed., 1856, p. 246). The proceedings before Justices of Labourers and Quarter Sessions of Justices of the Peace with their long lists of labour offences testify to the intensity of this phase of the class struggle (Putnam, 1908; Putnam, 1939; Sillem, 1937; Kimball, 1939; Thompson, 1904; Penn, 1987; Penn and Dyer, 1990).

While the extent to which the legislation was enforced remains debatable its intentions were clear. First, all able-bodied men and women, free and bond, without definite means of support, were commanded to accept service at the rate of wages that had existed before the Black Death or even five or six years previously: the compulsory service clause. Second, reapers, mowers, and other workmen or servants were forbidden to leave their masters within the term of their contracts, without reasonable cause or permission, and other masters were forbidden to eloin workers or employ runaways: the contract clause. Third, nobody was permitted to give or receive higher wages than were customary: the wages clause (Putnam, 1908). Thus the provisions “stand out lucidly” (Putnam, 1908, p.71). They were intended to prevent workers from exploiting their relative scarcity following the Black Death and in particular holding up employers at key moments in the agricultural crop cycle. For our purposes what is important is that the provisions applied to women as well as men, that agricultural labourers were described by their occupations and their maximum legal wage specified, and, importantly for our argument, that the contract of service was to be by the year or other usual term and never by the day (Putnam, 1908; Richie, 1962). Service in summer was to be in the same place as in winter with the exception of labourers in certain districts in harvest time.

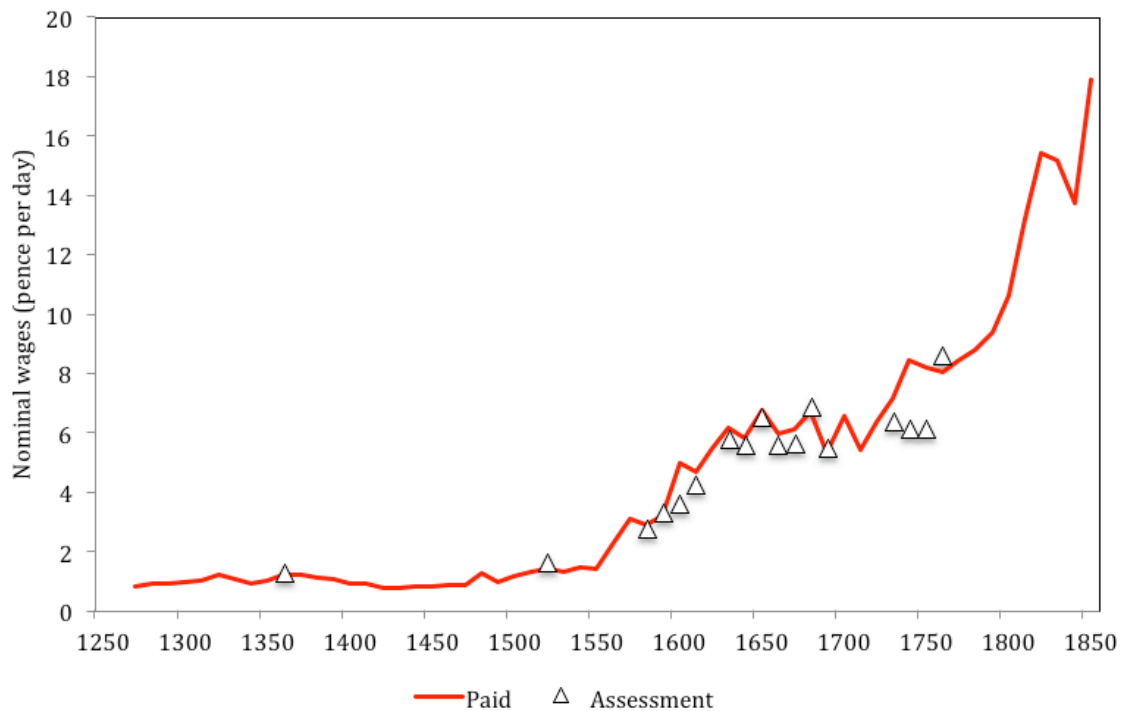
**FIGURE 6**  
WOMEN'S CASUAL WAGES AND DAY WAGE ASSESSMENTS (BY DECADE)



Sources: Paid wages: see text. Assessment wages: see bibliography.

Even if these labour regulations were poorly enforced, they raised the costs of mobility and involved risks for recalcitrant workers, some of whom were whipped, humiliated in the stocks, returned to vindictive masters and perhaps ultimately cowed. Among those falling foul of the Statutes were many women. Putnam herself quotes accounts of penalties imposed on women who had gone in groups to another town in the autumn even though suitable service had been offered to them in their native place, or had reneged on a contract made with an employer, or had to be delivered back to a master to serve out their term at the command of the Justices (Putnam, 1908, p. 198, p. 192, p. 214). In the lists of offenders against the Statute in Wiltshire in 1349, women loom large, singled out for harsh treatment (Thompson, 1904). More recently Simon Penn has concluded that in both the proceedings before the Justices of Labourers and those before the County Quarter Sessions “women appear, often in substantial numbers, among those indicted” (Penn, 1987, p. 3). Significantly one half of those described as common labourers were women. It is of course possible that presentments were selective and reflect the fact that wage demands by women were particularly offensive. On the other hand, it may be that indictments underestimate female offences because women workers were considered less important. Moreover, it is hard to interpret women’s strong representation among the resistance. Does it suggest that they were particularly restive or that they were selected for oppression? What is clear is that the regulations must have to some extent infringed women’s geographical and occupational immobility, pressed them into accepting permanent service contracts, inhibited their working casually by the day and so prevented them from moving from one sector of the labour market to the other and the convergence of wages that this would imply.

**FIGURE 7**  
WOMEN'S FIXED WAGES AND ANNUAL WAGE ASSESSMENTS (BY DECADE)



Sources: Paid wages: see text. Assessment wages: see bibliography.

The Statute created a precedent and set the law in motion towards both the Elizabethan Statute of Artificers which also sought to impose maximum wages and restrict workers freedom of movement and the poor law which distinguished between the able bodied and those who could not work and through settlement sought to penalise mobility. Both developments also adversely impacted on women as the long lists of women removed, whipped or imprisoned for vagrancy under the Tudor legislation suggest (for example, see Anderson, 1931). These ideas are of course speculative. More work remains to be done on the gender implications of the labour regulations. However support is forthcoming from economic historians who have seen the early modern period as an era of increasing suspicion of masterless persons, with unmarried women working and living on their own the most mistrusted (Wiesner, 1993, p. 99; see also Goldberg, 1986, p. 20). Women who migrated to cities in search of employment were particularly suspicious, for any woman travelling alone was suspected of immorality. Wiesner notes that in 1659, for example, the city of Dublin ordered that “a large cage [be] set up in the corn market to imprison all beggars, idle women and maids selling apples and oranges” (1993, p. 89). Figure 6 compares wage assessments with our casual wages and shows that while in the immediate aftermath of the Black Death legal prescriptions could not stand against the dramatic realities of a labour market denuded of half the usual workers, thereafter, and even excluding harvest wages, the main concern of the Justices, on a daily basis women rarely earned at the assessed level. In contrast, figure 7 suggests that in the medieval period remuneration from longer term contracts appears to have been held down by the legal ceiling, and although JPs adjusted the annual wages of women servants upwards in line with prices after 1560, the assessments appear to have acted as a drag on wage growth until around 1700 (for a supporting view see, Roberts, 1981).

Our decomposition of female wages into those earned casually, by and large by married women, and those earned on annual contracts, by and large by younger unmarried women, has powerful implications for theories that see western European economic acceleration as the product of the European Marriage Pattern (EMP), itself founded on the gendered legacy of the Black Death. The logic of these theories is unassailable. As De Moor and van Zanden see it “a strong increase in real earnings especially for women ... accelerated the general adoption of the EMP... particularly among servants” (2010, p. 11). Women’s improved position in the post-plague labour market and especially the growth of opportunities as servants in husbandry linked to the relative expansion of “horn” (in which women had a comparative advantage) versus “grain” (in which they did not) allegedly pushed up female wages and labour force participation. In Voightländer and Voth’s version fertility restriction emerged as an indirect consequence of the abundance of land after 1348–1350 resting on the notion that women trade off income against having child. The Black Death “raises land-labor ratios and thus wages ... raising female employment opportunities outside the peasant household” (Voightländer and Voth 2013), p. 2229). Because the Black Death “raised the demand for female labor, it increased the average age at first marriage for women, reducing fertility rates. This in turn lowered population pressure in a Malthusian setting and helped to keep wages high after the Black Death.” (*ibid.*, p. 2260). But however attractive these versions of history, they lack empirical foundation. Our unpacking of the wage trajectories, while consistent with medievalists’ accounts of workers’ preferences for daily work and gender historians’ recognition that women workers faced increasing difficulties in the 1400s, offers little support for these models. Women’s gains in the post Black Death labour market were subdued as far as annual service is concerned. Here, wages held down by an institutional heavy hand and maybe outside the towns by insufficient work, offered little in the way of inducement to remain independent, postpone marriage and so reduce fertility. Ironically, the patterns of our wages suggest the opposite: it was *married* women who gained to the extent that they were able through their husbands to access better-paid casual labour and share in the boost that demographic collapse gave to men’s remuneration and family incomes. This view appears consistent with the fragmentary evidence we have on age at marriage in the late medieval period; Goldberg, for example, suggests that while “throughout the Middle Ages women living in towns were able regularly to support themselves independently outside marriage” that living was “harder to find and more precarious as the fifteenth century drew to a close” and as a result he speculates that they may have married *earlier* (Goldberg, 1986, p. 20). As for women in the countryside, where contrary to the contention of Voightländer and Voth, production sometimes became less labour intensive, their situation had always been less rosy. In short, the empirical record is more consistent with this less optimistic account of the gendered legacy of the Black Death and offers little in support of an English version of a ‘girl-powered’ economic breakthrough.

In his brilliant analysis of the comparative response to the Black Death and the implications for the survival of feudal social relations, Robert Brenner (1976) emphasized that west of the Elbe peasants had cities in which to escape seigniorial reaction and institutions to use against resurgent overlords. English women certainly benefitted from urban opportunities but even here there were institutional constraints while in the countryside there were fewer options. Women represented an internal east subjugated by both masters and their own men. Less speculatively, perhaps we should look to the weakening of labour market regulation to explain the convergence of women’s casual and permanent wages, though other social and economic factors also played a role in this process

as we shall see in the next section which takes our interpretation forward into the era of industrialization.

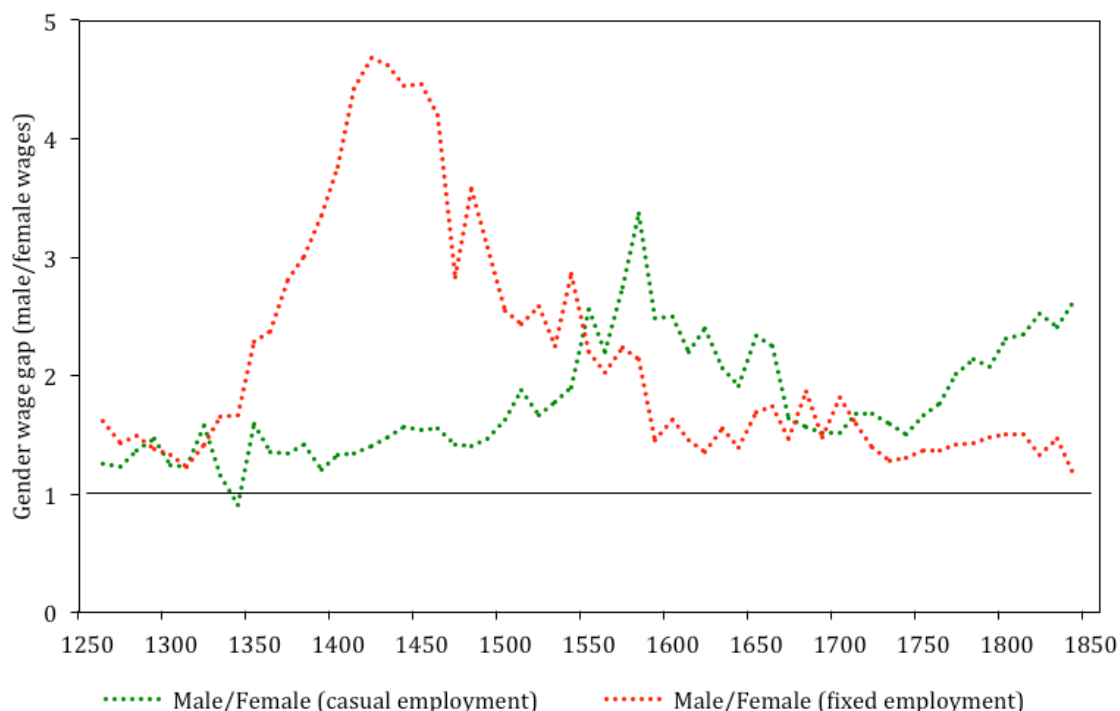
#### IV The Era of Industrialization

Whether or not women benefitted from the industrial revolution is a question that has attracted even more attention than has the legacy of the Black Death. Optimists have argued that industrialization in both its protoindustrial and its factory phase, benefitted women, providing them with new opportunities and higher paid work (Pinchbeck, 1930; McKendrick, 1974); indeed this view lies at the core of Jan de Vries influential account of an 'industrious revolution' as the precursor of industrialization proper (De Vries, 2008). In contrast, pessimists have argued that industrialization by taking work out of the home into formalized and centralized workplaces disadvantaged women who became less able to support themselves and more dependent on men and male wages (Horrell and Humphries, 1995). Some historians draw the line at domestic manufacturing: outworking promoted women's independence and wellbeing; formalized industry disadvantaged them (Berg and Hudson, 1992; Berg, 1993). Another distinction is between married women who could not adapt to regular hours and centralized workplaces and unmarried women who were much less constrained, though here again the causes and timing of changes in behaviour are debated (Burnette, 2008; Sharpe, 1998; Verdon, 2002, Shaw-Taylor, 2007). Pinchbeck's classic (1930) work also precipitated a discussion of the extent to which the capitalist development of English agriculture displaced women workers and whether this was interrupted in the late 1700s and early 1800s by added-worker effects prompted by inadequate male wages, enlistment in the French wars and changes in the generosity of poor relief (Horrell and Humphries, 1995; Burnette, 1999, 2004, Verdon, 2002). Much of the debate has revolved around patterns in participation rates (see Goose, 2007), but wages, the gender division of labour, the extent of male breadwinning, trade unions, protective labour legislation and patriarchal ideology have also attracted attention. Nor should it be assumed that this issue is only of interest to gender historians. Positions have purchase on other important historical debates such as explanations of women's age at marriage, the key to long-run demographic change, and accounts of trends in wellbeing. Again, what we bring new to the discussion is the empirical evidence on women's wages and its decomposition by contract type. Wages represent the balance between demand and supply and their evolution tracks the reduced form in the segmented female labour market.

After 1550, although both casual and stable wages for women increased, their trajectories relative both to each other and to the wages of unskilled men diverged. As noted above, women's remuneration from annual contracts, flat for most of the medieval period, improved dramatically gaining ground on both women's casual pay and men's unskilled wages. Comparing male with female stable wages, the medieval period was one of rising gender inequality, while the early modern era saw some convergence (figure 8). In contrast, women's casual rates, which had tracked men's wages in the middle ages, fell away, creating a widening gender gap especially after 1500 and again after 1700 (also figure 8). This suggests that the economic changes taking place provided fewer and less well remunerated casual jobs while stable work kept pace with the benchmark of male farm labour. Given our association of casual work with married women's employment, often accessed alongside husbands, this interpretation chimes with accounts which emphasize the narrowing of opportunities for wives and mothers especially as the English countryside became increasingly closed and

protoindustrial activities diminished. As the small farms, cottage gardens, and humble allotments that had enabled married women to do something useful disappeared the opportunity cost of their time fell relative to that of their husbands and the gender gap widened. In addition, the collapse of hand spinning was catastrophic for married women's independence (Eden, 1797; Muldrew, 2012). The widening gap between the wages of male farm labourers and those of women casually employed sends a clear signal: married women and their children were increasingly dependent on husbands and fathers.

**FIGURE 8**  
THE GENDER WAGE GAPS (BY DECADE)



*Note:* The gender wage gap is the male wage rate divided by the female wage rate. *Sources:* Female wages: see text. Male wages: Clark (2007).

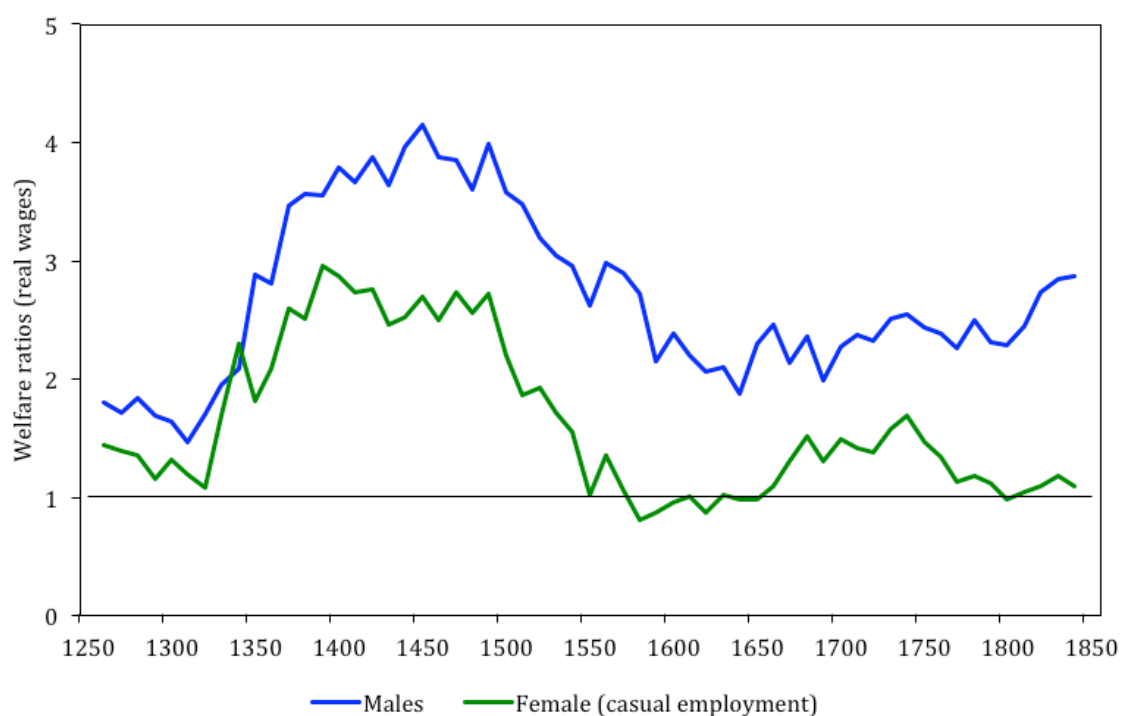
On the other hand, the daily wages implicit in annual contracts tracked men's wages after 1550; here the gender gap actually converged in the later era of industrialization. For women able to accept annual contracts, young unmarried women, the late eighteenth and early nineteenth centuries appear to have afforded opportunities, or at least their wages stayed in touch with those of their unskilled male counterparts, underpinned by the rates available in the emerging factories and centralised workplaces of industrializing Britain. Domestic servants whose wages had been stable for decades (Wark, 1997; Field, 2013) began to see an improvement as demand and supply exercised their inexorable power in a labour market increasingly released from the shackles of law and convention. Perhaps women even began to demand recompense for the loss of liberty implicit in residential service, reversing the old differential whereby secure employment and a place to live had apparently offset relatively low cash wages.

It is possible to measure our women's wages not just against their male equivalents but also against their own costs of living and so clarify trends in wellbeing. We again make use of



Bob Allen’s consumption basket, asking whether women’s remuneration was sufficient to purchase respectable subsistence. To this end we compute a *welfare ratio* by dividing the annual nominal wage by the annual costs of one consumption basket (so that a welfare ratio of one means the remuneration buys exactly one basket).<sup>5</sup> For men and women in casual employment, the annual remuneration is obtained by multiplying the daily wage rates by 260 days. For women on annual contracts, the annual remuneration is the sum of the cash payment and the imputed in-kind component. Of course, because the in-kind component is equal to the annual costs of the basket by construction, remunerations that only consist of in-kinds will create a welfare ratio of one. Conversely, the welfare ratio may fall below one if remuneration comprised only a cash payment insufficient to purchase the full basket.

**FIGURE 9**  
THE WELFARE IMPLICATIONS OF WOMEN’S CASUAL WAGES (BY DECADE)



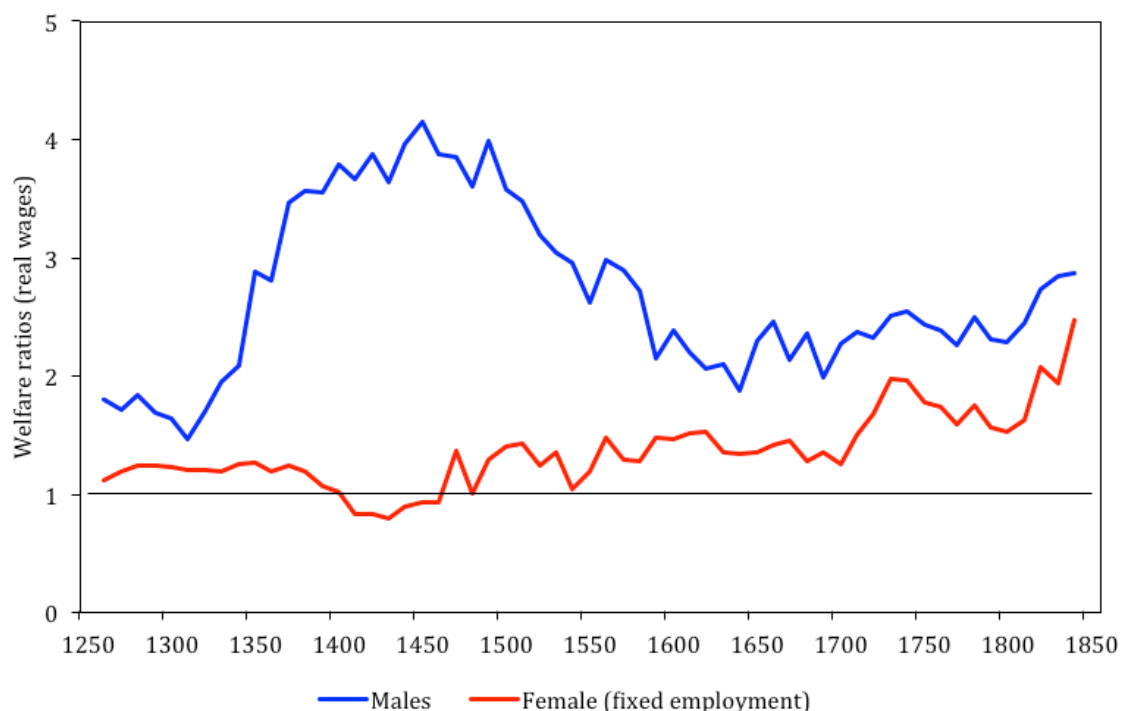
*Note:* The welfare ratio reports the annual nominal wage divided by the annual cost of one consumption basket. Hence, a welfare ratio equal to one means the annual wage buys exactly one basket. The annual wage is obtained by multiplying the daily wage rate by 260 days. In those (very rare) decades with no observations (see Table A1) the gaps were closed using linear interpolation. *Sources:* Female wages: see text. Male wages: Clark (2007). Cost of basket: Allen (*Link*).

Figures 9 and 10 show the basket-purchasing power of men’s wages over time, clearly indicating the post-plague golden age when almost four baskets were in reach, the slow decline through the late medieval period and the long period of stasis reaching well into the industrial revolution, when only two baskets were obtainable. The figures provide the same visual representations for both types of women earner, casual in figure 9 and stable in figure 10, and confirm in dramatic style the story laid out above. Figure 9 shows how women

<sup>5</sup> Note that our welfare ratio is not directly comparable to the welfare ratios computed in studies by Allen. For example, in Allen (2009) a welfare ratio of one means the remuneration covers a family consisting of two adults and three children (each consuming half of what adults do).

earning casual wages shared in post-plague prosperity but how this advantageous position was eroded so that after 1550, and especially in the early seventeenth century, they could barely afford one consumption basket: such women could scarcely support themselves even if working regularly year round. The implications for women with children but lacking a male breadwinner are dismal. Early industrialization appears to bring some improvement but this was neither significant nor sustained.

**FIGURE 10**  
THE WELFARE IMPLICATIONS OF WOMEN'S FIXED WAGES (BY DECADE)



*Note:* The welfare ratio reports the annual nominal wage divided by the annual cost of one consumption basket. Hence, a welfare ratio equal to one means the annual wage buys exactly one basket. Men's annual wage is obtained by multiplying the daily wage rate by 260 days. (see Table A1). *Sources:* Female wages: see text. Male wages: Clark (2007). Cost of consumption: Allen (*Link*).

Figure 10 depicts the ability of women on annual contracts to attain a respectable subsistence. While the Black Death brought them no bonanza in living standards and the early modern period yielded only slow improvement, industrialization especially the early 1700s and early 1800s provided steady and indeed substantial gains. However, if by the end of our period, women on stable contracts were within reach of affording three baskets, the contractual terms of their employment would have made it difficult to support children or enjoy family life. While these trends signal gains for unencumbered women able to seize the opportunities of the industrializing economy, they do not gainsay the dominant narrative of increasing dependence of married women on men and men's wages.

Nevertheless, improvements in the living standard of women on annual contracts were relevant for a considerable fraction of English women. The average age of marriage for women was late (around 25 years in the early modern period) leaving them a good many years to enjoy a comparatively high level of remuneration. What is more, a considerable

proportion of adult women in various English communities were unmarried; conservative estimates suggest that one in four women over 40 had remained single (Froide 2002, 2007). The trend in their remuneration suggests that remaining unmarried was altogether not that bad in terms of material living standards for those women in stable employment, indeed their relative comfort may help explain the high age of marriage and persistent celibacy characteristic of early modern England. In contrast, our findings for the medieval and industrial revolution eras pose some challenges to the conventional explanations of demographic trends. The argument that annual service became more prevalent, prevented early marriage and so contributed to the delayed recovery from the catastrophe of the Black Death does not chime with our empirical evidence on the relatively poor remuneration from annual contracts in this period, nor incidentally with the antipathy to such contracts that Penn and Dyer see in the proceedings under the labour laws (1990, p. 375). Similarly, the improving relative position of the unmarried women able to entertain such contracts in the era of industrialization, as casual work for many married woman appears to diminish, is surely out of tune with the dramatic decline in age at marriage and in celibacy over the course of the eighteenth century.

## V Conclusion

The main contribution of this paper is a wage series for unskilled English women workers from 1260 to 1850. Our determination to impute values for the perquisites associated with annual contracts has paid dividends by enabling a comparison of the value of stable work, by and large the preserve of single and often young women, with the remuneration from casual employment often done by married women and accessed through their husbands. This comparison has provided fresh and important insight into the female labour market in the distant past.

The two series exhibit secular differences in levels and trends, which help answer some outstanding questions in British economic history. The series suggests that while women who had access to the casual labour market did share in the post plague “golden age” with their male counterparts, women who worked on annual contracts did not. There is little evidence here to support the view that the late medieval and early early modern eras provided new opportunities for young unmarried women workers tempting them to delay marriage and reduce fertility, with the resulting European Marriage Pattern raising incomes and promoting further growth. If the Black Death did create the west via the European Marriage Pattern it is not reflected in the relative wages of female servants where logic suggests it should have left a record. The series also casts light on the long-running debate about the effects of industrialization on women’s economic opportunities and wellbeing. Here the failure of the casual female labour market to keep up with male wages or the cost of living suggests that for those women who were unable to commit to full time annual work, industrialization offered few gains. Married women and their children were likely increasingly dependent on men, while single women in stable employment were able to profit from their freedom from family responsibilities.

## Appendix

**TABLE A1**  
THE DAY WAGES IN PENCE OF MEN AND WOMEN (BY DECADE)

In pence Years (decades)	Men Casual Mean	Women Casual Mean	Women Casual N	Women Stable Mean	Women Stable N	Basket CPI Mean
1260-1270	1.32	1.06	14	0.82	12	0.50
1270-1280	1.30	1.06	8	0.91	11	0.52
1280-1290	1.34	0.98	15	0.90	3	0.50
1290-1300	1.34	0.91	17	0.98	10	0.54
1300-1310	1.35	1.08	13	1.01	10	0.56
1310-1320	1.46	1.19	10	1.19	10	0.68
1320-1330	1.53	0.97	23	1.08	12	0.61
1330-1340	1.51	1.31	20	0.91	13	0.52
1340-1350	1.65	1.82	35	0.99	31	0.54
1350-1360	2.75	1.74	32	1.21	22	0.65
1360-1370	2.92	2.17	9	1.23	4	0.71
1370-1380	3.20	2.39	10	1.14	0	0.63
1380-1390	3.14	2.21	14	1.05	7	0.60
1390-1400	3.09	2.57	9	0.92	5	0.59
1400-1410	3.47	2.62	13	0.92	64	0.62
1410-1420	3.43	2.56	28	0.78	32	0.64
1420-1430	3.56	2.53	0	0.76	32	0.62
1430-1440	3.68	2.50	1	0.80	30	0.69
1440-1450	3.65	2.33	5	0.82	30	0.63
1450-1460	3.78	2.47	7	0.85	32	0.62
1460-1470	3.54	2.28	2	0.85	26	0.62
1470-1480	3.53	2.50	2	1.25	63	0.62
1480-1490	3.49	2.49	0	0.98	34	0.66
1490-1500	3.62	2.48	15	1.17	83	0.62
1500-1510	3.41	2.10	10	1.34	122	0.65
1510-1520	3.45	1.84	34	1.42	34	0.67
1520-1530	3.40	2.05	24	1.32	13	0.72
1530-1540	3.32	1.87	26	1.48	16	0.74
1540-1550	4.09	2.15	18	1.43	5	0.94
1550-1560	5.12	2.00	8	2.33	1	1.33
1560-1570	6.29	2.86	99	3.12	9	1.43
1570-1580	6.54	2.38	15	2.92	33	1.54
1580-1590	6.77	2.02	65	3.18	29	1.69
1590-1600	7.17	2.89	38	4.96	17	2.28
1600-1610	7.59	3.05	40	4.66	37	2.17

*Table A1*  
*cont.*

1610-1620	7.93	3.62	64	5.49	29	2.46
1620-1630	8.37	3.50	31	6.18	47	2.76
1630-1640	9.03	4.39	47	5.81	66	2.94
1640-1650	9.41	4.92	121	6.77	58	3.42
1650-1660	10.10	4.32	13	5.98	50	3.00
1660-1670	10.60	4.73	32	6.11	8	2.94
1670-1680	9.81	6.00	10	6.70	3	3.14
1680-1690	9.85	6.31	13	5.31	24	2.84
1690-1700	9.63	6.37	137	6.55	66	3.31
1700-1710	9.78	6.44	72	5.42	31	2.94
1710-1720	10.08	6.00	8	6.36	53	2.89
1720-1730	9.90	5.91	11	7.16	104	2.90
1730-1740	10.72	6.76	1	8.42	224	2.90
1740-1750	10.63	7.09	54	8.18	281	2.84
1750-1760	10.97	6.60	60	8.04	208	3.07
1760-1770	11.55	6.54	40	8.44	198	3.31
1770-1780	12.41	6.19	77	8.76	179	3.74
1780-1790	13.33	6.26	31	9.36	191	3.63
1790-1800	15.65	7.55	71	10.62	203	4.61
1800-1810	19.80	8.58	38	13.21	177	5.92
1810-1820	23.19	9.90	33	15.43	133	6.46
1820-1830	20.04	7.96	30	15.15	206	4.98
1830-1840	20.20	8.40	35	13.75	146	4.83
1840-1850	20.82	7.94	26	17.87	46	4.93
Mean/sum	7.20	3.79	1734	4.45	3623	1.96

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*Note:* In those (very rare) decades with no observations the gaps were closed using linear interpolation (wages in italic). *Sources:* Female wages: see text. Male wages: Clark (2007). Cost of consumption basket (CPI): Allen (*Link*).

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