



# Women's work and wages in the sixteenth century and Sweden's position in the 'little divergence'

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## Abstract

We use a unique source from the Swedish royal *demesnes* to examine the work and relative wages of women in sixteenth-century Sweden, an economic laggard in the early modern period. The source pertains to workers hired on yearly contracts, a type more representative of historical labour markets than day labour on large construction sites, and this allows us to observe directly the food consumed by workers. We speak to the debate on the 'little divergence' within Europe, as women's work and gender differentials in pay is a key indicator of women's relative autonomy and seen as a cause for the economic ascendancy of the North Sea region during the period. We find small gender differentials among both unskilled and skilled workers, indicating that Sweden was a part of the 'golden age' for women. We argue that despite superficial equality, women's economic outlooks were restrained in many other ways – including their access to higher-skilled work and jobs in the expanding parts of the economy – adding important nuance to the discussion about the relationship between women's social position and economic growth in the early modern period.

## KEYWORDS

Early modern period, gender gap, little divergence, Sweden, wages, women's work

## JEL CLASSIFICATION

N00, N33, J21, J31

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Several explanations have been put forward for the ‘little divergence’, the process by which the North Sea area advanced ahead of the rest of Europe during the centuries following the Black Death. A prominent theory links the process to the greater autonomy of women in north-western Europe; the region was characterised by marriages later in life, small spousal age gaps, and a high share of women who remained single, resulting in a unique European marriage pattern (EMP).

According to this ‘girl power’ hypothesis, this pattern of family formation and demographic behaviour had important consequences for economic growth. The EMP resulted in improved property rights for women, encouraged female participation in the labour force, and created greater equality between husband and wife.<sup>1</sup> Women’s autonomy, in turn, led to restraints on fertility and increased investments in children’s human capital, allowing economies to escape the Malthusian trap and to begin the process of modern economic growth.<sup>2</sup>

Women’s role in the labour market plays a crucial role in this framework. De Moor and van Zanden (2010) write that ‘In the North Sea region, women’s earnings were relatively high (when compared to men’s), and access to the labour market was relatively easy’.<sup>3</sup> The North Sea region in this case encompasses a core area of the western Netherlands, Flanders, and eastern England, but it also includes Sweden as well as northern France and Germany, following Hajnal’s line from Trieste to St. Petersburg.<sup>4</sup> In the book *Capital women*, van Zanden et al. argue that north-western Europe experienced a ‘golden age’ for female workers after the Black Death, which explains why the EMP emerged in that place and time.<sup>5</sup> In the Netherlands, England, and Sweden, women’s casual wages came closer to those of men.<sup>6</sup> In contrast, in southern Europe, the authors argue, female day wages often were set by custom at about 50 per cent of those of men, and there was no ‘golden age’ for women, which explains the lack of an EMP and economic growth in this region.<sup>7</sup>

However, Dennison and Ogilvie have criticised the notion that the EMP can explain the ‘little divergence’. In a meta-analysis of local demographic studies, they argue that the EMP was often most pronounced in places that experienced little economic growth.<sup>8</sup> Recently, Bennett has likewise argued that the EMP in England neither evolved after the Black Death nor emerged out of prosperity. According to Bennett, the EMP already appeared in England in the period between 1086 and 1250, and out of poverty: people had too little means to neo-locate and to marry.<sup>9</sup> In their analysis, Dennison and Ogilvie also highlight the importance of labour markets. In, for example, the German lands, characterised by strong forms of the EMP, women’s wages often fell far short of men’s because of discrimination and restrictions imposed by guilds and local communities.

<sup>1</sup> De Moor and van Zanden, ‘Girl power’. For similar arguments, see: Foreman-Peck, ‘The western European marriage pattern’; Voigtländer and Voth, ‘Why England?’; *idem*, ‘How the west “invented” fertility restriction’; Diebolt and Perrin, ‘From stagnation to sustained growth’.

<sup>2</sup> De Moor and van Zanden, ‘Girl power’; Carmichael et al., ‘The European marriage pattern’; van Zanden, De Moor, and Carmichael, *Capital Women*.

<sup>3</sup> De Moor and van Zanden, ‘Girl power’; de Pleijt and van Zanden, ‘Two worlds of female labour’; van Zanden, De Moor, and Carmichael, *Capital women*, p. 27.

<sup>4</sup> van Zanden, De Moor, and Carmichael, *Capital women*, pp. 21–4, 132–3.

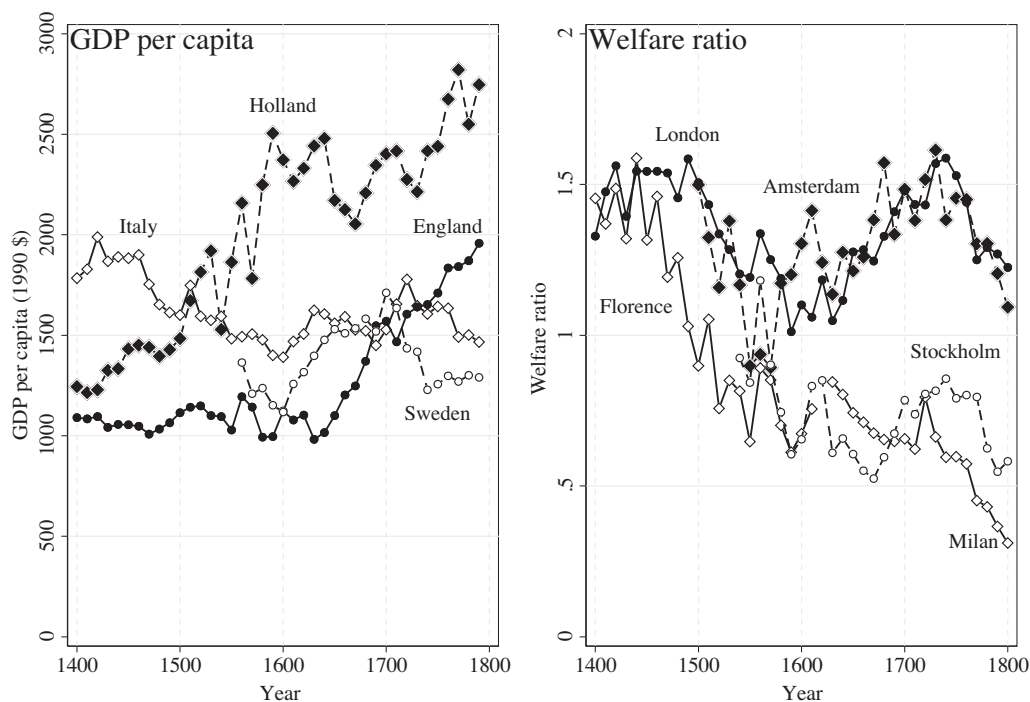
<sup>5</sup> *Ibid.*, pp. 133–4.

<sup>6</sup> *Ibid.*, pp. 133–4; Gary, *Work, wages and income*. Gary shows that women’s casual wages in Sweden approached those of men in the late-sixteenth and early-seventeenth centuries.

<sup>7</sup> See also de Pleijt and van Zanden, ‘Two worlds of female labour’.

<sup>8</sup> Dennison and Ogilvie, ‘European marriage pattern’.

<sup>9</sup> Bennett, ‘Wretched girls’, pp. 315–20, 335–8.



**FIGURE 1** GDP per capita and welfare ratios in England, Holland, Italy, and Sweden, decadal averages, 1400–1800. *Note:* The welfare ratio expresses the number of respectability baskets of consumption that a male worker could afford for a family with a wife and two children. Wages for Florence available only until the 1620s and for Milan from the 1630s.

*Sources:* GDP per capita: data taken from Fouquet and Broadberry, ‘Seven centuries’. Original series from Broadberry et al., *British economic growth*, for England; van Zanden and van Leeuwen, ‘Persistent but not consistent’, for Holland; Malanima, ‘The long decline’ for Italy; and Schön and Krantz ‘The Swedish economy’ for Sweden. Welfare ratios: Allen, ‘The great divergence’, except the Stockholm series, which is taken from Gary *Work, wages and income*.

Dennison and Ogilvie contend that women’s autonomy under any demographic system depended on the balance of power among other institutions, concluding that ‘What mattered for female autonomy and any resulting economic benefits was not solely marriage or household patterns, but what kinds of work women were allowed to do and what wages they were allowed to earn’.<sup>10</sup>

Looking closer, the Swedish case constitutes a conundrum for the ‘girl power’ hypothesis and a good case for nuancing Denison’s and Ogilvie’s critique. The collection of demographic studies used by Dennison and Ogilvie shows that Sweden was characterised by an extreme form of the EMP, which according to the ‘girl power’ hypothesis, should have resulted in stronger female autonomy and subsequent economic growth.<sup>11</sup> Despite this, Sweden remained a laggard in the ‘little divergence’. As revealed in figure 1, the country experienced sluggish growth in GDP per capita

<sup>10</sup> Dennison and Ogilvie, ‘European marriage pattern’, p. 675. They also add, ‘These in turn were strongly influenced by nonfamilial institutions – communes, guilds, manorial systems, the church, the state – which regulated women’s economic options’.

<sup>11</sup> In their analysis, Ogilvie and Dennison draw on local demographic studies and three variables to capture the presence of the EMP, namely female age at first marriage, female lifetime celibacy, and household complexity. Sweden ranks seventh out of the 33 countries considered, in terms of the combined values for the three EMP variables.



and decreasing real wages throughout the seventeenth and eighteenth centuries; Sweden followed a similar trajectory to Italy, falling behind England and Holland. Denison and Ogilvie, on the other hand, present ‘daunting institutional constraints’ – serfdom, guilds,<sup>12</sup> communities, religious bodies, and absolutist states – as the prime suspects to slow economic growth outside England and the Netherlands.<sup>13</sup> Non-familial institutions should thus have hampered development of well-functioning factor markets and lowered women’s wages.<sup>14</sup> Nevertheless, recent studies of casual wages by Gary have shown that Sweden was a part of the ‘golden age’ for women in the centuries after the Black Death; high demand for female labour led to high female casual wages.<sup>15</sup> Furthermore, Sweden lacked some of the repressive institutions listed by Dennison and Ogilvie. The wave of the so-called second serfdom never passed over Sweden, and guilds were weak, especially before the seventeenth century and outside the few and miniscule towns.<sup>16</sup> For the Swedish case, Lindström et al. also downplay the role of the type of male-dominated social networks that the guilds and village communities represent, as a factor in constraining people’s sustenance activities. Instead, they put emphasis on marital and labour laws forcing young unmarried individuals to take up service. Their conclusion that marriage ‘was a way of escaping the forms of compulsion and exclusion that effected young people’<sup>17</sup> is also quite far from the rosy picture of the conditions for unmarried women given by the ‘girl power’ hypothesis.

In this article, we take a detailed look at female relative wages and women’s work and autonomy in Sweden in the sixteenth century. We use an unusually rich source from the royal *demesnes* – covering a variety of economic sectors and from estates of various sizes – that provides us with information about the employees, their remuneration, their periods of employment, and the food they consumed. We are well situated to examine women’s position since we are able to compare wages for workers hired by the same employer, and our source provides evidence on both men and women across the skill distribution. We are also able to account for the food that the employees were allotted at a time when payment in kind constituted a significant fraction of annual workers’ wages.<sup>18</sup> We add new evidence by comparing gender differences not simply within the unskilled group, but also among skilled workers. Our evidence also relates to workers hired on yearly contracts, while most previous work on female relative wages has focused on day wages. Workers hired on annual contracts are often excluded, since their pay frequently involved a large component of in-kind payments such as room, board, and other auxiliary payments. Such data are also harder to find, which is unfortunate since most workers in pre-modern Europe were employed on annual contracts rather than by the day.<sup>19</sup> For daily work it is also more difficult to ascertain what other alternative sources of income those workers had, while for workers on annual contracts remuneration corresponded more closely to yearly income.<sup>20</sup> The source also allows us to

<sup>12</sup> For a critique of Ogilvie’s interpretation of the relation between guilds and women’s position in the labour market, see Crowston, ‘Women, gender and guilds’, pp. 24–7.

<sup>13</sup> Dennison and Ogilvie, ‘European marriage pattern’, pp. 686–7.

<sup>14</sup> Ibid., p. 687.

<sup>15</sup> Gary, *Work, wages and income*.

<sup>16</sup> Lindström, ‘Genusarbetsdelning i det tidigmoderna skråväsendet’, p. 180; Lindström et al., ‘Mistress or maid’, pp. 228–9, 237, 247–8.

<sup>17</sup> Lindström et al., ‘Mistress or maid’, p. 248.

<sup>18</sup> Drelichman and Agudo, ‘The gender wage gap’.

<sup>19</sup> Humphries and Weisdorf, ‘The wages of women in England’; Hatcher and Stephenson, eds., *Seven centuries of unreal wages*.

<sup>20</sup> de Pleijt and van Zanden, ‘Two worlds of female labour’.



pay attention to the context within which women's work took place, providing crucial evidence on relative pay.

We find high relative female pay in unskilled jobs in Sweden, which seems to confirm that a 'golden age for women' was present in Sweden when workers hired on yearly contracts are considered as well. We also find high relative wages for women on the smaller estates in more skilled occupations, suggesting that this pattern extended to women with higher-paying jobs in the wider economy. On larger estates, however, skilled women appear to have been earning less than their male counterparts, and their employment opportunities were fewer.

However, within a particular skill group, men and women could hold different occupations and tasks, which could affect their relative pay, and productivity could differ between sexes as well. This is especially the case on larger estates where occupational differentiation and the division of labour were extensive. For this reason, we also zoom in on the skilled occupation of brewers. The brewers and brewsters of the Crown had to follow centrally prescribed recipes, and the production process was highly standardised. Thus, the same sorts of brews were produced at the different estates. Examining cases where male and female brewers worked side by side on the same estate, no evidence of women systematically being paid less can be found.

Our evidence on relative pay runs contrary to the assertion of Dennison and Ogilvie that women's remuneration was regulated in Scandinavia as a result of institutional restrictions. Labour markets for both men and women seem to have been shaped by demand, but also by more subtle forces than guilds and village communities. Swedish women had access to the labour market; in some cases, the access was easy, and in other ways it was not, making contexts and variations important when analysing early modern labour.

For the 'girl power' hypothesis, a central premise is that women could make a living independently on their own labour. A chief argument in *Capital women* is that within the EMP, women had incentives to continue to contribute to the household economically after marriage, since they knew that they would get a share of the assets accumulated during the marriage at a property settlement. Outside the EMP region, property tended to be separated between the spouses, which potentially hampered women's will to contribute. According to [van Zanden et al.](#) there was an additional possibility for women within the EMP to stay unmarried and to live on their own incomes.<sup>21</sup> If women are to have incentives to contribute to the marital economy, as well as having the option to make a living as unmarried, a labour market for women of all ages and marital statuses must be present, and women must have the opportunity to acquire skills and to make careers.<sup>22</sup> Our evidence for Sweden raises doubts about the link between the EMP and female autonomy. While women earned similar amounts as men, their access to skilled high-paying jobs was heavily circumscribed. Within a particular job, even though pay was similar, it gave different opportunities to women and men. While some male workers in skilled and superior positions could marry, set up households, and form families of their own, this opportunity was seldom given to female employees. Women were also generally excluded from jobs in the expanding parts of the economy, such as in administration and management, as well as the budding metal industry.

Altogether, our results illustrate the peril of using relative wages to make inferences about women's autonomy. Sweden shared many features with other regions, such as Denmark–Norway and the German lands, and a study of Sweden contributes to a broadening of research on early modern labour markets that hitherto has had a strong focus on the, in many aspects, atypical

<sup>21</sup> [van Zanden, de Moor, and Carmichael](#), *Capital women*, pp. 32–6.

<sup>22</sup> [Lindström et al.](#), 'Mistress or maid', pp. 29–34; [Gary](#), *Work, wages and income*, p. 24.



cases of England and the Netherlands.<sup>23</sup> In this sense, our work mirrors the recent contribution by Drelichman and González Agudo showing that wages in early modern Castile were not set according to custom, but responded to economic conditions in the same way as in north-western Europe.<sup>24</sup> They conclude, similar to us, that despite similar wages, women faced more restricted occupational possibilities than men. A similar situation seems to have been present in Portugal as well.<sup>25</sup> Competitive markets for women's labour thus seem to have been a pan-European phenomenon, but so does women's subordination and lack of access to jobs that could provide a springboard for economic independence. From the perspective of the EMP and women's labour markets, it appears that the contrast between southern and north-western Europe is much less clear than has been argued by the proponents of the 'girl power' hypothesis.

The rest of the article is organised as follows. In the subsequent section we present the historical background and our data from the Swedish royal *demesnes*. In section II, we then use the information on employment patterns to discuss women's position in the work organisation on the estates. In section III, we present our estimates of female relative wages for unskilled and skilled workers and analyse the case of brewers and brewsters. In section IV, we discuss the 'girl power' hypothesis and the EMP in light of our findings, before conclusions are offered in section V.

## I | HISTORICAL BACKGROUND AND OUR DATA FROM THE SWEDISH ROYAL *DEMESNES*

In this section, we give a brief description of the source we use to examine women's work and wages in sixteenth-century Sweden. For a fuller account of the source material, see the online appendix.

The records from the royal *demesnes* are a very rich, but little-used, source from sixteenth-century Sweden. In this period, a great share of the Crown's land was held directly by the Crown itself and was not leased to tenants at rent. From the 1540s, a fine-meshed web of smaller estates – usually employing 20–40 persons annually, though some reached 50–100 people on staff – were organised all over the central parts of Sweden and Finland (which was then an integrated part of the Swedish realm).<sup>26</sup> The expansion of the Crown *demesnes*, with an increased demand for unskilled labour in the fields, in cow stables, and in mines and forges, as well as skilled labour in management and in the crafts, affected the whole labour market. A recurrent topic in the correspondence within the Crown organisation was how to satisfy the organisation's labour demand.<sup>27</sup> The expansion also made the state a major employer competing for labour. Approximately 6000 people, men and women, were engaged at the estates and in the central and local administration of the state in the 1570s and 1580s.<sup>28</sup> Standardised procedures for accounting and auditing created a homogeneous body of accounts from about 100 estates for a period of more than 60 years, which enables comparisons between estates and between years. However, not only was accounting standardised; so also was production. At all estates the same types of beer, cheese, and sausage were

<sup>23</sup> Gary, *Work, wages and income*, p. 16.

<sup>24</sup> Drelichman and Agudo, 'The gender wage gap'.

<sup>25</sup> Palma, Reis and Rodrigues, 'Historical gender discrimination'.

<sup>26</sup> Odén, *Rikets uppgift och utgift*; Myrdal, 'Gårdsräkenskaper från 1400- och 1500-talet'.

<sup>27</sup> Hallenberg, *Kungen, fogdarna och riket*, chapter 3; Pihl, *Arbete*, p. 148.

<sup>28</sup> Odén, *Rikets uppbörd*, pp. 194, 340, 332 ff; Larsson, 'Gustav Vasa', p. 25.



produced to make sure that every barrel of malt or pig carcass would yield the same amount of beer or sausages.<sup>29</sup>

An element in the critique of previous studies of real wages has been the focus on day wages. A majority of the early modern workforce was not paid by the day; yearly contracts were in many parts of Europe the dominant form of hiring labour.<sup>30</sup> Annually, hired staff performed most of the work done at the Crown estates. People paid by the day or by the piece, often belonging to the labouring poor, were hired at either harvest or other peaks in the demand for labour, for example, for large-scale building projects. Other occasions when people were remunerated by the piece or the day were when the annually hired staff lacked necessary skills – for example, to weave tapestries or to build watermills.<sup>31</sup> At Julita in 1581, 835 day wages were paid; of these 266 were paid to two men for threshing, 191 to craftsmen (shoemakers, tailors, and coopers), 39 to a handful of men for work in the lime kiln, and other men paid by day were chopping wood or doing undefined agricultural or construction work. Of the 835 day wages, only 81 were paid to women. A female weaver was paid for two days of work, and the other 79 days were worked by 55 women breaking flax.<sup>32</sup>

Since day wages were predominantly in cash, while yearly wages often consisted of a combination of cash and in-kind payments, the former has been preferred in previous studies. But research on both Sweden and other parts of Europe has stressed that board was an important, and in many cases even the most important, part of remuneration. For England, Muldrew and Whittle, respectively, have shown that board made up between 55 and 80 per cent of the total wage costs.<sup>33</sup> Information on what was consumed and by whom is often difficult to find in early modern sources, and previous research is full of estimates and guesses.

The estates in this study were bigger and had more employees than an average Swedish peasant household or artisan workshop. The small households of the peasantry (freeholders and tenants) were the dominant unit of production in the sixteenth century. An early seventeenth-century Swedish rural household had on average only one hired servant.<sup>34</sup> From the period before the eighteenth century, unfortunately, no accounts are preserved from Swedish peasant households.<sup>35</sup> However, alongside the households of the peasantry and the burghers we find a variety of other organisations such as the manorial households of the nobility and the high clergy, mines, and shipyards counting their employees by the dozens.<sup>36</sup> The number of production units in Sweden, in private or royal manorial households that were substantially bigger than an ordinary peasant household, has been estimated as 500 in 1560.<sup>37</sup> However, the Crown and the peasant employers were hiring their servants in the same market since there were significant aspects of freedom of

<sup>29</sup> Myrdal, 'Gårdsräkenskaper', pp. 181–9, 192–4; Myrdal and Söderberg, *Kontinuitetens dynamik*, p. 263.

<sup>30</sup> Hatcher and Stephenson, eds., *Seven centuries of unreal wages*.

<sup>31</sup> Pihl, *Arbete*, pp. 153–70.

<sup>32</sup> Landskapshandlingar, Julita 1581:14, Swedish National Archives (Riksarkivet, RA), Stockholm.

<sup>33</sup> Whittle, "Servants in rural England", p. 96; Muldrew, *Food, energy and the creation of industriousness*, p. 29, pp. 210–1, p. 227.

<sup>34</sup> Andersson, *Migration i 1600-talets Sverige*, pp. 114–5.

<sup>35</sup> Myrdal, 'Gårdsräkenskaper', p. 277.

<sup>36</sup> Munktel, *Gods, godsägare och landbor*, pp. 125–35; Ferm, *De högadliga godsens*, pp. 261–2.

<sup>37</sup> Ferm, *De högadliga godsens*, pp. 24–5.



movement also for servants. Previous studies have shown how servants were circulating between peasant employers and the Crown.<sup>38</sup>

There have been some accommodations for local consumption patterns in previous research, but the fact remains that the budgets used are kept fixed over long time spans, and most items of the food budget are taken to be the same across countries.<sup>39</sup> To gain control of the food expenditures at the Crown's estates, the bailiffs kept detailed lists of food consumed on a day-to-day basis: to whom it was served and in what qualities and quantities. At the end of the year, the yearly average consumption was calculated at an individual level.<sup>40</sup> This practice provides us with uniform information from different regions in Sweden on the actual food consumption at an individual level.<sup>41</sup> In contrast to the sources used in many other studies on wages and living conditions in early modern Europe, the accounts from the estates provide us with information on the actual consumption; they were not simply budgets or estimates.<sup>42</sup>

The estates of the Crown were scattered all over the central part of the realm. The agriculture production at the estates was a combination of arable and pastoral farming, but with some regional differences. For example, on the island of Öland, with big heaths, the estates were specialised in sheep farming, while on the plains of Västergötland and Östergötland, arable farming dominated.<sup>43</sup> At the estates, especially at the bigger ones, a great variety of trades was performed, from masonry and blacksmithing to brewing and baking.

From many estates, a rich series of accounts from the latter half of the sixteenth century are preserved. The accounts can provide us with information about the employees, their remuneration, their periods of employment, and the food they ate, all of which offers a unique opportunity to study labour and living standards in sixteenth-century Sweden. The estates chosen for this study all have relatively well-preserved sequences of accounts for both wages and food allotments. In this article, we use data from the estates of Julita, Höjentorp, Born, and Gripsholm. The estates are selected according to three premises. Firstly, they are chosen to represent different regions of the realm. Secondly, they represent different kinds of production or functions within the organisation of the state. Thirdly, since previous research has shown that organisational size affects the gender distribution, estates of different sizes are chosen. In smaller households or other types of organisations, the gender balance tends to be more even than in large ones (figure 2).<sup>44</sup>

Gripsholm and Julita, in the province of Södermanland, had good communication with Stockholm and the Baltic Sea. At Julita, agricultural production – a combination of arable and pastoral farming – dominated. Gripsholm was a military stronghold and an administrative centre but also a big landed estate with substantial agricultural production. Höjentorp, in the province of Västergötland, was located between a grain-producing area and a region dominated by pastoral farming. Born was the Crown's estate at the copper mine of Falun in the province of Dalarna, and among its staff we find both metal workers and farm servants. Julita and Höjentorp represent the smaller

<sup>38</sup> Harnesk, 'Statlig experiment i norr', pp. 9–12; Hedberg, *Företagarfursten*, pp. 294–8; Andersson, *Migration i 1600-talet i Sverige*, pp. 125–8.

<sup>39</sup> On the composition of consumption baskets and its impact on the timings and magnitude of the 'little divergence' in Europe, see Losa and Zarauz, 'Spanish subsistence wages'; Gary, *Work, wages and income*.

<sup>40</sup> Odén, *Rikets uppboörd*, p. 180.

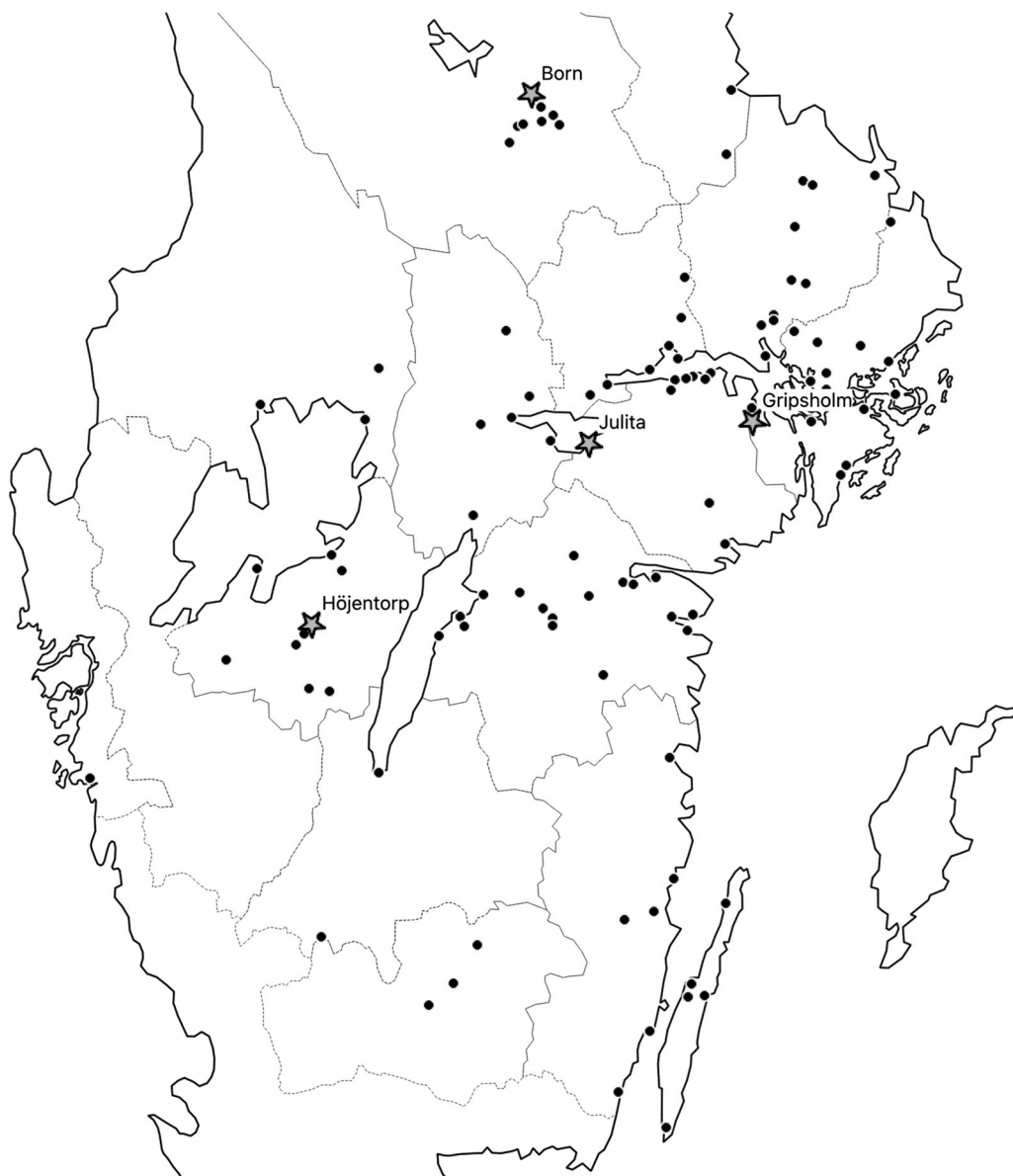
<sup>41</sup> Söderberg, 'Hade Heckscher rätt?'.

<sup>42</sup> Odén, *Rikets uppboörd*, p. 180; Söderberg, 'Hade Heckscher rätt?'.

<sup>43</sup> Myrdal and Söderberg, *Kontinuitetens dynamik*, pp. 264–70.

<sup>44</sup> Pihl, 'Gender, labour and state formation', pp. 702–5.





**FIGURE 2** Map of the Swedish royal *demesnes* and the estates used in the study. *Note:* Each dot on the map represents a royal estate operating during any period between 1540 and 1600. Stars mark the location of the four estates used in the study. Light grey lines represent the borders of the historical Swedish counties created in 1634. *Source:* Myrdal and Söderberg, *Kontinuitetens dynamik*, pp. 260–2.

estates of the Crown *demesne*, with 24–30 persons annually hired, while Gripsholm and Born represent the big estates, with 100–120 annually hired.

The accounts we use in the study are further described in table 1. The wage observations are centred on the 1580s, but observations for Julita, Höjentorp, and Gripsholm stretch from the 1560s to the early seventeenth century. Most wages are observed at the Gripsholm estate, which was the



**TABLE 1** Number of individual wage observations per estate and year with an indicator if information on allotments for different classes of labour is available

Year	Julita	Höjentorp		Born		Gripsholm	
	Obs.	Obs.	Allotment	Obs.	Allotment	Obs.	Allotment
1564		23					
1573		<b>19</b>	<b>Yes</b>				Yes
1574	22		Yes				Yes
1575	17						Yes
1576		20					
1577		23		<b>67</b>	<b>Yes</b>		
1578	15	20				<b>96</b>	<b>Yes</b>
1580	22	22					
1581	17					<b>71</b>	<b>Yes</b>
1582	16	25				<b>69</b>	<b>Yes</b>
1583	19	17					Yes
1584		18				<b>61</b>	<b>Yes</b>
1585	20	20				<b>86</b>	<b>Yes</b>
1586	19	20					
1587	13			<b>118</b>	<b>Yes</b>	<b>83</b>	<b>Yes</b>
1588		24				86	
1589	27	18				61	
1590		20		<b>106</b>	<b>Yes</b>	68	
1591	31					84	
1592						84	
1593	31					87	
1594	25					81	
1595						85	
1596	23					78	
1599	17					80	
1600		18				83	
1601	24	29				70	
1602		8					
1610	13						

Sources: Sörmlands handlingar 1573:4, 1574:4, 1574:14, 1575:8, 1575:9, 1578:3, 1578:11, 1580:12, 1581:3, 1581:14, 1582:1, 1582:6, 1583:1, 1583:10, 1584:7, 1585:13, 1585:18, 1586:9, 1587:9, 1587:14, 1588:3, 1589:10, 1589:14, 1590:12, 1591:12, 1591:20, 1592:6, 1593:7, 1593:20, 1594:1, 1594:3, 1595:4, 1596:5, 1596:14, 1599:6, 1599:19, 1600:5, 1601:2, 1601:4, 1610:11; Västergötlands handlingar 1564:14B, 1573:12B, 1576:13B, 1578:15, 1580:15, 1582:14, 1583:12B; 1584:14B, 1585:3B, 1586:17B, 1588:2B, 1589:17B, 1590:13B, 1600:8B, 1601:7B, 1602:11B, 1610:3; Dalarnas handlingar 1572:15 A and B, 1587:3A and B, 1590:10A and B; all, Swedish National Archives.

largest of the four and consequently hired the most labour. Born was also large, but for this estate we have wage information for only three years.

The allotment column indicates where we have access to information on the food served to different classes of labour on the estate. The text is bold where we have access to both wage



payments and differentiated food allotments. For Julita we do not have any information on allotments divided between the different types of labourers.

Despite the rich information that they provide, the allotments recorded in the source have some weaknesses. Information is given on the consumption of unprocessed raw products – barley and rye, not bread and beer – which makes it more difficult to compare the consumption at the Swedish estates with the baskets in other studies. Furthermore, as pointed out by Humphries, a cost was connected to the processing of the commodities. In the case of the Crown estates, the cost was the wages, for example to brewers, brewsters, and bakeresses. There are also indications that some commodities consumed at the estates were not registered at all, or were done so only sporadically. As shown in table A2 in the appendix, which gives examples of allotments at Gripsholm from 1578 and 1587, candles as well as brawn and sausages were registered only occasionally, and from other sections of the accounts, we also know that root vegetables, such as carrots and turnips, were consumed. The bailiffs seem to mainly have been accounting for commodities that had a market value. In this study, with a main interest in the economic value of board – for the Crown and for the wage earner – this is less of a problem, but important to bear in mind when comparing with allotments in other sources. As can also be seen in table A2, workers eating at *svennebordet* for skilled workers generally received more meat and pork as well as grain and hops than those at *spisbordet* for unskilled workers.

## II | GENDER AND WORK ORGANISATION ON THE ESTATES

To give a picture of the role of gender and skill on the estates, the sample has been coded to HISCLASS according to occupation and status. The HISCLASS scheme, introduced by van Leeuwen and Maas, is based on the Historical International Standard of Classification of Occupations (HISCO), where historical occupations are coded into six-digit codes indicating one of 1600 possible unit groups (table A1).<sup>45</sup> We have used occupational titles as well as contextual information from the estates' accounts and instructions from the central administration and sixteenth-century household manuals<sup>46</sup> to make the categorisations. Following the HISCLASS categorisation, the staff have been sorted into four groups corresponding to the different HISCLASS levels: '7. Medium-skilled', '9. and 10. Low-skilled', '11. Unskilled in industrial and service

<sup>45</sup> Van Leeuwen and Maas, *HISCLASS*; van Leeuwen et al., *HISCO*. HISCO also allows the coding of three additional variables: status, relation, and product. The status variable provides details on ownership, stages in an artisan's career, and whether someone is a principal or subordinate, information which is sometimes indicated in the original occupational strings but does not appear in the occupational code itself. HISCLASS uses the HISCO codes together with the status variable to sort each occupational unit group into one of 12 social classes. The HISCLASS scheme is based on three levels of differentiation: between manual and non-manual work, between levels of skill, and whether the occupation involves a supervisory role or not. Groups one through five are all non-manual. Within this set of non-manual classes, members of the first group, 'higher managers', have a higher level of skill than, for example, those of the fifth group, 'lower clerical and sales personnel'. Those in the first group, 'higher managers', have, in turn, a higher status than the second group of 'higher professional'; the position of the former also involves a supervisory role. As a corollary, among manual workers, 'foremen', since they also have a supervisory role, are given a higher social status than medium-skilled, lower-skilled, and unskilled manual workers. While the HISCLASS scale running from 1 to 12 is nominal, it can be read as a ranking where 'higher managers' have the highest social status and 'unskilled workers' the lowest. An exception to this rule is 'farmers and fishermen', which constitute their own social class. The scheme also separates low-skilled and unskilled workers from the primary sector and the rest of the economy. This means that a move in the ranking from group 9, 'low-skilled workers', to group 10, 'low-skilled farm workers', does not mean a drop in social status, but rather a change of sector.

<sup>46</sup> Arnell, *Biskop Hans Brasks lefnadsteckning*; Brahe, *Oeconomia*.

**TABLE 2** Number of observations by HISCLASS and sex at each estate

HISCLASS	7. Medium-skilled	9. and 10. Low-skilled	11. Unskilled non-farm	12. Unskilled farm	Total
<b>Julita</b>					
Men	19	7	4	200	230
Women	61	9	28	43	141
Share women	76%	56%	88%	18%	38%
<b>Höjentorp</b>					
Men	9	4	1	172	186
Women	69	6	30	43	148
Share women	88%	60%	97%	20%	56%
<b>Gripsholm</b>					
Men	187	174	127	520	1008
Women	83	29	120	173	405
Share women	31%	14%	49%	25%	29%
<b>Born</b>					
Men	22	115	96	31	264
Women	15	2	8	2	27
Share women	41%	2%	8%	6%	9%

Sources: See table 1.

activities', '12. Unskilled in agriculture'. The distribution of observations by sex and skill level at each estate is given in table 2. Table OA2 in the online appendix also displays all the specific occupations that are included in each of the four categories. Since the focus of this study is women's wages and access to the labour market, military work and work within the administration of the estate have been excluded, as only men were employed in these positions; for example as bailiffs, scribes, and officers. Table 2 demonstrates some substantial differences in gender ratios among the four estates, both at an overall level and between different subgroups. Julita and Höjentorp had the highest share of female employees, between 38 and 56 per cent. The staff at Gripsholm and Born had a more pronounced male dominance, with only 29 per cent and 9 per cent women workers, respectively. By their size and their type of production, Julita and Höjentorp were more representative for the general economy than Gripsholm and Born. At all estates, except for Born in the mining district, unskilled agricultural labour was the biggest group of employees. At the smaller estates of Julita and Höjentorp, about 50 per cent of the employed were engaged in primary-sector activities. At all four estates, the group of unskilled workers employed in agriculture was dominated by men, but it has to be considered together with the group of unskilled workers outside agriculture, HISCLASS group 11, in which the domestic servants are found. This group was smaller, but dominated by women at Julita and Höjentorp, and when groups 11 and 12 are put together, a more balanced sex ratio appears among the whole group of unskilled workers (23–30 per cent women).

At least the female servants, for whom marital status was recorded, were always unmarried. There are indications in the sources that many of the male servants were unmarried as well. In instructions from the central administration, it is sometimes specified that male servants



(*drängar*) and soldiers should be unmarried.<sup>47</sup> In other cases, employees were given food or other goods for their weddings by the Crown. In cases where the marrying person was a servant, he or she most often disappeared from the records after the wedding, possibly forming a household of their own.<sup>48</sup>

The high share of unmarried women and men serving as domestic and farm servants indicates that Sweden was part of the EMP area, with access to job opportunities for women outside their parental households. Among the unskilled employees in HISCLASS groups 11 and 12, the period in service was often short, on average just one and a half years, which further strengthens this hypothesis. For skilled positions, such as people serving in the crafts and management, the periods of service were longer.<sup>49</sup> This pattern of shorter time in service and a circulation of the subordinated workforce, mainly consisting of unmarried women and men, goes well with the results from studies of seventeenth- and eighteenth-century Sweden that have placed the country within the EMP.<sup>50</sup>

Parallel to the unskilled young servants, a system for recruiting and training people in skilled work existed within the organisation. Predominantly young men, but also some young women, were hired to be trained by artisans to learn a craft, and after a period in training they were titled as fully trained artisans. Regarding the training and dissemination of knowledge, this system was comparable to the training system within the guilds.<sup>51</sup>

HISCLASS categories 7 and 9 & 10, medium-skilled and low-skilled workers, were dominated by women both at Höjentorp and Julita. They served as brewsters, bakeresses, and dairywomen, and in other positions within the households of the estates, performing tasks closely connected to what was prescribed as women's work by the norms of the time. At larger estates, such as Gripsholm, the share of men in these categories was substantially higher, about 70 per cent of the total. These men were both craftsmen performing traditionally male-dominated work, such as carpenters, blacksmiths, and masons, and also men engaged in brewing, baking, and cooking, work traditionally within the female sphere. A comparable trend of masculinisation took place in English agricultural work when small peasant farms were transformed into large capital-intensive farms in many places in the eighteenth and nineteenth centuries.<sup>52</sup>

Sixteenth-century Sweden saw an expansion of work within the state administration – the needs for new bailiffs and clerks were ever increasing.<sup>53</sup> Women could only obtain two positions within the managerial and administrative parts of the *demesne* organisation: as *fataburshustru* and *mjökdeja*. The *fataburshustru*, the estate housekeeper, was in charge of the female labour force, especially textile production, and she could sometimes fill in for the bailiff, for example authorising deliveries, when he was not present. Especially at the bigger estates, she shared the management of the female labour force with the *mjökdeja*, the dairywoman, who was in charge of the dairy cattle and the production of butter, an important export product in sixteenth-century Sweden, as well as cheese. The housekeeper and the dairywoman performed tasks within both

<sup>47</sup> *Gustaf den förstes registratur* 23, p. 34; *Gustaf den förstes registratur* 25, p. 236; *Gustaf den förstes registratur* 26, p. 668.

<sup>48</sup> Pihl, 'Gender, labour and state formation', pp. 702–5.

<sup>49</sup> Pihl, *Arbete*, pp. 183–6.

<sup>50</sup> Harnesk, 'Statlig experiment i norr'; Uppenberg, *I husbondens bröd och arbete*, pp. 27–40; Andersson, *Migration i 1600-talets Sverige*, pp. 113–15.

<sup>51</sup> Pihl, *Arbete*, pp. 191–2.

<sup>52</sup> van Zanden, De Moor, and Carmichael, *Capital women*, p. 135.

<sup>53</sup> Hallenberg, *Kungen, fogdarna och riket*.



administration and crafts when they both supervised and kept accounts and took an active part in the production themselves.<sup>54</sup> However, in comparison with male jobs within administration and management, the female positions were few.

At Born, with a strongly male-dominated workforce, a majority of the employed were low-skilled or belonged to the group of non-agricultural unskilled labourers working in the copper mine. Mining and processing the copper ore was male-dominated labour. Although previous studies on the gender division of work have found women within the Swedish early-modern metal industry, they were in the minority as workers in the copper industry and the large organisations of the Crown.<sup>55</sup> The expanding Swedish metal industry was thereby not increasing women's opportunities to get an income of their own. In comparison with Julita and Højentorp, Gripsholm shows a more imbalanced sex ratio, with a majority of men in all four groups. However, both the number and the share of women among the unskilled agricultural labourers were higher at Gripsholm, which can be explained by the estate's emphasis on livestock production.

The ratio of females to males at the estates confirms the notion of Sweden as included in the EMP region. Both men and women served at the estates, and the gender distribution was most even in sectors where the estates' production and organisation were most like the general economy: agricultural production within smaller organisations. However, at the big estates and within administration and management as well as in the metal industry, three expanding sectors in the 1500s, women were in the minority, and the new jobs created were mainly male dominated.<sup>56</sup>

### III | FEMALE RELATIVE PAY

Having charted the pattern of gender and occupation at the estates, we now turn to the question of women's relative earnings. We proceed in three steps. We first present how we estimate the monetary value of the in-kind payments that the workers received. We then present our estimates of the relative earnings of women in the four different skill groups. This is followed by a more detailed look at the skilled group of brewers and brewsters at the Gripsholm estate, where men and women were working side by side in the same occupation.

To estimate local prices for the goods that constituted the food allotment and in-kind payments, we make use of a large set of primary and secondary sources. We have collected all price notations we have been able to find for the period and coded each observation according to the type of goods, year, and county that they represent. Primary sources include information on purchases and sales made on the estates or by people employed by the Crown in local markets. Secondary sources include price series collected by *Jansson and Söderberg*.<sup>57</sup> Table OA1 in the online appendix details the information retrieved from each source.

In a second stage, we use this data set on price notations to estimate a price regression, which in turn allows us to assess how prices for different goods varied over time and by geographical area. In a final stage, we employ these estimates to extrapolate prices for a certain place and year where no price notation for that particular good is available in order to value the wage payment.

<sup>54</sup> Pihl, 'Gender, labour and state formation', pp. 695–704.

<sup>55</sup> Henriksson, 'Kvinnor i Bergslagens gruvor'.

<sup>56</sup> Myrdal and Söderberg, *Kontinuitetens dynamik*, pp. 534–5; Pihl, *Arbete*, pp. 209–10.

<sup>57</sup> Jansson and Söderberg, 'Priser och löner i Stockholm 1600-1719'; Söderberg, 'Long-term trends in real wages of labourers'; Hedberg, *Företagarfursten*.



The price regression we use is the following:

$$Price_{i,j,t} = \beta_1 Good_i + \beta_2 County_j + \beta_3 Year_t + \beta_4 (Good_i * County_j), \quad (1)$$

where  $Price_{i,j,t}$  is the price of goods  $i$  in county  $j$  at year  $t$ .  $Good_i$ ,  $County_j$ , and  $Year_t$  are dummies indicating the goods, county, and year, respectively. Finally,  $Good_i * County_j$  is an interaction term capturing how the price of a certain good varies by geographical area. The regression is estimated using log-link Generalised Method of Moments (GMM), making it possible to estimate the regression in log form while values are subsequently converted back to their original form. The regression does a good job of predicting prices; the adjusted  $R^2$  is 0.90.

After estimating the way in which prices varied by type of good, county and year, we use the regression equation to predict the value of each allotment and in-kind payment that we observe in our wage dataset, allowing us to put a monetary value on the payment each worker received. Since we focus on comparing relative wages of men and women, we do not need to benchmark our estimate of nominal wages to a particular consumption basket.

To assess gender differences in pay, we estimate a regression that accounts for differences in average wages between places, our four HISCLASS groups, and whether the worker is male or female. The alternative of comparing simple averages between groups is not satisfying, as there are likely differences in the composition between them. In addition, comparing wage payments on a particular estate in a certain year could be sensitive to a small number of individuals underlying the comparison. The regression allows us to pool all observations across estates and years.

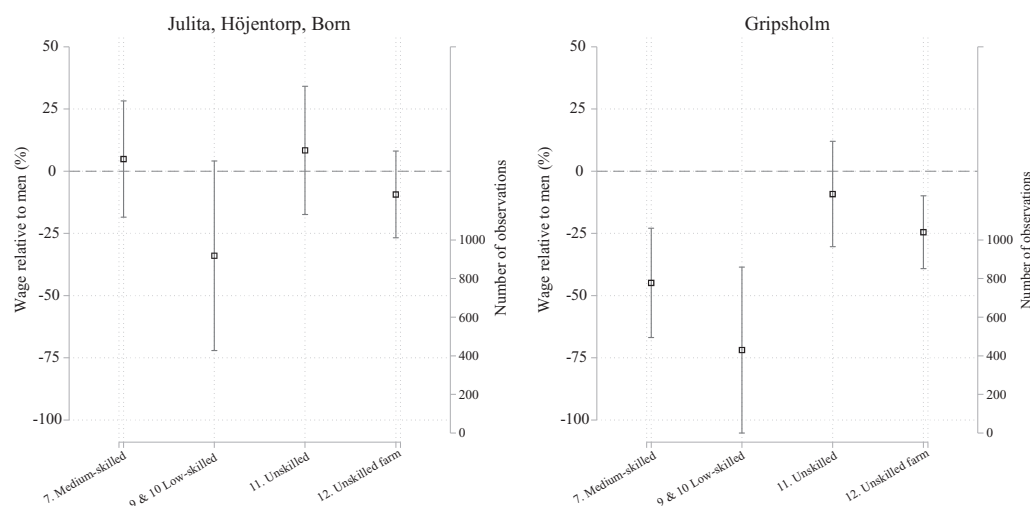
In the regression, we also permit gender differences in earnings to vary between workers with different levels of skill, allowing us to evaluate if women in different positions faced different relative pay. We estimate the following regression:

$$Wage_{i,j,t} = \beta_1 Sex + \beta_2 HISCLASS4 + \beta_3 (Sex * HISCLASS4) + \beta_4 Place_j + \beta_5 Year_t, \quad (2)$$

where  $Wage_{i,j,t}$  is the wage of individual  $i$  at place  $j$  at time  $t$ .  $Sex$  and  $HISCLASS4$  are dummy indicators measuring how wages vary by gender and skill.  $Sex * HISCLASS4$  is an interaction term capturing how gender differences in wages vary conditional on skill. Finally,  $Place$  and  $Year$  are dummy variables controlling for variation in wages between estates and across time. The regression is once again estimated using log-link GMM.

Figure 3 shows the resulting estimate for how wages varied between the sexes for the four groups of skill, divided between the three smaller estates of Julita, Höjentorp, and Born, and the larger estate of Gripsholm. Provided in the figure is also the number of observations underlying each estimate. Within the medium-skilled group, we find female occupations such as brewster, cookess, and dairywoman, and for males, position titles such as brewer, blacksmith, and tailor. Among the low-skilled female jobs are those such as servitress and malteress, and for men titles such as blacksmith assistant and limemaker. For unskilled non-farm workers, the most common title was maid (*piga*) for females, and labourers of various kinds, for males. Finally, in the unskilled farm group, men and women were typically titled as farm servants (*legodräng/fäpiga*).

Focusing first on the differential between men and women in the unskilled group at the smaller estates, the assessment suggests that there was no statistically significant difference in pay. This is the case both among unskilled farm workers as well as for the non-farm group where the servants are found. This concurs with previous evidence on wage differentials for unskilled



**FIGURE 3** Female pay relative to men, by HISCLASS category. *Note:* Results obtained from estimating equation (2). The figure shows point estimates of women's relative wage in each HISCLASS category together with 95 per cent confidence intervals.

Sources: See table 1.

construction workers hired by the day in Sweden.<sup>58</sup> Our results suggest that this also extended to unskilled farm workers hired on yearly contracts, a type of employment much more common in early modern Europe than day labour. At the smaller estates, the pattern is similar for the more skilled group of workers. Our estimates suggest that for low-skilled and medium-skilled workers at Julita, Höjentorp, and Born, there were no differences in wages for men and women. In the case of medium-skilled workers, there is even some indication that women were earning more than men, but the difference is not statistically significant.

Turning to the situation at the larger Gripsholm estate, the picture looks somewhat different. For the group of unskilled workers, gender differentials in pay were minor. In the case of unskilled farm workers, women earned about 25 per cent less than men, while for the non-farm group there was no difference. However, among skilled workers, women's remunerations were noticeably lower than for men. For low-skilled workers, women earned about 50 per cent of what men were earning, while for the medium-skilled workers the differences were possibly larger still.

Looking at the rich information from the *demesnes*, we can also see the extent to which men and women were paid in different ways. Overall, men and women received roughly similar shares of their payment as food allotments. For both sexes, the share in cash was about 8 per cent, physical articles such as clothes and textiles 25 per cent, and the food allotments the remaining 67 per cent. However, women's pay contained a smaller share of cash, while consisting of a correspondingly larger share for articles. The shares were also rather similar across skill groups, with the unskilled non-farm group earning the largest cash and articles component, while the low-skilled group had the lowest share.

To illustrate the variation in how different occupations within a certain skill group were enumerated, the example of Gripsholm in 1593 can be used as illustration. Women in the medium-skilled group were dairywomen (*mjölckdeja*) and butcheresses (*slakterska*). They earned similar

<sup>58</sup> Gary, *Work, wages and income*, pp. 23–5.





amounts to the men in the same skill group that held occupations such as miller (*mjölhare*), tanner (*skinnare*), and butcher (*slaktare*). Male occupations that earned more than females were blacksmiths and cooks, while others such as wood turners earned less. Among the low-skilled group, we find women working with malting (*mälterska*) earning similar amounts to the low-skilled men in positions such as brewer assistant (*bryggardrång*). The male sawyers and guards earned more, however. For the unskilled workers, the wages for women were very similar to the men across all occupations.

Since men and women often performed different tasks, for example, men scything and women tying in the harvest, or women spinning and men weaving in some parts of the textile industry, it can be hard to directly compare men's and women's wages even within a skill category.<sup>59</sup> On the estates in this study, women and men employed as farm servants tended to do different things: the women worked in dairy production and the men in arable farming and forestry. This is particularly true at the large Gripsholm estate, where the division of labour had been driven the furthest. Furthermore, a recurrent discussion in research on women's and men's wages is whether women were paid less because they were women – owing to social norms – or because they produced less – owing to lesser upper body strength or/and their reproductive role.<sup>60</sup>

One task performed by both men and women at the Gripsholm estate was brewing. As discussed above, brewing was regulated in detail, following centrally set production standards, and the volumes produced were specified in the accounts.<sup>61</sup> At the studied estates, no indications have been found that men and women brewed different quantities and qualities of beer. This makes brewing within the organisation of the royal *demesnes* a good source for studying gender wage gaps in sixteenth-century Europe: they brewed for the same employer, they used the same standardised recipes, and they used the same equipment and the same premises (women and men could alternate as brewsters and brewers at the estates).<sup>62</sup>

The evidence on wage payments for brewers and brewsters suggests that there was no significant difference in pay. The point estimate suggests that, if anything, brewsters, in fact, earned 4 per cent more than brewers, but the difference is not statistically significant.<sup>63</sup> An examination of the years where we have brewers and brewsters working side by side on the Gripsholm estate, presented in table 3, confirms this. There is no indication that the brewsters were systematically paid less than the brewers. They occupy positions throughout the local distribution of brewers' and brewsters' wages at Gripsholm. Although men and women were similarly paid when they performed the same tasks, the organisation of brewing was under the influence of gender. As discussed above, men tended to brew at the big estates at which bigger quantities were produced and more than one person was often employed to brew. This process of masculinisation of traditionally female work was ongoing not just in brewing; cooking and butchering show similar trends.<sup>64</sup> Tasks performed by women at the smaller estates were taken over by men at the bigger ones, which made the female share of the workforce smaller at the bigger estates. Therefore, even

<sup>59</sup> Drelichman and Agudo, 'The gender wage gap', pp. 354–7.

<sup>60</sup> Gary, *Work, wages and income*, pp. 28–32.

<sup>61</sup> Odén, *Rikets uppboörd*, p. 82.

<sup>62</sup> In their study of wages in Toledo, Drelichman and González Agudo used nurses' wages. However, the nurses only performed care work for people of their own sex (obscuring the role of the market as well as custom) and were not allowed to marry. Additionally, productivity in medical care is known to be notoriously hard to measure; Drelichman and González Agudo, 'The gender wage gap'.

<sup>63</sup> The 95 per cent confidence interval spans the range from –31 per cent to +39 per cent.

<sup>64</sup> Pihl, 'Gender, labour, and state formation', pp. 704–6.

**TABLE 3** Number of brewers and brewsters and brewsters' relative wage rank at Gripsholm

Year	Number of brewers and brewsters			Brewsters' wage rank
	Brewers	Brewsters	Total	
1573	1	1	2	1
1574	3	1	4	2
1575	7	1	8	3
1582	2	1	4	1
1583	2	1	3	3
1585	2	1	3	1
1587	2	1	3	1
1588	2	1	3	1
1589	2	1	3	1

Two different women were employed as brewsters at Gripsholm during the period: Barbro Matsdotter 1573–5 and Brita (she is given no surname in the sources) 1578–89.

Sources: Södermanlands handlingar 1573:4, 1574:14, 1575:9, 1582:1, 1583:1, 1585:18, 1587:14, 1588:3, 1589:10, Swedish National Archives.

if the wages were at similar levels at estates of different sizes, the relative number of employed positions for women were lower, and even more so when specialisation increased.

#### IV | EMP, 'GIRL POWER', AND THE 'LITTLE DIVERGENCE' – A DEAD END?

In the sixteenth-century Swedish labour market, it is clear that men and women seldom stood in the same queues for jobs. In some lines, primarily those for unskilled work, men and women stood on relatively equal terms, making access to the labour market easy for both sexes. In others, women were pushed back. This was the case in, for example, the food-processing crafts. In some other queues for jobs, as in management or the metal industry, women did not have the chance to join at all. It is therefore not possible to say as a general characterisation that women's access to the labour market was easy in Sweden; it was especially not easy in the segments of the labour market that made it possible to attain a strong and independent position.

As performers of unskilled work, women did in fact earn wages similar to men. In terms of employment, men dominated unskilled agricultural work, while women were in the majority among the unskilled labour force in other sectors, at least at the smaller estates of Julita and Højentorp. At these estates, women were also in the majority in medium- and low-skilled positions. Among the estates in our study, the smaller estates approximate the general labour market most closely. Agricultural production with a low market integration created a demand for both female and male labour. At the big estate of Gripsholm, with a more diverse production and higher rate of specialisation among the staff, women were in the minority in all positions, and a process of masculinisation, in which men were filling positions previously held by women or held by women at the smaller estates, was in effect. Here, we also find the biggest wage differences between men and women, even though it seems to be related to different tasks rather than different pay for the same tasks, as illustrated by the case of brewers and brewsters.

Our study shows that Gary's findings of high female relative pay in unskilled casual work extended also to employees on yearly contracts. According to Gary, women's labour was high



in demand in the late sixteenth century in the regions of her study (Stockholm, Kalmar, and Malmö, at the time a Danish town), and this labour was remunerated on par with men in the same sector. However, women's day wages fell in relation to men's from the early seventeenth century onwards, due to a fall in demand.<sup>65</sup> Swedish wages, especially of servants, or of unskilled labourers in general, seem, therefore, to have been driven by supply and demand.

Since at least the late Middle Ages, the Swedish state had tried to regulate both annual and day wages of male and female servants. In a regulation from 1523, the day wage for a female servant was set to 0.6 of a male wage, and the annual wage was even lower: 0.4.<sup>66</sup> In the latter part of the century, the gender wage gap seems to have disappeared. In a regulation from Stockholm in 1573, the female and male annual wages were set at the same level.<sup>67</sup> At the time, Stockholm was in a phase of expansion, and if Stockholm followed the same pattern as other European towns, the demand for female labour was high.<sup>68</sup> The 1573 regulation from Stockholm fits well with the results in this study, as well as the situation depicted by Gary. The late sixteenth century was a period of high wages, driven by a demand for women in work characterised by low skill and in subordinated positions. A high demand for women's labour, caused by an expanding state apparatus or an urban expansion in the case of Stockholm, put women's wages close to those of men.

Within the Swedish version of the EMP, young women had the opportunity as unmarried individuals to leave their parental homes and become servants and earn a living. The position as servant, however, put them in a subordinated position under a master or a mistress.<sup>69</sup> Men and women employed as servants were working under a labour legislation forcing people of no or little wealth to take service. They were prescribed to work on annual or half-year contracts; for these people, working for day or piece wages was not an alternative.

According to De Moor, de Pleijt, and van Zanden, the interplay between the EMP and a strong labour market for women helps explain comparative levels of economic growth in Europe during the early-modern period. This situation made it possible for women to remain single, or to gain a strong position within a marriage owing to their position on the labour market. The assertion presupposes that there existed a labour market with relatively high wages for women. Even though Swedish women had the possibility to acquire the skill of a strong body, making them capable of enduring a long workday, few of them would be given the opportunity to develop other skills, harder to access, for example in the crafts or management. In addition, it seems to have been even harder for women to get their abilities recognised and remunerated as skilled. Both young men and women could quite easily find positions as servants, and in many cases the law forced them to do so. Nevertheless, the problem was to make a career. A period in service seems seldom to have been a chance for young women to acquire skills useful for a career or to secure other ways of establishing an independent position and control of their own lives. Furthermore, few new jobs for women were created within the sectors of the economy that were expanding at the time: the metal industry, big estates, and the state administration.

An essential difference between men's and women's ability to take power over their lives was established by how their work was remunerated. Men in higher positions and in skilled work

<sup>65</sup> Gary, *Work, wages and income*, pp. 17–24.

<sup>66</sup> Sommarin, *Arbetsförhållanden vid svenska bergverk och bruk*, pp. 65–70; Boëthius, *Gruvornas, hyttornas och hamrnarnas folk*, p. 76.

<sup>67</sup> Strödda äldre räkenskaper, ny serie, *Varuvärderingar från äldre vasatiden*, vol. 1, Swedish National Archives.

<sup>68</sup> Ewan, 'Female domestic servants', p. 14.

<sup>69</sup> Lindström et al., 'Mistress or maid', p. 246.



could set up households and form families of their own. Instead of having an annual salary including bed and board, these men were given an assortment of basic commodities (*beställningar*), such as grain, meat, and hay for a horse or a cow. They could either sell the commodities or process them in their own households. In the latter case, someone had to take care of the household, and consequently these men were often married.<sup>70</sup> Women were never given this type of remuneration; they either lived in the households of the estates or lived together with men with this type of contract. A woman's wage or employment at a skilled position was never the basis for a new household.

Our results also contrast with Denison and Ogilvie's conclusion that women's wages were suppressed during the period as a result of oppressive non-familial institutions. A high demand for labour in some segments of the labour market resulted in female and male wages that were on par. While the institutions highlighted by Dennison and Ogilvie seem not to have played a prominent role in sixteenth-century Sweden, more subtle forces seem to have been active. There were no formal regulations stating that a man should take over a woman's work to brew when the estate reached a certain size, and there were neither laws nor statutes saying that only male employees could be given the opportunity to form their own households instead of receiving an annual wage and bed and board at the estate. But this was nevertheless the de facto situation facing women.

## V | CONCLUSION

In this study, we have examined women's work and relative wages in sixteenth-century Sweden using a unique source from the royal *demesnes*, which hired both men and women in different sectors and occupations across the skill distribution. Our study contrasts with the idea that the EMP can explain the ascendancy of the North Sea region in the centuries following the Black Death. The Swedish case presents a conundrum for the 'girl power' hypothesis, since the country remained an economic laggard in the early modern period despite displaying an extreme form of the EMP.

Our results demonstrate that there was a 'golden age' in Sweden for women in terms of relative wages for unskilled work, but that women's work was restrained in many other ways, including their ability to acquire skills and to access higher-skilled jobs. In the words of [van Zanden et al.](#), women's 'opportunities to take control over their lives' seem to have been severely restricted compared with men's.<sup>71</sup> In this sense, our work mirrors recent results from research on the Iberian Peninsula. Drelichman and González Agudo show that wages in early modern Castile were not set according to custom, but responded to economic conditions in the same way as in North-Western Europe. They conclude, just like we do, that despite similar wages, women faced more restricted occupational possibilities.<sup>72</sup> A similar situation seems to have been present in Portugal as well.<sup>73</sup> Competitive markets for women's labour thus seem to have been a pan-European phenomenon, but the same is true for women's subordination and lack of access to jobs that could provide a springboard for economic independence.

<sup>70</sup> Pihl, *Arbete*, pp. 158–62, 197–200.

<sup>71</sup> De Moor and van Zanden, 'Girl power', p. 15.

<sup>72</sup> Drelichman and Agudo, 'The gender wage gap', pp. 375–6.

<sup>73</sup> Palma, Reis, and Rodrigues, 'Historical gender discrimination'.



Taken together, our results illustrate the danger of using relative wages to make inferences about women's autonomy. Anyone who intends to draw conclusions on the labour market in general and on women's bargaining positions in particular, on the basis of wages of unskilled and unmarried young people, needs to be careful. From a Swedish perspective, the connection between the existence of a labour market and a strong economic position for unmarried women appears to be tenuous.

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## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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## APPENDIX

**TABLE A1** The HISCLASS scheme

Number	Title
1	Higher managers
2	Higher professionals
3	Lower managers
4	Lower professionals, clerical, and sales personnel
5	Lower clerical and sales personnel
6	Foremen
7	Medium-skilled workers
8	Farmers and fishermen
9	Low-skilled workers
10	Low-skilled farm workers
11	Unskilled workers
12	Unskilled farm workers

See table [OA2](#) in the online appendix for a detailed description of the occupations included in each HISCLASS group.

**TABLE A2** Example of allotments at Gripsholm in 1578 and 1587

Good	Unit	1578	1578	1587	1587
		Svenne Skilled	Spise Unskilled	Svenne Skilled	Spise Unskilled
Grains	L	1040	598	715	650
Hops	Kg	5.96	0.37	3.75	0.34
Butter and cheese	Kg	141.8	3.27	54.54	32.73
Meat and pork	Kg	64.77	32	41.59	37.5
Salted fish	Kg	97	97	96	95
Dried fish	Kg	11	8.2	12.9	8.5
Fresh fish	Kg	17	13.6	14.7	20.5
Salt	Kg	78.5	46.4	51.1	41.6
Candles	Kg	78.4	3.4		
Brawn and sausages	Kg	11.2	8.9		

Sources: Södermanlands handlingar 1578:11, 1587:14, Swedish National Archives. The sixteenth-century measurements are converted according to [Morell](#), *Eli F. Heckscher*.