Men at work. Wages and industriousness in southern Sweden 1500–1850

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ABSTRACT

In his classic works on the industrious revolution, Jan de Vries argues that demand for new consumer goods triggered eighteenth century Europeans to work more. This implies that industrious behaviour and new consumption patterns were two parallel and interdependent processes that preceded the industrial revolution. However, there is an alternative explanation for any increase in labour output on household level, namely that the labourers were forced to work more to meet ends. An indication of this could be that day labourers’ relative wages decreased over time. In this article, we investigate this by studying wages from annual and casual labour in southern Sweden and compare their levels with consumption baskets.

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1. Introduction

A change in consumer behaviour is the foundation of the industrious revolution hypothesis, which posits that workers increased their engagement in paid work after 1650 (de Vries, 1994, 2008). On family level, an increase in labour supply can basically come in two forms, the individual(s) working more or more family members being involved in work. This increased industriousness per se has been supported in some famous studies, using court witness material that indicate what people actually were doing during different parts of the day and year in England (Voth, 2000, 2001). A general institutional change that points in the same direction is the reduction of a number of holydays in many European countries during the eighteenth century.

However, the supposed increase in industriousness during the eighteenth century has also been questioned, e.g. by Clark and van der Werf (1998) and Rosenband (2016) who found no changes, neither in hours per worker, nor in number of family members’ involvement. Clark and van der Werf studies English threshers and sawyers, Rosenband papermaking industry workers in England and France.

Other streams of research confirm increases in labour supply on individual or family level, but questions its connection to a consumer revolution. Using wages and consumption baskets, with additional modelling with family dependency ratios, Allen and Weisdorf (2011) find a sharp increase in farm workers’ labour output 1750–1820. But this was necessary for maintaining basic consumption, when real wages soared and the families’ dependency burden increased; this is in contrast to urban workers, who might have followed a consumer revolution path. Following Voth, but without being able to confirm an increase in labour output in their court record study, Ewert, Gräfenberg,
and Klages (2017) show that the number of days necessary to support a carpenter family in Leipzig increased sharply during the period 1780–1815.

For Sweden, changing marriage seasonality patterns among farm workers reveal an increased preference to marry during slack seasons and especially in combination with the Christmas holydays after 1750 and during the nineteenth century, indicating an increase of labour needs during the year (Dribe & van de Putte, 2012). Apart from this, no studies have so far delved deeper into the possible event of an industrious revolution in Scandinavia and mechanisms behind it.

The aim of this article is to fill this gap in research. We use a brand new dataset to estimate and compare wages for casually and annually hired workers in early modern southern Sweden. This allows for a sophisticated and in-depth investigation of early modern living standards and wellbeing in a somewhat more ‘typical’ early modern economy than the growth leader, England.

More directly, we investigate and compare the wage levels for those working by the day and those working on fixed annual contracts, and compare these levels with the price of consumption baskets. How did real wages develop and how much would a casually employed worker need to work to make the same income as someone employed on a year-long contract? How did this relationship change? These findings allow us to understand the Early Modern labour market more clearly and to get at a realistic understanding of what the standard of living and typical income might have been. These findings further facilitate a deeper investigation into the impact of changing labour markets due to population development and the proletarianisation of the Swedish workers. Do results support the theory of an industrious revolution? If so, was an increase in time spent in market work trigged by a desire to maintain or increase consumption? Did this differ between towns and countryside?

Swedish labour market before the industrial revolution has influentially been characterised as a mercantilist labour regime (Lundh, 2002, 2004, p. 104). This is connected to the regulation of trade and most other economic activities, national decrees regarding working conditions and even wages, and a patriarchal foundation of labour relationships. We will show that this institutional framework is only partly accurate as a general characteristic of the early modern labour market: changes in demand and supply due to population development or external shocks caused by events such as wars or local disasters affected wages – both for annually and casually hired workers.

2. Wage labour in early modern Sweden

Early modern Sweden was largely a rural society with a predominantly agrarian economy. As late as in the 1860s about 70 percent of the population was occupied in agriculture, while only 10 percent was occupied in manufacturing industry and another 5–6 percent in building and construction (Schön & Krantz, 2012). Even in this time, some 90 percent of Swedish people were living in rural environments.

Annual labour in early modern Sweden was largely a life course event, especially in the countryside, typically performed by young people between leaving home and the time of marriage. Almost all young people left home between the age of 15 and 20 (Dribe, 2000), and the mean age at first marriage in Sweden overall was high; around 28 for men and 26 for women (Sundbärg, 1907). In Scania, the southernmost province and the source of the data used here, age at first marriage was even higher: in seven Scanian parishes from 1650–1750 men married at an average of 34.3, and women at 29.1, sinking by 1850 to around 29 for men and 27 for women (Lundh, 2003). With the young age of leaving home and late age at marriage, the Western European marriage Pattern was well established in Sweden, which meant that there was a considerable group in their twenties living on wage labour (Harnesk, 1990).

In the dominant agricultural sector this meant young people would serve as a farmhand or maid on one-year-contracts, but the pattern was similar in the towns, although often more strictly formalised for men with the master – journeymen – apprentice system (Edgren, 1987). Women mostly served in town households, though these were also important employers for male labour. But there were also people that were more permanently hired on annual basis and outside of this lifecycle
system, both within the towns and out in the countryside. Some of them were in administrative or managerial positions, often married. Others belonged to the relatively large group (10–15 percent) of the population that never was married. With increasing proletarianisation and landlessness after the mid-1700s, the proportion of married annually hired wage labourers started to rise, first in agriculture with the system called statare, that is married farmhands (Utterström, 1957), second in towns when industry expanded in the second half of the nineteenth century.

We still know very little about the size of the annually hired workforce in preindustrial Sweden or about their wages and standards of living. This lack of information is even greater for casual and seasonal labour. There was a growing group of rural landless and semi-landless; in some areas, including the south of Sweden, they appear to have already been half of the population by the end of the eighteenth century (Lundh & Sundberg, 2002) and they were definitely the majority in the whole of rural Sweden by 1850 (Winberg, 1975). Poor relief systems existed, and were based on the parish responsibilities for their poor, but these were rudimentary and normally only supported one or a few percent of the inhabitants. Their focus was predominantly the disabled and the old (Skoglund, 1992), which lent little relief to the unemployed. Those without land must have found ways of supporting themselves, but we still know very little about their actual paid day wages – the information we do have is more commonly from administrative wages which were set every year on the county level, but did not reflect actual labour and contain no information about typical work patterns (see Jörberg, 1972; Collin, 2016).

More recent research on servants in eighteenth century Sweden by Uppenberg (2017) does give us some more insight into the relationships between those serving as annual contract workers and those working for day wages. The period was marked by a growing population, though one that was still largely bound by agriculture, with 80 percent tied to agricultural production for a living. However this was also a period of growing landlessness – as more children survived to adulthood and inheritances were increasingly split, fewer and fewer men could expect to end their period of servitude by becoming landowning farmers themselves, and instead were resigned to a lifetime of wage labour. This shift did not necessarily impact basic living standards, but it did change the incentivization for spending time as a servant. Previously, this life-cycle service as a servant on a neighbouring farm was a training period for one’s own time later as a farm owner; this was especially true for young men as they would hope to inherit land. When the chance to inherit decreased so significantly, the incentive to train on another’s farm, where a servant’s freedom could be severely restricted, was profoundly reduced. This shifted the lifecycle relationship of work. Some younger men preferred to immediately enter into casual labour, and others continued as year-long servants past their marriage. Land owners also sometimes shifted to temporary labour, though this of course could be a risk during harvest time for farmers, see Kussmaul’s (1981) discussion on farmers’ preferences for labour, also addressed in Uppenberg (2017).

Previous studies of Swedish servants have identified a general reluctance to submit oneself to annual contracts, despite the fact that this was perhaps the most secure means of earning a wage available to unskilled workers in the period (Uppenberg, 2017; citing Harnesk, 1990). Those who did take work as annually employed servants typically did not stay with any given employer above the minimum one-year requirement (see also Dribe, 2000). The same investigation found that servants tended to work to meet their consumption needs, and would prefer to substitute their time for leisure rather than additional consumption – this is also in line with Allen and Weisdorf’s (2011) investigation of British workers.

### 3. Casual versus annual work

There were of course benefits and downsides for individuals employed in both casual day labour and for those working on a fixed term on a contract. Construction work was seasonal, and of course depended on general demand; it would be difficult to guarantee work both within a given year and from year to year. However, economic theory would predict that there must be some wage
Differential to induce workers to undertake seasonal work, where the risk of some degree of unemployment was high or even certain; some workers might have found that they could work less for more pay by relying on casual work. On the counter side, there are many non-wage benefits to be considered with fulltime or contractual work, which could induce a more risk-adverse individual to take a lower paying job if they were sure that the job was stable. One could assume that this is especially true if a position covered all of an individual’s daily living needs for the year.

Other costs and benefits affect both work types: assuming a large enough market, working in construction by the day could in theory give a worker more flexibility over their own working schedule or to work for a different employer if the conditions did not suit them; a person working on annual contract would have no such flexibility, at least not regularly. It is fairly established that once an annual worker in service accepted a contract they were in many ways at the mercy of their employer (Kussmaul, 1981; Dribe, 2000; Uppenberg, 2017). However, much of early modern Europe, especially Sweden, was highly rural, and a large enough market to support substantial amounts of paid causal work may not have existed (see also Gary, 2019).

Employers also had to make a calculation; in a market where timing was very important – such as in agriculture, especially during the harvest period – it was also important to have labour on hand at short notice. The cost of paying day labourers could be extremely high if there was competition with other farmers, and there was a risk of lost income if there were not workers available. However, supporting a fulltime servant could also be expensive, though there was perhaps some economy of scale in providing room and board. During times of high food prices, one of the first household survival tactics would be to dismiss annually-hired labour in order to save more food for the family – in this sense, the calculation of how to split between annually and causally hired labour is likely to draw more on the employers’ decisions than on the workers’.

Contemporary investigations of equalising wage differentials – that is, higher wages for short-term or non-fixed labour contracts to compensate for the risk of non-employment – find mixed evidence to support its presence in the real labour market; when there is evidence the differential tends to be moderate at best (see discussion in Brown, 1980). Historical evidence is more difficult to come by; we expect transaction costs due to transit and information flows to have been much higher the further back in time we go (Collin, 2016). It is also quite likely that social trends or expectations, such as lifecycle employment, would have some overriding effect over workers’ assessment of work options – it is not unreasonable to assume that for many in annual service, casual labour was not a true option.

Partly this was a function of legality: work in annual service was prescribed by the state; legal acts regulating the servant-master relationship were first legislated in 1644, and were revised approximately twice a century from then through the middle of the nineteenth century. These acts were read publically at least once, and sometimes twice a year, which meant that they were well understood by the population in general (Uppenberg, 2017). While these acts offered some protection to servants, they also mandated that unlanded individuals be registered as servants and under the protection (or control) of a master or mistress, or they could be subject to vagrancy fines. This applied to both married and unmarried individuals; unmarried people were more likely to live in with their employers, whereas married people were more likely to live in a small cottage or croft on their masters’ land, and pay their rent with occasional work. This means that annual hires were more likely to be unmarried, while day labourers were more likely to be married, for both men and women – this is in line with similar assumptions for England made by, for example, Humphries and Weisdorf (2015). Regulations did gradually lessen through the eighteenth and nineteenth century, both allowing married people to more easily work as live-in servants in 1762 and then exempting married people from service in 1805 (Uppenberg, 2017). As late as 1870, live-in servants made up half of the labourers in Swedish agriculture; not until 1920 had they been reduced to a quarter (Bagge, Lundberg, & Svennilson, 1935, p. 92, 194).

That a system largely reliant on annually employed labour persisted so late, beginning to dissipate only in the nineteenth century, can look like a puzzle given the strong seasonality pattern in Swedish
agriculture. Annual employment is often seen as an anomaly in crop-based agricultural production (Collins & Krippner, 1999). This would indicate that the need of having labour on hand as well as the subordination connected with live-in servants gave preference (or at least precedence) to annual service for a large proportion of Swedish labour.

This was of course largely a function of Sweden’s heavily agricultural economy. The rural portion of the annually employed sample are predominantly servants who lived in, working in rural manor and farms. These positions are commonly associated with life-cycle service, working as maids or farmhands. The most common titles for men include various types of manservant (dräng), most commonly dräng and stalldräng, a stable hand. Other occupations include pastoral tasks like shepherds or bull-herds (fäherde, fäherde för tjurar) or agricultural work such as threshing (tröskman). Jungefeldt (1959, p. 106) calculates the shares of different types of employed in agriculture 1870. He finds, recalculated into male labour only, 51.2% in living unmarried servants, 5.8% married contract workers (statare, also on annual contracts), and 42.8% day labourers.

4. Data and methodology

This paper is concerned with the wages paid to unskilled men both in annual employment and service and to those men who work in the casual construction industry. Primary data for men’s daily and annual wages come from archives around southern Sweden; both types of data come from the same set of bureaucratic, church, and manorial sources. There are 21,348 observations of casual work payments and 4,822 of annually hired men. It is important to note that the unit of observation is different for each group. For annual workers a full year of work is one observation; for casual workers each paid day of work is an observation. For both groups each observation is treated equally; if one institution hired two workmen during the same year for the same rate, each entry is counted. In the same way, if one individual is observed to work several times in the same year on a casual basis, each paid workday is also counted. A deeper discussion of the processing of the archival data and estimation of wage values can be found in online appendix 1.

The urban annually employed sample are individuals who worked for municipalities. These data come predominantly from public institutions such as city councils, churches, and hospitals. These workers are clearly city servants, with many custodians/caretakers either for the city or churches (stadstjänare, [stads]väktmästare). The sample also contains many sailors stationed in the city of Malmö and town of Kristianstad. This proportion of the labour force increased during the early modern period as Sweden underwent an important phase of state formation. This increase was necessary not only as municipalities themselves grew but as the role of formalised taxation became increasingly important as a mechanism for funding the state apparatus (Ågren, 2014). This increased employment led to a large number of low-level officials tasked with carrying out the more mundane tasks of the city and taking care of the town; it is these types of workers that make up the urban annually employed sample. There is much less expectation that these individuals would be part of the lifetime service system; instead, these men are more likely to be married and to stay in these positions for many years. It is clear that many of these men who are annually employed in the city are not part of the life-cycle pattern of service which we observe in the rural sector; there are explicit mentions of stipends or pensions made to sailors’ widows, and some of the city custodians are employed for very long periods of time. This is a useful test of wage payments made to men who are outside of the ‘youth’ period where low wages, or compensation mainly in kind, would not necessarily be expected.

All unskilled casual labourers in this paper are construction workers, both in the country and in urban areas. Job titles or identifiers include unskilled worker (hantlangare), a mortar mixer or mason’s assistant (kalkslagare) or a digger (grävare). A sample of only building labourers from manorial as well as urban sources is in some ways unusual in a European context; in many Western European countries, including England, there would have been a fairly large market for casual labour in the agricultural sector, especially during the harvest season. But in Southern Sweden there was a
corvée labour system, under which tenants paid part or all of their annual rent in agricultural labour, which took care of the majority of agricultural labour needs at the manorial demesnes through the late eighteenth century (Olsson, 2002). At non-manorial farms, no records or books were kept that have survived as sources for wage levels.

Moving from a yearly estimation of a pay rate for casual labour to an annual income is deceptively complex and has been the subject of many spirited debates in recent years (see discussion in Gary, 2018). The calculation to take day rates to an annual real wage requires three components. In the numerator is the day rate itself, together with the number of days worked to calculate the annual nominal wage. In the denominator is the CPI (consumer price index), which represents basic living costs. From Allen (2001) calculations of historical real wages have typically included a fourth component, household size, in order to develop real wage indices which refer to an entire household. This has been a useful technique for normalising wages to a useful consumption unit, but has also not been without difficulty in taking the needs of a growing and aging family into consideration (see Humphries, 2013; Allen, 2015). Because of this and because other members of the household also could be bringing in income, we choose to relate men’s incomes to a single consumption basket. This also allows a more simple comparison with the work of Humphries and Weisdorf (2015, 2017) who also relate their estimates of workers’ annual incomes to a single earner. The implications for a larger family dependant on a male earner’s wage can be estimated by simply scaling the number of consumption baskets in the denominator.

Prices are collected for commodities from Southern Sweden, for a more detailed account, see online appendix 2.

Table 1 shows the components of the consumption baskets at both the subsistence and the respectability levels. A subsistence price basket represents the cost of maintaining an adult man on only the most basic and cheapest commodities – it is essentially a last-resort diet and would have been adopted only in the leanest of times. A respectability basket represents the cost of maintaining an adult man with a larger variety and higher quality of consumables.
The contents of the respectability basket are based on Allen (2009) and the subsistence based on Allen (2015), with some small adjustments made to more accurately reflect a Scandinavian diet. The most substantial is replacing half of meat consumption with fish, based on Morell (1989) which shows high consumption of fish in Swedish institutions. The total level of grain consumption is also adjusted to compensate for the lower caloric content of rye compared to oats, an increase of about fifteen percent. The caloric content of each basket is slightly different, with about 2500 in the respectability and 2100 in the subsistence. The value of enjoyment is very different; the subsistence basket is basic to the extreme, and does not reflect what people would actually hope to be eating throughout the year (Myrdal, 1933). We prefer to use the respectability basket as it is more reflective of a preferred diet and would have been the typical consumption goal. Because of this and the caloric difference, the respectability basket is used for all of the analysis, and the subsistence basket is only included in the final figure in order to gain some insight into how much workers would be able to substitute to cheaper consumption and stretch their income during lower-wage periods.

This paper is interested in the earning capacity of individual men, and so does not make an assumption on the size or caloric needs of a dependent family. This also allows for a stronger understanding of men’s contribution to household income, instead of an assumption that men provide all of the income a family would rely on. The final value of the real wage represents how many ‘consumption baskets’ the earner would be able to purchase with his yearly wage. A final value of one indicates that the wage would exactly support the earner. A value of two indicates that needs could be met two times over, and a value below one indicates that earner would be suffering from hunger and a lack of resources or would need to shift to inferior food products or depend more heavily on additional household production or wage labour.

When workers were employed on fixed contracts, the wage payments they received often represented only a portion of their full compensation: in many cases, workers were paid a relatively small cash wage, but received full room and board, and possibly other perquisites, as a part of their contract. This is difficult to quantify since it is typically not explicitly recorded. This paper follows the methodology established in Humphries and Weisdorf (2015), by assuming that workers employed on long-term contracts received room and board approximately at the value of the respectability basket.

To estimate the total value of annual compensation, the value of the respectability basket is added to the cash wage; this sum is treated as the nominal wage for annually-employed workers (see Humphries & Weisdorf, 2015, 2017). The respectability basket is selected as part of the nominal wage because we believe it more fully reflects the consumption of servants than a bare-bones basket. According to Uppenberg (2017), one of the few reasons that a servant could be given permission break an employment contract and seek employment elsewhere was because of an unreasonably lean diet – the Servant Acts of 1805 officially codified this. Myrdal (1933), in his study of the cost of living in Sweden during the nineteenth century, reports a Swedish household budget roughly in line with Allen’s, 2009 respectability budget for the earlier part of the nineteenth century. Morell (1989) also describes consumption at a level closer to Allen’s ‘respectability’ levels in his study of diets and consumption by Swedish poor-relief hospitals from the sixteenth through the early nineteenth centuries. These institutionally provided diets had a quite high proportion of proteins from both fish and meat, above what is included in Allen’s household consumption baskets, though Morell does find an increasing dependence on grain through the period. Additionally, historical Swedish

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1Caloric values based on www.nutritionalvalue.org, entries for rye and oats.

2There is a debate about the appropriate caloric level of the consumption basket, especially as it relates to a family-level support – initial family-level calculations allowed three times the content of the ‘male’ basket for a family of four (Allen, 2001). This has been amended several times (ie Allen, 2009); most recently Humphries (2013) suggests a substantial revision to family-level caloric needs; Allen (2015) responded with a revised basket and a larger multiplication factor to account for more of a family’s lifecycle needs. However, since we focus here only on individual men we have elected to use a slightly older basket composition which provides a higher level of calories for an individual. This has the added benefit of following Humphries and Weisdorf (2015, 2017) in their treatment of annually-employed workers who receive a portion of their payment in kind.
heights have been among the highest in Europe, supporting the idea that Scandinavians had a relatively higher level of consumption (see Sandberg & Steckel, 1980; Koepe & Baten, 2005) Humphries and Weisdorf (2015, 2017) also prefer the respectability basket as the base for the nominal wage portion of annual workers’ wage estimates; selecting the same base gives our wage levels better comparability.

The respectability basket is also congruent with the evidence which we do find in the sources which does explicitly state the payment and value of perquisites and housing allowances. Evidence from Malmö Borgerskap in the sixteenth century enumerates payments to employees for various costs. Byssvennar, unskilled city workers, Anders Lawrenzen and Peer Nielszen are typical examples, receiving cash stipends throughout the year 1517 for various defined expenditures. Each received 9 mark in wages for the year, and Anders also received 7.5 mark and 6 skilling for 7 aln (approximately a metre) of cloth from Hagen, presumably a trusted merchant, and 24 skilling for 4 aln of sardug, a coarse linen and wool blend. He receives 24 skilling to buy food ‘for the feasting’, probably Easter, as well as 27 skilling for three pairs of shoes for Easter, Epiphany, and Christmas. Peer received the same, as well as 25 skilling more for 5 quarters cloth from Deventer and 9 skilling for an additional pair of shoes. In total Anders received the equivalent of 0.73 SEK in perquisites, and Peer 0.91, in a year when the respectability basket is valued at 0.64, a substantially lower value. However, their wage is only the equivalent of 0.375 SEK; this relationship of lower wages than basket cost is typical throughout the time covered in this paper.

In 1596 byssvenar Peder and Nils receive 30 mark in wages together with 46 mark ‘for an English suit and tailor’s wages’, 1.25 and 1.75 SEK equivalent respectively with a respectability basket value of 1.87 and subsistence value of 0.81.

Malmö Borgerskap is the only source which enumerates the value of perquisites through the sixteenth and seventeenth centuries, and unfortunately as the payroll and bureaucratic load increases the detail decreases. However, from the eighteenth century we have substantially more information from rural manors. These also tend to pay perquisites with a value in line with the respectability basket. Knutstorp pays a large portion of their wages in grains, with the least skilled workers receiving just under 6 barrels of rye, a bit over 3.5 barrels of barley, and 8 barrels of wheat a month during the 1770s. In 1775 these have an annual value of approximately 10.3 SEK, about midway between the subsistence and respectability basket values of 5.9 and 15.5 SEK respectively, but these workers are also receiving housing and presumably some clothing as part of their annual compensation. Grain payment also is increasingly generous for everyone above the least skilled levels. In the same decades Trolle-Ljungby, a noble manor, gave most perquisite payment directly in cash – 1 daler and 24 öre per month, or 3.33 SEK equivalent. They also gave a smaller grain allowance, comprised of flour, malt, barley, peas, and rye, worth at least 0.7 SEK, though this does not account for the labour cost of converting wheat and barley to flour and malt. All together this is about 3.93 SEK equivalent in 1772, when the subsistence and respectability baskets were 1.72 and 5.2 SEK respectively. However, this again does not account for housing, nor for the livery for which servants received additional stipends – down to the cost of the footmen’s buttons. In 1798 a stableman in Karsholm manor continued to receive about half his annual compensation in grain, with about 25 SEK in grain and 24 SEK in cash, when the respectability basket cost 18.9 SEK.

Eighteenth century city employees seem to have received somewhat less than the respectability basket in perquisites, but this is complicated somewhat by the ambiguous term ‘hushyra’, which translates to ‘rent’ and seems to not include clothing. In early eighteenth century Malmö a stadstjänare, an unskilled city worker, received 6 daler in hushyra, about 1 SEK, below even the subsistence basket level of 1.5 SEK. In Ystad, a smaller town on the coast, the same kind of worker received a wage of 5 SEK equivalent, ‘including hushyra’, when the value of the respectability basket was 7.9 and subsistence 3.07 SEK equivalent. However, city workers were well known to be paid something that was hardly a pittance: Ågren (2014) outlines the difficulties faced by city officials who received wages so low that they were essentially required to be married and to depend on their wives for basic support. As a contrast, sailors housed in Malmö tended to receive
hushyra much more in line with the cost of the respectability basket, as well as bi-annual stipends for clothing.

5. Nominal wages for casual and annual labour

Because of the mechanical construction of each type of nominal wage, the range of possible values for day and annual wages is different. When calculated from day wages the lower bound of annual real income approaches zero, as wage values in the numerator decrease and food costs in the denominator increase. The lower bound of annual real income when calculated from wages from long-term contracts is one; because the price basket is included in both the numerator and denominator, even as cash payments fall to zero, this method makes the mechanical assumption that all basic needs are met.

The inclusion of the price series in annual nominal wages also means that it is important to investigate both the cash portion and the value of the prices together, in order to understand which changes are driven by payment and which are driven by costs. Figure 1 shows the development of men’s cash wages from annual service alongside the respectability basket, along with the full nominal wage, which is the sum of the cash wage and the respectability basket. These are shown in log scale; significant inflation in the middle of the eighteenth century means that developments are obscured when viewed with a linear scale.

Prices rise through the sixteenth century, are fairly stable through the seventeenth, and then rise at a steeper pace in the eighteenth, finally levelling off again in the nineteenth. This is largely in line with previous price studies including Edvinsson and Söderberg’s consumer price index (2011).

The cash portion of the wage is almost always lower than the value of in kind perquisites, except for some scattered years in the early seventeenth century (Figure 1). Typically, the cash component is between about 20 and 45 percent; the average value is about 33 percent. Because the room and board component is such a large proportion of the total annual wage, the total nominal wage is obviously not substantially higher than the value of the respectability basket, and is also strongly influenced by the development of the price basket.

The cash component of the wage is in general greater during the earlier parts of the period, especially in the late sixteenth and into the seventeenth century. There is a clear decrease in the

![Figure 1](image_url). Components of men’s annual wages in SEK. Semi-log scale.

Note: The wage series are shown in online appendix 3.
relative value of the cash component into the middle of the eighteenth century; cash payments are stagnant for several decades while price increasingly accelerate. This means that developments at the end of the period, especially, are much more connected to price changes than to wage development.

Figure 2 shows the log-nominal development of the two wage series for men, with daily wages multiplied by both 140 and 250 to give a range of approximations of total income. The largescale trends of both wage series are similar to those of the price series; increase in the sixteenth century, some stagnation in the seventeenth, a rise again in the eighteenth, and flattening out going into the nineteenth century.

In the 16th and 17th centuries, earnings with a 140-day work year are very similar to those from an annual contract; they only begin to diverge at the beginning of the eighteenth century. At this point the annually earned nominal wage pulls ahead, and by the end the period is higher than even the cash earned with 250 days of work. The period when annual wages begin to overtake 140 days’ of casual wages is right after prices have recovered following the crisis of Sweden’s 1721 defeat in the Great Northern War. Cash wages had been lower in previous years, but recovered after the war. While those working for the day before this point could probably have had an advantage, it is clear that the value of this type of work is quickly falling.

The huge decline in the relative value of casual work is readily seen by which series of casual income is on par with an annual salary’s cash value. While 140 days of work is reasonably in line with the value of an annual wage the 1720s, there is a clear divergence from the eighteenth century and the series for 250 work days is much more comparable. However, it is clear that even 250 days’ work begins to be too little to equal an annual wage during some years in the middle of the nineteenth century.

6. Real wages for casual and annual labour

We have demonstrated that the cash component of the annual wage was continually declining during this period, meaning that the value of the annual wage is increasingly dependent on the rising cost of living essentials. We have also seen that annual wages pull ahead of casual wages in the eighteenth century. Given this relationship, how do these nominal wages compare to the costs of essentials?
In Figure 3 daily-earned wages are again multiplied by 140 and 250 to represent two possible functions of the working year. These series, together with the cash value of remuneration from annual work, are deflated by the respectability basket. Both annually earned wages and daily earned wages are divided by a single man’s respectability basket, and show how they could support the earner directly. Despite some differences in development both wage types have a similar trend, with growth during the sixteenth century, peak wage levels in the beginning of the seventeenth, and decline through the rest of the period, especially from the 1770s and into the 1790s. Both wages have a slight decrease around the time of the Great Northern War in the early eighteenth century, while only casual wages indicate a decrease during the Second Northern War during the mid-seventeenth century, when Denmark lost Scania to Sweden. There is some recovery going into the nineteenth century, following a low point especially for casual wages in the last years of the eighteenth century.

As previously stated, the annual earned wages are not much above the annual cost of the respectability basket (Figure 3a), since the cash portion of the wages was rather low compared to the value of in-kind benefits. This leads to a slightly flatter development of annual wage values compare to casual wages. Annual wages range from just one basket to slightly above two baskets in some periods, keeping closer to this higher level for the majority of the seventeenth century and into the eighteenth. These wages are not necessarily expected to be high – as discussed above, the majority of people who were annually employed in the countryside would have been younger individuals, working outside of their parents’ home while saving before marriage, and working mostly for room and board (Dribe, 2000). Within that context it is not surprising that their levels were close to one or two consumption baskets. However, the especially low wage levels during the end of the eighteenth and into the nineteenth century are surprising when the cash component has become especially low. It is quite possible that the relationship between cash and in-kind payments had been fairly consistent over the duration of the lifecycle servant system, which then breaks down as the Swedish economy and demographic character begins to shift entering the nineteenth century. This would account for the relatively stable and higher levels of annual income in the sixteenth century during decades when casual wages were lower, as well as the steady decline in wage levels toward the end of the period.

Wages earned by the day are more volatile. Assuming 140 days of work, they range from about 0.5 to about 2.4 baskets, a difference of a factor of 4.8. At this level of work intensity annual income from day labour is reasonably in line with income from annually-hired work. However, it is substantially...
lower in both the beginning of the period and in the majority of the eighteenth and into the nineteenth century. Wages earned by the day suffer a sharp decline from the beginning of the seventeenth century through the end of the period. While there is some indication of a resurgence at the beginning of the nineteenth century, this is only after daily wage rates hit their absolute bottom at the end of the eighteenth century. Wages in this period are so low that even when a work year of 250 days is assumed and subsistence basket prices are used, an individual man would not have been able to earn enough to support a typical family, showing how necessary it would have been for other family members to work or produce household goods. This decline is in line with what we know about the general development of Sweden entering the nineteenth century based on both national and regional GDP evidence; Edvinsson (2013) shows a fairly stagnant national GDP at the end of the eighteenth century going into the nineteenth. While this national GDP enjoys increased growth from about the turn of the century, Enflo and Missiaia (2018) show that Malmöhus County, the home of Malmö, makes a much slower entry into growth, with regional GDP in indexed at a stagnant 79 compared to Stockholm county’s 160 and 200 in 1820 and 1830, respectively. At the same time there was a significant increase in landlessness and men looking for work in the casual-hire market, as opposed to year-long fixed contracts. There was also increased competition for year-long contracts as they were increasingly open to married men and families, where they had been previously restricted to predominantly unmarried men in the countryside.

Late sixteenth century high wage levels are likely connected to Denmark’s strong export sector as well as state-led building programmes that would have increased the demand for casual construction work in particular (see Gary, 2018). The middle of the eighteenth century saw a state-led push for small-scale industrial production in the cities; while the venture did not shift the demographics of Sweden on a macro level, it did lead to an increase in the proportion of unskilled workers in the towns. The project ultimately failed (Walldén, 1955, pp. 343–47). This collapse together with a proletarianisation of the Swedish peasantry and increasing number of landless workers resulted in higher rates of unemployment in the towns and a subsequent downward pressure on workers’ wages. At the end of the eighteenth century these lower wages were compounded by a total currency change – in 1777 all old currency was replaced with an entirely new system which led to inflation and some monetary confusion (Edvinsson, 2010). Grain prices had been rising since the second half of the century, but rapidly rose during the grain shortages of the Napoleonic Wars. The end of the eighteenth century was a difficult time for unskilled Scanian workers, with high unemployment, low wages, and high prices.

Using a subsistence-level accounting (Figure 3b) does of course indicate higher purchasing power than the respectability-level accounting. However, this level is essentially abject poverty and is by no means aspirational. During the periods when wages were falling and beginning to become tight, as in the beginning of the eighteenth century, it is clear that there is some room for substitution from respectability-level consumption to bare-bones survival for a family unit larger than the earner, still relying on a man’s wage. But during the periods when wages are especially low around the turn of the century, a man’s wage could still not support a family, even at a subsistence level of consumption and 250 days of work. During these periods especially a household would depend increasingly on longer working years and more members of the family working.

Annual wages develop with a similar pattern to day wages, and assuming 140 days of casual work they are also similar in levels. This indicates at least some degree of equilibrium or exchange between the two labour markets, as well as highlights the tradeoffs between guaranteed employment and relying on a ‘gig’ style of waged labour. The concurrent decline in (and possible convergence of) both annual and daily paid wages in the seventeenth and eighteenth century is strongly counter to the trend in England, where wages for both types are increasing, while annually paid wages increase faster and outpace income from day wages (assuming 250 days of work) by nearly a factor of four by the middle of the nineteenth century (Humphries & Weisdorf, 2017). Apart from mere levels, the different developments indicate very different labour market settings entering into the modern period.
This is not terribly surprising; after all, England was a leader both in industrialization and urbanization, both of which would have had strong impacts on wage structures.

The low value of annual wages to casual wages (or the low number of days of casual work needed to earn an annual wage) is also a departure from the English case. As stated, with 140 days of work there is something of an equilibrium between annual wages and a casual worker’s annual income.

There are two interesting implications of this relationship. The first relates to the legislation and social pressure which kept young unmarried people, especially, in service. As Uppenberg (2017) has addressed, there were legal structures to ensure that those without a stable employment or some other occupation, such as caring for a sick relative, were compelled to go into service. This could have been in part an effort to ensure that agricultural labour needs were met when some workers would have rather worked fewer days for a comparable wage. In the later part of the period, especially the second half of the eighteenth and into the nineteenth centuries, This relationship is far more likely to represent workers’ prioritisation of stable employment and support as wages fell and joblessness rose. This is especially the case for statare, married couples who continued to live as annually employed servants during this period of increased landlessness. Security would have been at a premium.

However, a strategic trade-off between employment types was not an escape from financial stress, as wages were low across the board. Anyone even marginally cash-dependant would need to have worked more in order to make ends meet – not to purchase new commodities but to overcome the difficulties of falling wages and rising prices. Now we will disaggregate the data to tease out if this differed between urban and rural earners.

Real wages for urban and rural casual construction workers are shown in Figure 4; they are shown here as daily real wages assuming a 20 percent urban price premium; the numerator is the day rate and the denominator is the annual CPI divided by 365. This allows us to look at the relative development of these different wages without any assumptions about the length of the working year. Rural wages are until the eighteenth century slightly lower than urban wage. The development patterns are

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Figure 4. Per-day real wage rate (SEK) for urban and rural casual construction workers. Assumes a twenty percent urban price premium.

Following Allen and Weisdorf (2011). Lundh (2012) calculated a 27 percent urban price premium in south Sweden in the 1920s. Unfortunately, there is not enough disaggregated price evidence to address urban-rural differences directly before that – the price data used here refers to the entire county of Malmöhus, which was predominantly rural, so there is not likely to be a strong urban pressure on the price series. Assuming the same prices in towns and countryside would increase the average urban/rural ratio from 1.3 to 1.6.
almost identical, but there is increasing convergence into the nineteenth century. The results indicate, unlike Allen and Weisdorf (2011) for England, that the overall development was much the same for urban and rural workers; if anything the drop in real wages after 1700 was sharper for rural workers. Interesting enough Lundh (2012) finds that real wages for rural contract workers (statarer) and daylabourers were above or on par with urban construction worker in south Sweden in the late nineteenth century. By that time urban industrial workers’ wages had forged ahead; the first three decades of the twentieth century displays a more general and widening urban-rural real wage gap.

Swedish towns had undergone a state-subsidized, mercantilist wave of industrialisation in the eighteenth century. This did not more than marginally impact the distribution of labour between agriculture and industry at a national level, but within the towns it did increase the number of skilled and unskilled workers. The heydays of these ‘manufactories’ were in the 1750s, but from the international trade crises 1763 and onwards, the state subsidies were weakened or abolished and the whole sector was in decline (Nyström, 1955, p. 242). This left a substantial portion of the urban workforce without employment, which could explain the weakening of working class real wages in towns.

7. Changes in work year needs

In spite of a partly regulated labour market and sticky wages, there was a great deal of variation in annual income, both for annually and casually hired in Early Modern Sweden – wages and working conditions tended to fluctuate with changes in demand and supply. These fluctuations could be driven by long trends in population development and labour demand, but they could also be due to sudden shocks caused by events such as wars or local disasters.

We have seen a substantial departure between the casual and annual hire labour markets, with the relative wage earned by day labourers falling over the course of the early modern period. Their well-being per day of work also fell as prices rose faster than wages, especially during the second half of the eighteenth century. Rural wages were normally below urban, but converged. Workers in the towns were more likely to suffer wage insecurity over the long run, especially from the late eighteenth century.

We have examined differences in the development of wages paid to different types of male workers in early modern southern Sweden. Now we can quantify the labour days needed to make an income large enough for annual support.

Figure 5 shows the number of working days necessary for a casually working man to earn the amount of money needed to equal a subsistence basket, a respectability basket, and an annual worker’s nominal-income-equivalent. The underlying assumption is that men would be aiming to earn an income at approximately the same value as a respectability basket or an annual income, but the ‘work day’ values of the subsistence basket also give us a range of ‘survivable’ working years.

From the 1560s and throughout most of the coming two hundred years, it would take only 150–200 days for a casually employed man to earn as much as an annually working man; he need only work 100–150 days to earn a respectability basket’s value – as few as 50 days were needed for a subsistence level support. Up until the mid-to-late eighteenth century, a man relying on casual work would have been able to meet his annual needs with far fewer work days than what an annually employed man was expected to work. He could then spend the rest of the year working on domestic production or in leisure.

But during the eighteenth century there is a fairly steady trend, with some fluctuations, where nominal casual wages stagnate and prices rise, and real wage rates for casual workers in particular plummet. Söderberg (2010) connects the low point in real wages around the year 1800 to an eighteenth century trend of rising grain prices, especially exacerbated at the end of the century by food shortages caused by the Napoleonic Wars. Increasingly more work was needed to earn the same cash equivalent as an annually employed man or respectability basket. At this point, it would likely
be more beneficial to be employed on an annual basis, especially if meals were guaranteed by the employer. Even if living standards for annually employed fell, they were still housed and supported by their employers. The risk here though is that households (and municipalities) would cut employment when food costs rose too high.

The need for increased labour income could principally be met by two ways on household level: The individual working more or more household members working. There is some evidence of an increased working year in Early Modern Sweden. By the end of the Middle Ages there were about 60 essentially work-free holidays, beyond Sundays. With the Protestant Church Order of 1571, the number of holidays halved. The final cut was implemented by Gustav III in 1772, reducing the number of holidays to about ten per year (Malmstedt, 1994, p. 16, 71, 140). This shows that even the annually employed’s working year was extended. In a footnote, Dribe and van de Putte (2012, p. 1143) estimate working days needed to support a family in Sweden 1750–1870, using the Myrdal (1933) working-class budget, the Jörberg (1972) prices and wages, and accounting for consumption units per family increasing from 3.99 in 1750 to 4.32 in 1870. They find that the number of working days needed increased from 250 in the 1760s to 350 fifty years later, and after 1815 falling back to about 300.

Even with an increase in work, we have seen that a man alone could not support a family at a respectable consumption level – relying only on men at work was not sufficient for a household’s consumption needs – neither among casual or annual labourers. Especially during the last two decades of the 1700s, additional work from other family members was necessary. This joins a chorus of studies which push back against an economic history which has long implicitly relied on a male breadwinner model – most unskilled households relying on their men would go hungry. Women would have needed to be well engaged in the labour force, and children’s work, at home or outside, would have likely also been required.

It is also further evidence supporting an increase in industrious behaviour through the eighteenth century, though not in order to decorate the workers’ homes or indulge in new finery, as de Vries (2008) describes in some markets. Swedish working class families had to work more in order to fight to maintain a decent consumption level.

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