Wage forms, costs of living and the urban–rural wage gap: Southern Sweden, 1881–1930

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Abstract: One common finding of studies of industrialising economies in the nineteenth and twentieth centuries is the existence of an urban–rural nominal wage gap. For the analysis of its causes and context it is however essential to know the extent to which the gap is due to urban-rural differences in payments in kind, cost of living and consumption patterns. Only a few studies have tried to estimate the real urban–rural wage gap though. This paper belongs to this stream of literature, aiming to develop a method for the estimation of the real wage gap given the kind of data available in the Swedish context, and to use it to estimate the real wage gap for Malmö County in 1881–1930. The main result is that the gap is reduced to about one-half of its nominal size when differences in payments in kind, cost of living and consumption patterns are accounted for. The real wage gap was still substantial though, and the trend was increasing. While urban real wages were ranging from 10 per cent less to 40 per cent more than agrarian wages in the nineteenth century, urban real wages were 30–100 per cent above agrarian wages in the 1920s.

1. Introduction

One common feature of industrialising economies is the difference in employment terms and wages between farm and city workers. Typically empirical studies of industrialising countries during the nineteenth and twentieth centuries have found a substantial and persistent wage gap of 50 per cent or more between urban and rural workers.[1] Starting with a series of papers by Hatton and Williamson in the 1980s and 1990s, economic historians have tried to evaluate the meaning of the urban–rural wage gap.[2] One important question in this discussion has been why the migration from rural to urban areas was not more intense, given such a big wage gap. Economic theory would predict factor mobility, e.g. labour mobility, to close the wage gap, and

[1] Squire, *Employment* (1981), 102; Clark, *Conditions* (1957), 526–31; Williamson, 'British' (1987), 641–78.
[2] Williamson, 'Structure' (1982), 1–54; Williamson, 'British' (1987); Hatton/Williamson, 'Wage' (1991), 381–408; Hatton/Williamson, 'Integrated' (1991), 413–425; Hatton/Williamson, 'Unemployment' (1991), 605–632; Hatton/Williamson, 'Explains' (1992), 267–294; Hatton/Williamson, 'Labour' (1993), 89–109.

consequently a persistent wage gap has been thought of as an equilibrium wage gap in accordance with the Todaro model or as a market failure driven by disequilibrium forces, implying that the economy was characterised by unbalanced growth and the labour markets by segmentation and immobility.[3]

Obviously the analysis of the causes and context of the urban–rural wage gap is highly dependent on how 'big' the gap is, and therefore the issue of measurement is crucial. Hatton and Williamson point out a number of factors that may have made farm labourers more willing to accept a lower wage in the countryside than was available in the city, e.g. farm payments in kind, the higher cost of living in the city, greater urban unemployment, etc.[4] Since such factors could be assumed to have been included by farm workers in their calculations of the net gains from migration to the city, they should also be controlled for in estimations of an urban–rural wage gap.

Only a few studies have tried to estimate the *real* urban–rural wage gap, i.e. taking into consideration the differences in payments in kind, costs of living and unemployment. Whereas the studies cover different countries and periods, e.g. Catalonia in 1772–1816, South England in 1830, France (including Paris and Lyon) in 1852/1892, Finland in 1860–1913, Michigan in the 1890s and the US in 1925–1941, the results point in one and the same direction: the urban–rural wage gap decreases substantially when calculated from real wages instead of from nominal wages, but it does not disappear altogether.[5]

This paper belongs to this stream of literature, aiming to develop a method for the estimation of the real wage gap given the kind of data available in the Swedish context, and to use it to estimate the real wage gap for Malmö County in 1881–1930. Several obstacles need to be overcome, e.g. the lack of wage statistics for industrial workers prior to 1913, the lack of specific skilled–unskilled wage statistics in general and the lack of specific urban–rural price and rent statistics. Other issues that need to be addressed are the possible urban–rural differentials in wage forms, consumption and the number of working hours/unemployment. Dealing with county-level data makes the development and evaluation of the method easier and more precise. Hopefully the method developed here will be useful for calculations of the national urban–rural wage gap in Sweden as a whole.

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[3] For other contributions to this discussion, see Heikkinen, *Labour* (1997); Margo, *North-South* (Feb. 2002); Mora-Sitja, 'Labour' (2007), i156–i177; Borodkin et al, 'Rural/Urban' (2008), 67–95.

[4] Hatton/Williamson, 'Wage' (1992), 383.

[5] Mora-Sitja, 'Labour' (2007), i163–i164; Williamson, 'British' (1987), 60; Sicsic, 'City–Farm' (1992), 685–686; Heikkinen, *Labour* (1997), 124; Hatton/Williamson, 'Wage' (1991), 401; Alston/Hatton, 'Earnings' (1991), 91–95.

The paper tries to discover the implication for the urban–rural real wage gap of differences in wage forms, costs of living and consumption patterns. The main result is that the gap is reduced to about one-half of its nominal size when wages in kind are included in the total pay and urban–rural differences in costs of living and consumption patterns are accounted for. Differences in consumption patterns between city and farm workers seem to have had only a marginal effect on the relative real wages, though.

2. Design and data

The study compares the real wages of male day labourers and contract workers in agriculture and unskilled industrial and construction workers in urban areas. The relative wages are studied for the period 1881–1930, with an in-depth study of costs of living and consumption patterns for 1920–1923.

Contract workers were married farmhands with yearly employment who received a great part of their wage in kind (food, housing and heating).[6] Day labourers were modern agrarian workers with cash pay, hired per day or for longer periods. Industrialisation made it possible to supplement work as a day labourer in agriculture in summer and during the harvest season with work in sugar mills, distilleries, starch factories and the like.[7] In this paper, day labourers who worked for the whole year in agriculture are studied. Industrial workers were not employed yearly but had employment contracts with shorter periods of notice. Wages were generally paid in cash.[8] Since industrialisation in Sweden to a large extent took place in the rural areas, industrial workers were not necessarily urban. In this study, though, only urban workers in industry and construction are studied. Construction workers in general were characterized by high levels of seasonal unemployment. Here only those with regular employment are included.

The area of study is Malmö County (‘Malmöhus län’), the southernmost county of Sweden. The wages for male workers in the agricultural sector are compared with those of unskilled urban workers in the cities of Malmö and Helsingborg. The decision to perform a regional study is based on the fact that both wage series for

[6] Eriksson/Rogers, *Rural* (1978), 26–36; Olsson, ‘Sockerkapitalets’ (2002), 9–41; Lundh, ‘Statarnas’ (2008), 113–119; Lundh/Olsson, ‘Contract-Workers’ (2011), 298–329.

[7] *Lantarbetarnas* (1915), 52–53; *Till belysning* (1911), 17–20; Sommarin, *Skånska* (1939), 95–96.

[8] Adlercreutz, *Kollektivavtalet* (1954), 152–153; Gårdlund, ‘Industrins’ (1966), 315–324; Lundh, *Spelets* (2010), 49–50, 65–66, 86–87.

unskilled urban workers and urban prices are available for the cities of Malmö and Helsingborg, while rural wages and housing costs could be estimated from other sources. Malmö County is representative of industrialising Sweden, even though it was a decade or so in advance in terms of the frequency of wage labour in agriculture, and the pace of industrialisation and urbanisation.[9]

The design of the study includes three steps. First, series of annual nominal wages are extracted from the sources. The county-level statistics on agrarian workers are from the official statistics while the series of workshop wages in Malmö is from the archive of the Swedish Metal Trades Employers Association ('Sveriges Verkstadsförening').[10] Since there are no official statistics on regional industrial wages until the 1930s, the study relies to a large extent on firm-specific wage series.[11] In order to make the series comparable, payments in kind, which were substantial for contract workers, are included in the total earnings of this group.[12] In some cases, the annual wage is estimated from records of daily or hourly wages in the sources.[13]

Step two is to estimate the urban–rural price and rent gap in order to enable the estimation of the real wages of the occupational groups studied. The official Swedish statistics on consumption prices do not distinguish between urban and rural prices, though. The system of market price scales ('markegångstaxor') that was used in the nineteenth and early twentieth centuries reports normal prices at the county level, while the Social Board ('Socialstyrelsen') reports statistics on retail prices based entirely on city prices in 1913–1930.[14] In the population and housing censuses rents in rural areas are sometimes included, but mostly they are not.[15] The construction of separate urban and rural cost-of-living indices for Malmö County is based on the official price statistics and cost-of-living surveys by the Social Board for the years

[9] *Historisk* (1969), Tables 6, 7, 12, 13.

[10] The agrarian wages are from *Hushållnings-sällskapens* (1882–1912), *Arbetaretillgång* (1912–1928) and *Lönestatistisk* (1931–1932). Workshop wages in Malmö are from Sveriges Verkstadsförening's archives: 'Ser. E. Medeltiminkomst för samtliga arbetare med specification för manliga 21–59 år samt yrkes-, tempo- och grovarbetare 1914–1930', Centrum för näringslivshistoria, Stockholm.

[11] The firm-specific wages are from Bagge et al., *Wages* (1935) and *Kommunalarbetarnas* (1933).

[12] Payments in kind are included in the official statistics.

[13] See Table 1. For a detailed discussion, see the text below.

[14] Jörberg, *History* (1972); *Konsumentpriser* (1961), 20.

[15] Those including this information are *1912–1914* (1920) and *Allmänna* (1936).

1920 and 1923.[16] The surveys represent urban and rural households and include detailed information on both the quantity and the cost of specific foodstuffs and other goods that the households consumed during the survey period which enables calculations of prices and rents.[17]

The third step of this study is to construct separate urban and rural household budgets, which are also based on the previously mentioned cost-of-living surveys. The factual consumption patterns of the rural and urban workers' households are compared in order to establish whether the consumption patterns varied between the city and the rural/agricultural areas and the extent to which they influenced the calculation of real wages.

Real wages are estimated based on homogeneous series of annual nominal earnings including payments in kind, controlling for urban–rural differences in the costs of living and consumption patterns.

3. Annual nominal wages

Table 1 displays the wage series used in this study. The wages for agricultural workers are taken from the official statistics of Sweden.[18]
Series for day labourers are an average of winter and summer daily wages and refer to those who were employed in the agricultural sector during a whole year.[19] The annual wage is calculated by multiplying the day wage by 300, based on the assertion that a year's work consisted of 300 working days, i.e. 52 Sundays off and 13 more days for holidays and illness.

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[16] *Levnadskostnaderna* (1923); *Levnadskostnaderna* (1929).

[17] The populations of the early household surveys are not fully representative, e.g. nuclear and stable households are overrepresented (Johansson, *Levebrödet* (1996), 52–55). For this paper, however, this shortcoming of this source is not a major issue, since the surveys are used only to calculate urban and rural prices and there is no reason to believe that the chosen households were biased when it came to reporting the volumes and costs of specific goods consumed.

[18] 1881–1910: *Hushållnings-sällskapens berättelser.* 1911–1928: *Arbetaretillgång, arbetstid och arbetslön.* 1929–1930: *Lönestatistisk årsbok.*

[19] For the period 1911–1930 daily wages of workers with permanent employment are taken, and for the period 1881–1920 where statistics is not specific on the employment type a series is estimated based on the relation of the pay for temporary and all day labourers in 1910–1911. The series refer to workers without board included in the payments.

Table_1

This procedure may need clarification. Firstly, the number of working days for those with employment was typically around 300 in agriculture.[20] In the first collective agreements for the region in 1919, the norm is 2,700 hours per year, and, on average, nine hours per day, which constitute 300 working days per year. An investigation into the factual working hours in agriculture in the southernmost region by the Social Board for the same year indicates 2,800 hours per year. The decrease in working hours in the interwar period was quite small and concerned mainly the number of hours per day. It was not until the end of the 1930s that holiday was made mandatory by law.[21]

Secondly, the risk of unemployment does not seem to have been higher on average for agrarian workers than for urban workers. Contract workers had annual employment, and some of the day labourers were permanently employed.[22] The official statistics of the agricultural sector do not recognise any lack in the supply of labour before the 1920s. According to the unemployment statistics held by public employment agencies and the Social Board, as well as trade unions, unemployment rates were higher on average for urban workers, construction workers in particular, than for workers in agriculture. These statistics may however be biased, since unemployment in the agrarian sector may have been a matter of seasonal underemployment.[23]

The cost-of-living survey of 1920 by the Social Board makes it possible to estimate the net effect of the unemployment risk and the chance of receiving higher pay outside the agrarian sector for temporarily employed day labourers, since it includes the average annual earnings from the employment of day labourers. Since the average earnings of *all* day labourers, permanently and temporarily employed, exceeded the annual earnings of permanently employed day labourers in agriculture by 5 per cent according to the statistics, it could be hypothesised that day labourers who circulated between the rural and the urban sector made a net gain even though they were exposed to unemployment risks.[24]

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[20] In the late nineteenth century, the typical number of working days was 300 including five days of absence for sickness, etc. (von Feilitzen, *Tjänare* (1892), 10; Sommarin, *Skånska* (1917), 118–119).

[21] Nyström, *Arbetarfrågan* (1932), 59–69.

[22] Olsson, ‘Storjordbruk’ (2008), 62–63.

[23] Nyström, *Arbetarfrågan* (1932), 33–49.

[24] *Levnadskostnaderna* (1923), Table 3, 16–17. A social report from the region in 1891 gives the same picture. Day labourers faced a higher risk of unemployment, but

Since there are no yearly wage statistics for day labourers who circulated between the agrarian and industrial sectors, a series for day labourers who worked for a whole year in the agrarian sector was chosen for this study. Clearly, the majority of day labourers did not work on a regular basis, but the total number of day work made by those employed for longer periods was substantial. In 1911, the working conditions of day labourers were studied by the Social Board, including the situation at 238 'typical' farms in Malmö County. Of the total number of day work 22 per cent were carried out by day labourers with permanent employment, 43 per cent by seasonal day labourers from the local area and 35 per cent by seasonal day labourers from other regions or countries.[25]

The official agricultural statistics contains series of the annual value of cash wages and payments in kind for contract workers for the entire study period, cash wages being specified from 1910. At times the contract workers are divided into various sub-groups and in such cases the group that is chosen is the one engaged in agricultural work outdoors ('körkarlar'). The value of the dwelling is included in the statistics of in-kind payments for 1911–1930, and is estimated for the period 1881–1910 in order to make the wage series homogeneous over time. This adjustment is based on the finding of a study by the Labour Bureau of the Board of Trade ('Kommerskollegii afdelning för arbetsstatistik') that the housing value in Malmö County was about 10 per cent of contract workers' total annual earnings in 1911.[26] Other studies from Malmö County indicate approximately the same level for various years prior to 1911.[27]

The official Swedish statistics on wages in industry start in 1913, including national averages only. The regional wage statistics applicable to this study do not appear until 1925 (Malmö City) or 1931 (Malmö County). For the purpose of this study, it was a further disadvantage of the official statistics that they did not distinguish unskilled workers from skilled workers.

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their factual annual earnings exceeded those of contract workers (von Feilitzen, *Tjänare* (1892), 9).

[25] (*Lantarbetarnas* (1915), 196–197, 210–211, 252–253. Own calculation.)

[26] *Arbetaretillgång*, Tables 2–3, 86–87, 106–107.

[27] Malmö County in 1910: 11 per cent (*Belysning* (1911), 82–83); two contract workers' households in 1900: 7–8 per cent (Juhlin Dannfelt, 'Jordbruksarbetare' (1906–1911), 415); one contract worker's household in 1891: 11 per cent (von Feilitzen, *Tjänare* (1892), 59–61. Own calculation).

For the pre-1925/31 period only a smaller number of local wage series is available for outside the agricultural sector. This study includes only series that explicitly refer to unskilled workers or labourers ('grovarbetare'). In the 1930s a project led by Bagge, Lundberg and Svennilson tried to reconstruct the development of Swedish industrial wages prior to the official statistics. In addition to the analysis monographs were published with wage series for those Swedish industrial corporations that were included in the study. Four wage series refer to unskilled industrial workers in Malmö or Helsingborg, all of which are included in this study: unskilled workers at Helsingborg Sugar Factory, storemen at Helsingborg Grinding Mill, calendar men at Helsingborg Rubber Factory and unskilled workers at Reymersholm Copper Work in Helsingborg.[28] Linked to the Bagge, Lundberg and Svennilson project a specific study was conducted on the wages of labourers at municipal works. Here the series for construction workers employed by the cities of Malmö and Helsingborg were chosen.[29] Additionally, a specific study on the engineering industry includes a wage series for assistants/hodmen ('hantlangare') in a workshop in Malmö (1881–1898).[30]

From 1914 onwards the Swedish Metal Trades Employers Association produced wage statistics for the engineering industry in the big cities, e.g. Malmö, for internal use, which are now available in the organisation's archives. These statistics specify the hourly wages of male workers aged 21–59, and separate skilled workers ('yrkesarbetare') from labourers ('grovarbetare'). In this study the latter series is used.[31]

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[28] Bagge et al., *Wages* (1935), Tables 123, 125, 143, 148, 513–523, 556–560, 565–567. In the section on Helsingborg Rubber Factory, calendar men are grouped among unskilled workers (559). For Reymersholm Copper Work only daily wages are reported. In order to estimate the annual earnings, the daily wage is multiplied by 300, the assumed number of working days, and to that sum another 50 kronor per year are added for perquisites (fuel and medical care) (566).

[29] *Kommunalarbetarnas* (1933), 86–89.

[30] *Arbetsstatistik* (1901), 334. The study contains hourly wages and information about the number of working hours per week. The annual earnings are estimated as the product of hourly payment, 59.5 hours per week for 50 weeks per year, plus payment for 10 hours' overtime or shift work per working week (own calculation based on Tables 15–17 and 24, 238–43, 278–9).

[31] Sveriges Verkstadsförening's archives: 'Ser. E'. The source records hourly wages. In order to be able to estimate the annual earnings, information about the normal/average working hours in the engineering industry was used: the yearly number of working hours was set at 2,850 in 1914–1918, 2,600 in 1919 and 2,400 in 1920–1930 (Johansson, *Den effektiva* (1977), Tables B3–6, 172–175; Isidorsson, *Striden* (2001), 51–57).

All the series included in this study are presented in the Appendix. Relative wages are presented for ten-year periods in Tables 3, 7 and 8. Series that were lacking data for five or more years within a ten-year period were excluded for that particular period. For series that were missing data for one to five years within a ten-year period, the data were extrapolated based on the wage level of the series itself and the trend of the median wage for the other series.

4. Payments in cash and in kind

The household surveys conducted by the Social Board in 1913/14 and 1920 show that the in-kind part of male annual earnings from employment was 1 per cent for urban unskilled workers in Malmö and Helsingborg and 5 per cent for day labourers in agriculture, while contract workers received 57 per cent of their total earnings in kind.[32] The difference in wage form was true for the whole period of study even though the cash part of the total earnings of contract workers tended to increase. In the 1880s, payments in kind accounted for 70 per cent of the total earnings of contract workers in southern Sweden, and at the end of the study period the corresponding percentage was still 54 per cent.[33]

Since payments in kind constituted a large part of the contract workers' total annual earnings, these must be taken into account when the wage levels are compared. An investigation of wage conditions, among other things, in the agricultural sector was carried out by the Labour Bureau of the Board of Trade in 1910.[34] It covered 78 farms in Malmö County and contained information on the composition of the payments in kind, with a specification of the quantity and value of each component (including fuel). The value was to reflect the market price in the area, not the farm's recorded price. There were also questions on housing conditions, i.e. the number of rooms and kitchens, the rent and the availability of potato plots.

Table_2

As seen in Table 2, the value of food, housing and fuel came to 434 kronor, which may be compared with the annual cash wage of about 290 kronor for contract workers

[32] *Levnadskostnaderna 3. Malmö* (1917), Table 1, 74; *Levnadskostnaderna 6. Hälsingborg* (1918), Table 1, 74; *Levnadskostnaderna* (1923), Table 3, 16. The official statistics for Malmö County are 59 per cent in 1920 (*Arbetaretillgång* (1921), Table R, 54–55.

[33] Lundh, 'Statarnas' (2008), Table C, 158; *Lönestatistisk* (1931), Table 2, 14–15.

[34] *Till belysning av landtarbetarnas* (1911).

according to the above-mentioned investigation. The cash wage share was thus about 40 per cent of the calculated total annual wage for contract workers in Malmö County in 1910. Housing and heating were valued at ca 20 per cent of the total annual wage, and various food items at the remaining ca 40 per cent.

The food items that made up the wage in kind in 1910 were mainly milk, grain and potatoes, and on a few farms peas as well. On almost all the farms the workers received about 3 litres of milk a day, and on about half the farms almost as much skimmed milk in addition, which was used mainly as pig feed. Other dairy products were not included in the wages in kind in Malmö County. However, potatoes or potato plots (or a combination thereof) were included in all the wages in kind. Bread flour, on average ca 810 kg of rye or the equivalent in rye flour, was included in nearly all the in-kind payments, and more than half included barley, on average 360 kg. A few wages in kind included peas, oats and mixed grain intended for use as animal feed and seed. The wages in kind thus did not include meat, since the contract workers in this area kept pigs. The value of the house, with a garden patch and including heating, was deemed to be greater in southern Sweden than in other parts of the country, which was mainly due to houses being larger (usually two rooms and a kitchen instead of only one room). The payments in kind included a few armfuls of firewood complemented with twigs, peat or coal.

5. Relative nominal wages

Including the value of the food, housing and heating, the contract workers' annual wages did not differ much from the annual earnings of day labourers in the agricultural sector (see Table 3). Compared with day labourers contract workers earned 5–10 per cent more in the 1800s and 15–20 per cent more from the turn of the century. Unskilled workers in Malmö and Helsingborg earned substantially more than agrarian workers, though, and the trends in the relative wages differed. The annual earnings of urban industrial workers were 50–100 per cent higher than those of day labourers in 1881–1920; thereafter the wage gap widened. In the 1920s urban unskilled workers in industry earned 100–150 per cent more than day labourers. Relative to agrarian day labourers, the earnings of unskilled construction workers employed by the cities of Malmö and Helsingborg increased gradually throughout the study period, from 30–40 per cent above in the 1880s to about 60 per cent in the 1910s, and with a further rise to 150 per cent in the 1920s.

Table_3

Thus, while contract workers and day labourers earned similar amounts, there was a substantial urban–rural wage gap in nominal wages throughout the period of investigation. However, there was a wage convergence due to competition over labour between agriculture and industry. In 1910 it was reported to the Labour Bureau that

employers in agriculture in Malmö County paid higher daily wages during the beat harvest season in August–December in order to keep their day labourers. Also, the daily pay for temporary day labourers in agriculture was similar to the wages of unskilled labourers in brick works in rural areas.[35]

As a result of the high food prices during and after the First World War, all the worker groups received substantial nominal wage increases between 1918 and 1920. For unskilled workers outside agriculture the higher nominal wage did not fully compensate for the price rises, which led to a considerable real wage decline. For agricultural workers the situation was different. Since contract workers received a large proportion of their wages in the form of food, they received an automatic value increase in their wages when food prices rose. Furthermore, their cash wages increased more during this period. This wage form thus offered protection against the uncertainty that price fluctuations represented for the urban worker. The day labourers in the agricultural sector, who received all of their wages in cash, were also compensated for the higher prices of food and maintained their living standard in the years when the real wages of workers outside agriculture fell.[36]

6. Urban–rural price gap

Studies of relative wages can rely on nominal wages if it can be assumed that the costs of living and household budgets are similar for the compared groups. Since this study includes workers in different economic sectors and residential contexts, it is assumed that the range of goods differed and the food prices and living costs were higher in the cities than in the rural areas. Therefore, the real wages are calculated with separate cost-of-living indices and household budgets.

As was mentioned, the Swedish statistics on retail prices are based entirely on city prices for the period studied in this paper. Therefore, complementary sources are being used for the estimation of rural prices and housing rents.

Prices of food in Malmö and Helsingborg are included in the official price statistics, and are taken from this source to represent urban prices in the study.[37] The urban food prices are estimated as the average for Malmö and Helsingborg, weighted by the cities' population size. Rural prices for Malmö County are calculated from a cost-of-living survey conducted by the Social Board in 1920.[38] The survey was based on

[35] *Till belysning av landtarbetarnas* (1911), 46.

[36] For a similar observation for Finland, see Haapala, *Yhteiskunta* (1995), 284.

[37] *Detaljpriser*, Table 1, 104–143.

[38] *Levnadskostnaderna* (1923), Tables 1 and 3, 2–5, 16–25.

household books kept by working households in the countryside, e.g. contract workers and day labourers, during a whole year. About 50 of the books were completed by households in Malmö County.[39] Since the household books contain information on the amounts of a certain type of foodstuff consumed, and the price paid, by a household during the survey period, it is possible to calculate the price per kilo, litre or item for each type of good. Complementary urban prices are calculated from the urban cost-of-living survey in 1923 in a similar way, thereafter being adjusted separately for each good to its level in 1920 based on the official price statistics for Malmö and Helsingborg respectively.[40]

The comparison of urban and rural food prices is for a basket of food representing on average 80 per cent of the total food expenditures of the households included in the surveys 1920 and 1923: fresh pork and other meats, milk and cream, butter, margarine, cheese, eggs, bread, flour, grain, potatoes and sugar.[41] The prices of the 11 food items are used to estimate weighted indices for urban and rural food prices, respectively, based on the average significance of the different types of products for the households' consumption.

Table_4

Table 4 displays the outcome of the calculations. The price of food was on average 27 per cent higher in Malmö and Helsingborg than in the countryside. The urban–rural price gap differed between food items, though. It was much larger for milk and cream, and potatoes, and also substantial for eggs and flour. These were food types that could be bought directly from the farms, in some cases in larger quantities while prices were

[39] *Levnadskostnaderna* (1923), 7–12. The source does not report statistics separately for Malmö County, only grouped together with Kristianstad and Blekinge Counties under the label 'Southern Sweden'. Of a total of 50 households from 'Southern Sweden' 44 were from Malmö County. Here the analysis is based on records for 'Southern Sweden' as a proxy for Malmö County.

[40] Included in the survey were 51 and 48 households in Malmö and Helsingborg respectively (*Levnadskostnaderna* (1929), Tables 6 and 12, 178–181, 196–197). Prices are from *Detaljpriser* (1933), Table 1, 104–143.

[41] For rural households the basket represents 86 per cent of the total expenditures for food (1920), and for urban households 75 per cent (1923). Since 'milk and cream' is reported as a lump sum in the rural survey in 1920, while the official price statistics includes milk but not cream, the urban price of 'milk and cream' is taken from the urban cost-of-living survey in 1923 where a lump sum is reported (*Levnadskostnaderna* (1929), Table 1 and 12, 160, 196). The price of 'milk and cream' was adjusted to the price level of 1920 based on the change in the price of milk (*Detaljpriser (*1933), Table 1, 104).

low, since it was possible to store these items. The urban–rural price gap was considerably smaller for industrially produced food that was standardised, like butter, sugar and grain. Margarine was even cheaper in the city.

The urban-rural difference in housing cost is estimated in a somewhat different way. The rural housing rent is calculated from the household books of the cost-of-living survey in 1920, and the urban housing rent is estimated in a similar way from the survey in 1923. In the latter case, the urban rent is being inflated to its level in 1920 based on the housing rent statistics for Malmö and Helsingborg respectively.[42] Thus, the housing rent is estimated to have been on average 113 per cent larger in the city than in rural areas. Comparable studies are scarce since the official housing censuses mainly dealt with urban rents. The housing census of 1912/14, however, contains some data on rural conditions, indicating that the urban–rural rent gap for a one- or two-room apartment with a kitchen was about 85 per cent for Sweden as a whole.[43] The next housing census containing this kind of information was conducted in 1933, showing a city rent surplus of 90 per cent for comparable apartments if Stockholm is not included.[44] These figures, however, refer to rental apartments only, while dwellings on manors or farms could be assumed to have been even less expensive, not least those included in the in-kind payments.

Price differences between urban and rural areas regarding fuel for heating and lightning were estimated in a similar way. The cost-of-living surveys provided information on the total cost of heating and lightning, and information on the type of fuel the households consumed. Rural households spent a larger share of their total housing expenditure on heating and lighting, and peat and firewood were more important in rural areas while urban households spent more money on gas. Coal, firewood and kerosene, however, were used in both contexts and were also included in the official price statistics. Therefore the urban total cost of heating and lightning in 1923 is inflated back to the 1920 price level based on the price change of coal, firewood and kerosene in the official price statistics, weighted by the importance to the total cost of heating and lightning for urban households. Thus, heating and lightning was 61 per cent higher in urban areas than in rural ones. Finally, the total housing cost is a weighted average of housing rent and the costs for heating and lightning, based on the average consumption in the cost-of-living survey in 1920 and 1923. In total, the urban housing costs exceeded those in a rural context by 88 per cent.

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[42] *Allmänna bostadsräkningen* (1924), Table GG, 117*; *Hyresräkningen* (1925), Table C, 24–25. Own calculations.

[43] *1912–1914 års allmänna bostadsräkningar* (1920), 242 and Table 9.

[44] *Allmänna bostadsräkningen* (1936), Table 39, 100–101.

The household books of the cost-of-living surveys also include records of the amounts spent on clothing and various other products and services, but contain no information on a more detailed level about the type, quality or number of the consumed items. So when for instance more money was spent in cities on clothing and other consumables (e.g. laundry, hygiene, intellectual purposes, memberships and insurances, entertainment and leisure, etc.), this could be partly due to the fact that urban workers consumed articles of different sorts and qualities from rural workers rather than being the result of price differences per se. Consequently the household books are not used to estimate urban and rural prices for commodities other than food and housing.

7. Urban and rural cost-of-living indices

The next step is to include the urban and rural food prices and housing costs in a cost-of-living model that fully represents the cost of living. Two existing household budgets have so far been used for the construction of cost-of-living indices for Sweden in the studied period: the Myrdal–Bouvin 'Budget B', which was used by Bagge, Lundahl and Svenilsson in *Wages in Sweden* for the period 1860–1930, and the Social Board's budget for the period 1914–1930.[45] Budget B contains four types of household expenditures: foodstuff, housing and heating, and clothing and other consumption, while the Social Board's budget also includes taxes.

Table_5

Table 5 displays the two budgets and the factual consumption of the three studied worker groups distributed by the type of expenditure. As is obvious from the table, the main differences between the budgets are the weight for foodstuff (12 percentage points larger in Budget B) and the specification of taxes in the Social Board's budget. The two budgets represent the gradual change in the consumption pattern in a period characterised by industrial growth, increasing wealth, urbanisation and the formation of a modern taxation system. While Budget B matches the factual consumption pattern of agrarian workers the best, the Social Board's budget reflects the distribution of household expenditures of urban workers better, especially in 1923.

Since urban–rural price differentials could be estimated from the price statistics and household books only for food and housing costs, assumptions concerning the remaining types of household expenditures need to be made. Two alternative assumptions are made in order to undertake a sensitivity check. Assumption 1 implies that the prices for clothing and other consumption goods were similar in urban and rural areas, while Assumption 2 states that the urban–rural price differences for

[45] Myrdal/Bouvin, *Cost* (1933), 15; Bagge et al., *Wages* (1935), 255–267; *Detaljpriser* (1933), 15; *Konsumentpriser* (1961), 111–116.

clothes and other expenditures were proportional to the price differences for foodstuff. In both cases, the taxes are assumed to be similar in urban and rural areas, given the size and type of income.

Table_6

Under Assumption 1, the cost of living was 28 per cent higher in the cities than in the rural areas (see Table 6). Based on Assumption 2, the urban cost of living was 36 (Budget B) or 37 per cent (the Social Board's budget) higher than the rural costs. In order not to exaggerate the urban cost surplus and consequently overestimate the rural real wages, the conservative Assumption 1 was chosen for the study. The choice of budgets was not that important since it affected the total cost-of-living index by no more than 1 percentage point.

8. Relative real wages

Tables 7 and 8 display the relative real wages of the occupational groups studied, day labourers being the reference group in Table 7 and contract workers in Table 8. Since the same deflator was used for the two agrarian worker groups, the real wage gap was equal to the nominal one: contract workers earned about 10 per cent more than day labourers in the nineteenth century, and 15–20 per cent more in the twentieth century.

Table_7 and Table_8

The urban–rural wage gap, which appears quite large for nominal wages, decreases substantially when real wages based on separate urban and rural cost-of-living indices are used. Before the 1920s most series indicate that unskilled industrial workers earned 15–30 per cent more than day labourers, while the gap was even smaller if industrial earnings are compared with contract workers' earnings. Interestingly the gap was closed for the earnings of calendar men at Helsingborg Rubber Factory and contract workers in agriculture in the period 1901–1920. Unskilled construction workers employed by the municipality of Malmö or Helsingborg earned about the same as agrarian day labourers in the nineteenth century, and less than contract workers. One wage series (Reymersholm Copper Work) indicates a larger urban wage premium though; unskilled industrial workers earned about 50 per cent more than agrarian day labourers.

The urban–rural wage gap was much more pronounced in the 1920s. Urban unskilled industrial workers earned 55–90 per cent more than day labourers and 30–60 per cent more than contract workers. The relative real wages of the construction workers employed by the two cities were also higher in the 1920s, about 100 per cent above those of day labourers and 65 per cent above those of contract workers.

Thus, it seems clear that there was an urban–rural wage gap in Malmö County that was substantial and persistent. Its size, however, was much smaller when calculated for real wages based on separate cost-of-living indices for urban and rural areas. For unskilled industrial workers the wage gap shrank from 35–150 per cent (nominal wages) to 5–90 per cent (real wages) depending on which agrarian reference group is chosen. In a similar way the urban wage premium of unskilled construction workers by 15–155 per cent in nominal terms decreases to real wages ranging from 10 per cent below to twice as high as rural workers' earnings.

Figure_1

Figure 1 displays the relative real wages of urban workers for the different periods, ranging from their maximum to their minimum sizes. The tendency of increasing urban–rural relative wages is obvious; from moderate differences in the nineteenth century, via a widening earnings gap in the early twentieth century to a big jump in the level of urban relative real wages after the First World War. To put this development into its context analysing its causes and consequences is a challenging task for future research, beyond the scope of this paper though.

9. Discussion and conclusions

Real wages have been the main variable for measuring levels and changes in the standard of living of different groups of workers for a long time. There are some problems related to the real wage variable, though, in particular when it is used to measure the real earnings gap between workers in different economic sectors. The main issue of this study has been the effects of the value of wages in kind on the real wage gap between industrial and agrarian workers and differences in the cost of living and consumption patterns between the urban and the rural sector. The results may be summarised as follows.

Firstly, there were large differences in the proportions of wages in cash and kind among the studied groups of workers. Industrial workers and day labourers in agriculture were paid in cash while agrarian contract workers depended heavily on wages in kind. The latter group was permanently short of cash, but the wage form meant security in periods of rising food prices. Consequently, wages in cash could not be used as a measure of the standards of living of the three worker groups. They would underestimate the wage level of contract workers for the whole period and overestimate the wage increase, since the proportion of wages paid in kind decreased from 70 per cent in the 1880s to 54 per cent in 1930.

Secondly, when the value of wages in kind is added to the value of wages in cash for contract workers, a different picture emerges. The results indicate small or moderate differences in the total earnings between day labourers and contract workers in the agrarian sector while urban industrial workers generally earned substantially more

than agrarian workers: about 35–95 per cent in the period 1881–1920 and about 65–145 per cent in the 1920s. The wage gap was smaller in relation to urban construction workers in the nineteenth century but similar in the 1920s.

Thirdly, when the difference in the levels of the costs of living between rural and urban areas was taken into consideration, much of the surplus of urban relative wages disappeared. In the case of Malmö County, the urban cost of living exceeded that in the rural areas on average by about 28 per cent. The use of different urban and rural deflators when estimating the real wage gap leads to a decrease in the urban premium by 60 per cent for the period 1881–1920 and by 40 per cent for the 1920s. The tendency of increasing urban relative wages over the period is still obvious though. Urban industrial workers earned about 5–50 per cent more than agrarian workers in 1881–1920 and 30–90 per cent more in the 1920s. Controlling for differences in the costs of living, urban construction workers earned similar amounts or even less than workers in agriculture in the nineteenth century, but 65–100 per cent more in the 1920s.

A similar magnitude of the decrease in the earnings gap when separate urban and rural cost-of-living indices were used has been found in previous studies. Williamson calculates a nominal wage gap of 70 per cent and a real wage gap of 45–50 per cent (England in 1830), while the corresponding figures given by Sicsic are 45 per cent and 26 per cent, respectively (France in 1892).[46] Heikkinen finds a nominal urban wage premium of 35 per cent for Finland in 1860–1913, which decreases to 18 per cent when urban–rural differences in the costs of living are controlled for.[47] Hatton and Williamson find a similar difference between the nominal and the real wage gap between city and farm labourers in Michigan in the 1890s: 26–36 per cent and 6–19 per cent, respectively.[48] Comparing manufacturing and agricultural labourers in the US Alston and Hatton find a nominal earnings gap of 21–27 per cent in 1925–1932 and 41–52 per cent in 1933–1941, while the real wage gaps were 2–7 per cent and 25–43 per cent, respectively.[49]

In conclusion, urban–rural differences in wage forms and costs of living are important for the estimation of the relative real wages of workers in different economic sectors. This paper has presented a method to calculate the real wage gap between urban and rural workers that overcomes the lack of rural prices and housing rents in the Swedish official price statistics. Calculations for Southern Sweden in 1881–1930 confirm

[46] Williamson, ‘British’ (1987), 60; Sicsic, ‘City–Farm’ (1992), 685–686.

[47] Heikkinen, *Labour* (1997), 124.

[48] Hatton/Williamson, ‘Wage’ (1991), 401.

[49] Alston/Hatton, ‘Earnings’ (1991), 91–95.

previous results from other countries. The real wage gap is much smaller than the nominal one, but it is substantial, persistent and varying. Further research is needed to analyse the context and determinants of the urban–rural wage gap.

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Table 1. The wage series

Worker group	Period	Payment per
AGRICULTURE		
1. Day labourer in agriculture, Malmö County	1881–1930	day
2. Contract worker in agriculture, Malmö County: cash wage	1910–1930	year
3. Contract worker in agriculture, Malmö County: total earnings	1881–1930	year
URBAN INDUSTRY		
4. Unskilled worker at Helsingborg Sugar Factory	1893–1914	year
5. Storeman at Helsingborg Grinding Mill	1886–1913	Year
6. Calender man at Helsingborg Rubber Factory	1893–1927	Year
7. Unskilled worker at Reymersholm Copper Work in Helsingborg	1902–1926	Day
8. Assistant/hodman at a mechanical workshop in Malmö	1882–1898	Hour
9. Labourer in the workshop industry, Malmö	1914–1930	Hour
URBAN CONSTRUCTION		
10. Labourer employed by the city of Helsingborg	1881–1930	Year
11. Labourer employed by the city of Malmö	1890–1930	Year

Note: For details, see text.
Sources: Series 1–3: 1881–1910: *Hushållnings-sällskapens berättelser* (1882–1912). 1911–1928: *Arbetaretillgång, arbetstid och arbetslön inom Sveriges jordbruk år ….* (Stockholm, 1912–1929). 1929–1930: *Lönestatistisk årsbok* (1931–1932). Series 4–7: Bagge et al, *Wages in Sweden* (1935), 513–523, 556–560, 565–567. Series 8: *Arbetsstatistik* (1901), 334. Series 9: Archives of the Swedish Metal Trades Employers Association. Series 10–11: *Kommunalarbetarnas löner* (1933), 86–89.

Table 2. Wages in kind by type of goods in Malmö County in 1910

Type of goods	Volume	Kronor
Unskimmed milk, litre	1,058	93.75
Skimmed milk, litre	473	8.53
Rye, kg	803	105.93
Barley, kg	425	55.52
Oats and dredge, kg	10	1.23
Rye flour, kg	8	1.23
Peas, kg	1	0.38
Potatoes, hectolitre	4	13.76
Potato field		19.19
Miscellaneous		0.38
Firewood, twigs, etc.		25.58
Charcoal, hectolitre	17	25.62
Housing		83.04
TOTAL		434.05
N	78	

Source: *Till belysning af landtarbetarnas* (1910), Table 2, 102–109. Own calculation.

Table 3. Relative nominal wages, 1881–1930

Worker group	1881–1890	1891–1900	1901–1910	1911–1920	1921–1930
AGRICULTURE					
Day labourer in agriculture. Malmö County	1.00	1.00	1.00	1.00	1.00
Contract worker. Malmö County. Total earnings	1.11	1.07	1.15	1.22	1.20
URBAN INDUSTRY					
Unskilled worker at Helsingborg Sugar Factory		1.78	1.70		
Storeman at Helsingborg Grinding Mill	1.73	1.72	1.72		
Calender-man at Helsingborg Rubber Factory		1.58	1.54	1.65	2.18
Unskilled worker at Reymersholm Copper Work in Helsingborg			1.93	1.95	2.45
Assistant / hodman at a mechanical workshop in Malmö	1.76	1.58			
Labourer in the workshop industry. Malmö county				1.71	1.99
URBAN CONSTRUCTION					
Labourers employed by the city of Helsingborg	1.30	1.45	1.65	1.89	2.51
Labourers employed by the city of Malmö	1.30	1.24	1.54	1.74	2.56

Sources: See Table 1.

Table 4. The urban–rural gap in food prices

Type of foodstuff	Urban–rural price level	Weights a)
Fresh meat and pork	0.99	0.26
Milk and cream	1.89	0.18
Butter	1.02	0.11
Margarine	0.86	0.03
Cheese	1.20	0.03
Eggs	1.42	0.06
Bread	1.32	0.10
Flour	1.26	0.10
Grain	0.98	0.01
Potatoes	1.60	0.03
Sugar	1.06	0.08
Total		1.00
Foodstuff (weighted)	1.27	

Notes: a) The weights are based on the distribution of the food costs for the studied households in 1920 and 1923.

Sources: Urban prices: *Detaljpriser*, Table 1, 104–134, *Levnadskostnaderna* (1929), Table 6 and 12, 178, 196. Rural prices: *Levnadskostnaderna* (1923), Tables 1 and 3, 2–5, 16–25.

Table 5. Household budgets and factual consumption of the studied occupational groups. (Per cent)

Type of expenditure	HOUSEHOLD BUDGETS		FACTUAL CONSUMPTION			
	Myrdal/Bouvin Budget B 1881–1930	Social Board 1914–1930	Contract workers 1920	Day labourers 1920	Urban workers 1913/14	Urban Workers 1923
Foodstuff	55.0	42.8	57.4	52.9	49.1	43.0
Housing and heating	14.5	19.1	14.4	12.5	17.1	14.6
Clothing	12.0	11.9	11.2	12.1	10.7	12.2
Taxes		7.9	1.6	3.8	3.9	8.3
Miscellaneous	18.5	18.3	15.3	18.7	19.2	21.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Household budgets: Myrdal/Bouvin, *The Cost of Living* (1933), *15*; *Detaljpriser* (1933), 15. Factual consumption: *Levnadskostnaderna. 3. Malmö* (1917), Table 2, 80–85; *Levnadskostnaderna. 6. Hälsingborg* (1918), Table 2, 80–85; *Levnadskostnaderna* (1923), Table 3, 16–25; *Levnadskostnaderna* (1929), Table 6, 178–181.

Table 6. Food prices and housing rents in rural and urban areas in Malmö County, 1913/14 and 1920. (Rural area=1.00)

Type of cost		Rural area	Urban area
Foodstuff	a)	1.00	1.27
Housing	b)	1.00	1.88
Total cost of living	c)	1.00	1.28
Total cost of living	d)	1.00	1.28
Total cost of living	e)	1.00	1.36
Total cost of living	f)	1.00	1.37

Notes: 'Urban' refers to Malmö and Helsingborg. For the urban area, the price for each type of food has been inflated to its level in 1920. a) The foodstuffs included are fresh meat and pork, milk and cream, butter, margarine, cheese, eggs, bread, flour, grain, potatoes and sugar. b) The total estimated housing cost includes rent and heating/lighting. c) Assumption 1 and Budget B (see text). d) Assumption 1 and Social Board's budget (see text). e) Assumption 2 and Budget B (see text). f) Assumption 2 and Social Board's budget (see text).

Sources: See Tables 4 and 5.

Table 7. Relative real wages, 1881–1930. (Day labourers = 1.00)

Worker group	1881–1890	1891–1900	1901–1910	1911–1920	1921–1930
AGRICULTURE					
Day labourer in agriculture. Malmö County	1.00	1.00	1.00	1.00	1.00
Contract-worker. Malmö County. Total earnings	1.11	1.07	1.15	1.22	1.20
URBAN INDUSTRY					
Unskilled worker at Helsingborg Sugar Factory		1.39	1.33		
Storeman at Helsingborg Grinding Mill	1.35	1.34	1.34		
Calender-man at Helsingborg Rubber Factory		1.23	1.20	1.29	1.70
Unskilled worker at Reymersholm Copper Work in Helsingborg			1.51	1.52	1.92
Assistant / hodman at a mechanical workshop in Malmö	1.37	1.23			
Labourer in the workshop industry. Malmö				1.34	1.55
URBAN CONSTRUCTION					
Labourers employed by the city of Helsingborg	1.01	1.13	1.29	1.47	1.96
Labourers employed by the city of Malmö	1.02	0.97	1.20	1.36	2.00

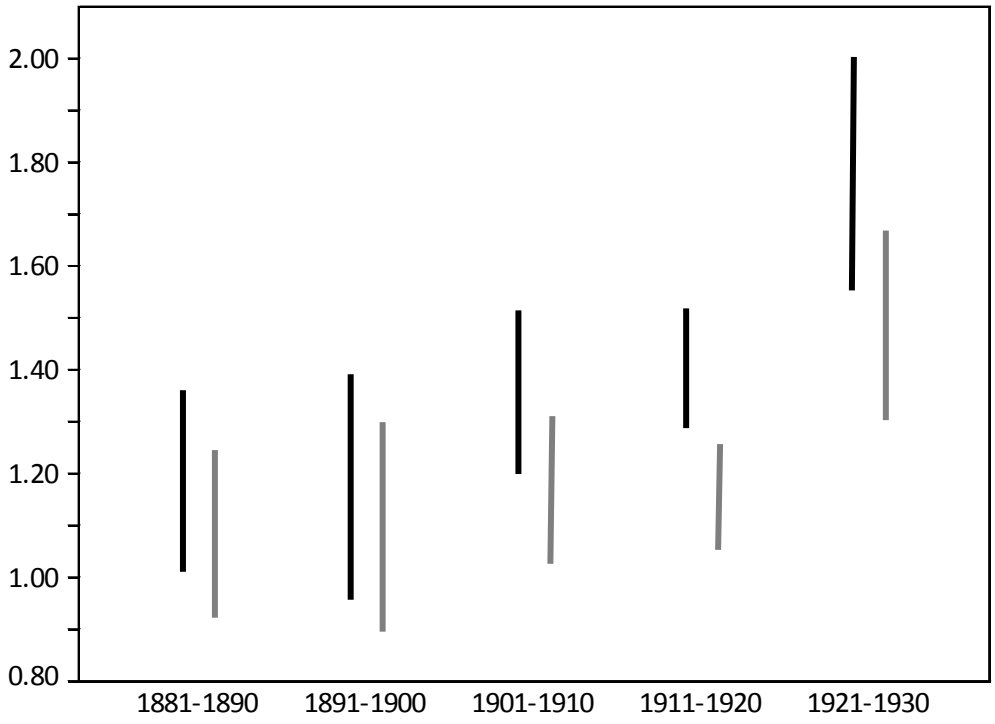
Sources: See Table 1.

Table 8. Relative real wages, 1881–1930. (Contract workers = 1.00)

Worker group	1881–1890	1891–1900	1901–1910	1911–1920	1921–1930
AGRICULTURE					
Contract-worker. Malmö County. Total earnings	1.00	1.00	1.00	1.00	1.00
Day labourer in agriculture. Malmö County	0.90	0.93	0.87	0.82	0.84
URBAN INDUSTRY					
Unskilled worker at Helsingborg Sugar Factory		1.30	1.15		
Storeman at Helsingborg Grinding Mill	1.22	1.26	1.17		
Calender-man at Helsingborg Rubber Factory		1.15	1.04	1.06	1.42
Unskilled worker at Reymersholm Copper Work in Helsingborg			1.31	1.25	1.60
Assistant / hodman at a mechanical workshop in Malmö	1.24	1.15			
Labourer in the workshop industry. Malmö				1.10	1.30
URBAN CONSTRUCTION					
Labourers employed by the city of Helsingborg	0.92	1.06	1.12	1.21	1.64
Labourers employed by the city of Malmö	0.92	0.90	1.04	1.12	1.67

Sources: See Table 1.

Figure 1. Relative real wages, 1881–1930. (Black: Day labourers = 1.00; Grey: Contract workers = 1.00)



Note: Each staple indicates the range of relative wages for the period.

Sources: See Table 1.

Appendix.
Annual earnings of unskilled males workers in agriculture and urban industry and construction in Malmö County, 1881–1930. (Kronor.)

YEAR	WORKER IN AGRICULTURE			UNSKILLED WORKER, URBAN INDUSTRY						UNSKILLED WORKER, URBAN CONSTRUCTION	
	Day labourer in agriculture, Malmö County	Contract-worker, Malmö County. Cash wage	Contract-worker, Malmö County. Total earnings	Unskilled worker at Helsingborg Sugar Factory	Storeman at Helsingborg Grinding Mill	Calender-man at Helsingborg Rubber Factory	Unskilled worker at Reymersholm Copper Work in Helsingborg	Assistant / hodman at a mechanical workshop in Malmö	Labourer in the workshop industry, Malmö county	Labourer employed by the city of Helsingborg	Labourer employed by the city of Malmö
	1	2	3	4	5	6	7	8	9	10	11
1881	369		407							372	
1882	342		399							353	
1883	378		407					626		483	
1884	391		414					618		458	
1885	376		400					655		481	
1886	387		400		619			691		510	
1887	360		402		688			669		542	
1888	360		402		689			673		537	
1889	360		446		638			677		570	
1890	425		474		705			677		534	494
1891	432		474		764			698		580	494
1892	446		474		739			709		621	564
1893	446		474	765	754	706		687		602	564
1894	461		502	650	759	683		691		638	564
1895	461		502	778	749	679		698		579	564
1896	461		502	893	796	877		713		687	564
1897	482		502	985	810	776		717		731	564
1898	514		530	952	935	866		808		732	608
1899	518		541	914	896	698		808		823	675
1900	495		547	964	908	760				842	675
1901	504		561	949	919	843				853	702
1902	511		561	820	928	826	929			826	702
1903	539		589	962	925	869	950			843	743
1904	553		647	950	877	848	1.058			853	743

1905	563		655	956	929	807	1.163			946	810
1906	600		682	936	988	880	1.079			957	899
1907	636		744	1.137	1.177	903	1.154			935	1.000
1908	652		759	944	1.139	954	1.268			1.003	1.034
1909	644		766	1.094	1.027	926	1.283			1.170	1.150
1910	644	290	766	1.197	1.155	1.133	1.448			1.279	1.206
1911	651	296	784	1.178	1.173	1.163	1.391			1.283	1.265
1912	659	298	751	1.222	1.311	1.083	1.478			1.279	1.273
1913	668	303	749	1.156	1.246	1.074	1.514			1.282	1.310
1914	672	307	835	1.170		1.195	1.610		1.157	1.396	1.306
1915	689	313	956			1.315	1.643		1.217	1.434	1.287
1916	779	339	1.032			1.595	1.628		1.388	1.458	1.366
1917	944	377	1.305			1.375	2.159		1.684	1.796	1.525
1918	1.367	496	1.768			1.856	2.606		2.163	2.635	2.432
1919	1.901	782	2.207			3.077	3.419		3.141	3.639	3.326
1920	2.423	1104	2.678			3.980	3.509		4.056	4.092	3.572
1921	1.763	836	1.843			3.695	3.812		3.456	4.529	4.046
1922	1.244	675	1.466			2.985	2.345		2.328	2.823	3.387
1923	1.157	622	1.400			2.537	3.152		2.184	2.622	2.911
1924	1.158	637	1.514			2.453	3.155		2.256	2.706	2.731
1925	1.200	643	1.451			2.576	3.437		2.352	3.018	2.884
1926	1.188	640	1.471			2.829	3.266		2.400	3.277	2.974
1927	1.187	639	1.478			2.459			2.352	2.995	3.162
1928	1.193	645	1.461						2.424	3.074	3.254
1929	1.194	641	1.432						2.472	3.086	3.151
1930	1.160	631	1.367						2.520	3.138	3.340

Notes: Series 1 and 6 have been estimated from the daily wage, and series 8 and 9 from the hourly wage. See text for details.
Sources: See Table 1.