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Regional GDP estimates for Sweden, 1571-1850[1]

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Abstract

This paper provides regional GDP estimates for the 24 Swedish regions (NUTS-3) for the benchmark year 1571 and for 11 ten-year benchmarks for the period 1750-1850. The 1571 estimates are based on tax sources and agricultural statistics. The 1750-1850 estimates are produced following the widely used methodology by Geary and Stark (2002): labour force figures from population censuses at regional level are used to allocate to regions the national estimates of agriculture, industry and services while wages are used to correct for productivity differentials. By connecting our series to the existing ones by Enflo, Henning, and Schön (2014) for the period 1860-2010, we are able to produce the longest set of regional GDP series to date for any single country.

Keywords: Regional GDP, Sweden, long-run regional inequality, pre-industrial regional development.

1. Introduction

This paper presents a novel long-run database of regional GDP for Sweden with a focus on the methodology and the sources used. The data cover 24 counties, roughly corresponding to NUTS-level 3 for the years 1750-1850 and for an early benchmark in 1571. The dataset is harmonized across time and space and is comparable with the definitions of sectors and regions from regional GDP reconstructions presented by Enflo, Henning, and Schön (2014) for 1860-2010. By combining the present dataset with the regional GDP estimates starting in 1860, it is possible to create regional GDP series that span across four and a half centuries (1571-2010). We are not aware of any other regional GDP database that covers such a long period of time.

When estimating historical regional GDP figures, the access to long-run national series of GDP and population of sufficient quality is a necessity. This data requirement constitutes a major challenge, since such long-run national GDP series only exist for a handful of countries until this day (see Fouquet and Broadberry 2015 for a summary). For Sweden, long-run GDP and population estimates exist from 1560 onwards thanks to the pioneering efforts of Schön and Krantz (2012; 2015). Schön and Krantz provide sectoral allocation for agriculture, industry, building and construction, transport, and services (divided into private and public).[2]

[2] There are alternative GDP series from 1620-1800 supplied by Edvinsson (2013a). We have however chosen to work with the SHNA series by Schön and Krantz since they are the only

Another big challenge is the availability of reliable and homogeneous *regional* statistics before the mid-19th century. As for many types of historical sources, Sweden represents the exception among European countries: labour force statistics from population censuses at regional level are available from the mid-18th century onwards. On the other hand, for 1571 a unique source based on a historical tax was used to obtain regional estimates of population, cattle, cereal and industrial production. The 1571 records refer to wealth from individual households and provide a unique insight into regional production and specialization in a pre-industrial economy. Given the uniqueness of the source material, we can provide only one early benchmark of regional GDP for the year 1571 leaving a gap in the estimates between 1571 and 1750. From 1750 onwards, detailed labor force statistics and better availability of wages allow for a regional construction of GDP using the standard Geary-Stark method. In spite of the uncertainty that exists in any attempt to construct regional GDP for a pre-industrial economy, we believe our results ensure maximum consistency across time and space and make the dataset suited for long-run analysis and international comparison.

Obviously, there is an impressive gap of almost two centuries between our first benchmark and the decennial series that start in 1750. We do however believe that offering a first benchmark from the period when Sweden was

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ones to offer sectoral data from 1560 onwards. The Edvinsson series do not provide such break-down into sectors on an annual basis. Moreover, the latter series start in 1620, which does not allow us to construct our 1571 benchmark starting from the same national series of 1750-1850. It should however be noted that our regional labour force shares and wages can be applied to any national series.

formed as a nation state and had just entered the early modern period will help providing material for future studies of long-run regional inequality and the formation of modern states. Although research into early modern economies is attracting growing attention from scholars, we are not aware of any other country for which such an early benchmark is possible. [3]

There are some general concerns in the construction of long-run historical accounting. Some of the concerns pertain generally to all long-run constructions of GDP, some other are specific to the break-down of national GDP into regional units in the creation of regional accounts. Firstly, regional accounts require a set of long-run national accounts to benchmark the overall level of the long-run economy. We follow a top-down approach to regional GDP in the sense that we use specific principles that we will outline in Sections 2 and 3 to regionally distribute VA from the national accounts to produce regional GDP series. The definition of regional GDP thus follows the definition from the national accounts, but our regional shares can be applied to different definitions of the total VA. To obtain long-run consistency we need to make sure that the definition of GDP does not change in time when using the historical national accounts. One major concern relates to the nature of the production boundary of long stretches of history. Clearly, a system of national accounting put in place to describe a post-World War II economy will run into some difficulties when trying to capture the productive capacity in a pre-

[3] Felice and van Zanden (2017) provide for instance an estimate for one Italian region (Tuscany) in 1427. But their effort is far from providing a picture of regional inequality for an entire national economy as we aim at doing with the present paper.

industrial world. Any long-run estimates of GDP will therefore be surrounded by large uncertainties and problems of definitions. Yet, recent developments of national accounting methods, taking GDP sometime as far as back to the 13th century (Fouquet and Broadberry 2015, Malanima 2011, van Zanden and van Leeuwen 2012) show that it is by no means impossible to account for the pre-industrial economy using the concept of GDP. Yet, the famous 'what gets measured' question arises with larger force the further back in history we go, as discussed since the early works by Schön (1979, 1988) and more recently in the articles by Edvinsson (2013b, 2016) and Schön and Krantz (2015). In a pre-industrial economy, we know that a lot of industrial production was destined to own consumption, for example in the food and textile industries. The question then arises whether production of home industries should be included or not in the GDP. Edvinsson (2013b) has shown using data on intermediates that the value added of home industries was substantial. In his revision of the Swedish GDP 1800-1950, he includes home industries but lets the value added share of most home industries remain constant (Edvinsson 2013b, p. 1108).[4] The GDP series used in this paper were supplied by Krantz and Schön (2015), who define GDP as the sum of all marketed goods and services, and try to remove the value of home production from their estimates. Krantz and Schön (2015) estimate this value separately and put it in a satellite account. However, going back as far as the 16th century, we know relatively

[4] Schön was very well acquainted with the issue: estimating the value of intermediate consumption in textiles and metal industries and comparing it to production values, he showed that home production in textiles produced garments to the value of 108 % of the marketed value of textile production and 16 % of metal production for 1821/30 (Schön, 1988, p. 14).

little about the proportion of production that actually entered the markets. Clearly, the production boundary of such long-run estimates are not entirely consistent since any direct measure of production based on inputs will tend to include production even if it never entered the market. Bohlin (2003) has exemplified this problem by pointing out that if output of flourmills is estimated from the input of grains, all mills' production is included, even if it does not reach the market. In this paper, we provide regional GDP as a share of national GDP following the definition of Schön and Krantz (2015). However, we argue that some home production could be included by using the alternative series of Edvinsson (2013b) to multiply our regional shares, as long as we assume that the value added share of home industries were constant, not only across time, but also across regions. At the current stage of providing new regional GDP for five centuries, we find that our current approach is the most promising. How to ultimately resolve the definition of the production boundary in historical national accounts will be a task for future researchers for many years to come.

Another important issue concerns the long-run reconstruction of employment and population series. Swedish historical censuses start with the publication of continuous official series of population in Tabellverket (1749), which is an unique data source in international comparison. However, before 1749 population has been estimated from parish records (Andersson Palm, 2000). Palm provides series of population covering all Swedish parishes and counties.

The regional distribution of population from the latest update of Andersson Palm (2013) underlies our series. However, Edvinsson (2015) has shown that previous series underestimate Swedish population in the 17th century and provides a revised population series for 1620-1749. The revised population series have been incorporated in the SHNA that we use to benchmark the national level of population from Schön and Krantz (2015). Since Edvinsson's revised population series only go back to 1620, population from 1571 was constructed by extrapolation of the ratio between the Edvinsson and Andersson Palms population data.[5] Again, we only rely on Andersson Palm (2001) for the regional break-down of population, but use the revised Edvinsson data for the total level, and therefore we believe that the 1571 series connect well with the data starting in 1750.

Another problem connecting the series from the 16th century to the 18th century concerns the use of tithes versus the demand approach to estimate agricultural production. This paper uses Krantz (2004a,b) for the sectoral break-down of GDP in the year 1571. However, there are concerns on the degree to which the sources used (the tax records in Älvsborg ransom) might have underestimated harvests (see the discussion in Leijonhufvud 2001, and Edvinsson 2013a). In the revision of the long-term GDP of Sweden, Schön and Krantz (2015) use instead the demand approach to account for the level of agricultural production. We have decided to follow the sectoral break-down

[5] See Figure 1 in Schön and Krantz (2015) for more details of the different population series in national accounts.

provided in Krantz (2004) since it is much more detailed. If tithes are underestimating harvests in this breakdown, it might show up as a relatively smaller share of GDP from grain production than what was the case. In our estimates, we have benchmarked our regional GDP to the national level of Swedish GDP derived from Schön and Krantz, where the level issues have already been corrected. The regional break-down of GDP can only be affected to the extent that regions heavily specialized in grain production might receive and underestimated share of their GDP from agriculture. We believe that this smaller bias rests within the margins of error in our long-run approach to regional GDP.

The paper is organized as follows. The sources and methods for the early benchmark in 1571 are presented in Section 2 of the paper. Section 3 focuses on explaining sources and methods for the series 1750-1850. Section 4 presents the results. Section 5 concludes and gives suggestions for a future research agenda.

2. The 1571 benchmark

2.1. Sources

The main source for this benchmark is a one-off wealth tax collected in 1571 and called "Älvsborgs ransom". The ransom came as a consequence of the seven year war between Denmark and Sweden (1563-1570). At the outbreak of the war, the castle of Älvsborg was captured by the Danes. According to the peace treaty of Stettin, Sweden was convicted to pay 150,000 silver coins to regain it. In order to raise the money, a special wealth tax comprising of a tenth of all cattle, agricultural surplus and metal goods was designated. The tax collection was carefully carried on and recorded by local priests under supervision of regional bailiffs.

The data from the Älvsborgs ransom records have been widely used by historians and is generally considered of good quality.[6] The first person to systematize the handwritten documents into more reader-friendly tables was the historian Hans Forsell, who wrote between 1872 and 1883 his masterwork on the Swedish economy in 1571. Writing in the 19th century, Forsell remarked that the statistics from the 16th century appeared to be of no worse quality than the ones from his own time (Forsell 1872-83, 318).[7] The coverage

[6] For a thorough discussion about the quality of the source, see Myrdal and Söderberg (1991).
[7] The original documents kept from the ransom make a detailed description of all households and their wealth including parcels of gold, silver, money, iron, copper etc. next to agricultural wealth such as land, yields, and different cattle stocks and fishing rights. Forsell reports however a more comprehensive summary of taxed wealth into columns separating agricultural yields and cattle-types from possessions of metal and money summed at the level of each

of the source is of about 84,000 households and 500,000 taxed individuals, covering some 1100 parishes from Sweden at its historical borders.[8] Historians have later revised Forsell's work and cross-checked it with the other historical sources, but find that there are only few households missing in the compilation.[9]

Based mainly on Forsell (1872-83), a pioneering estimate of Swedish GDP per capita in 1571 was made by Krantz (2004a, 2004b). Thanks to Krantz' efforts to translate the historical wealth information into production values following the System of National Accounts, a detailed sectoral account of the branches of the Swedish economy allows for building the backbone of the regional estimates presented in this study. Krantz's estimates of Swedish GDP cover the geographical area within the borders of the time. However, seven counties in the south and west of current border Sweden were part of Denmark and Norway respectively in 1571, and they were only acquired by Sweden in the mid-17th century (see Figure 1). Thus, Krantz (2004a, 2004b) calculates Swedish GDP per capita for the Swedish part of Old Sweden. He then scales GDP per capita with the share of population in the Danish counties, assuming equal product per capita in Old Sweden and in the Danish counties in order to obtain an estimate of Sweden's GDP that covers the entire region at present

parish. Yet, in his magnum opus there are a lot of additional material about estimated wealth, prices and production values besides the regional tables.

[8] Forsell's (1872-83) compilation only covers the Swedish part of the country. For the Finnish part see Nummela (2011).

[9] Myrdal and Söderberg (1991) remark on the high quality of Forsell's work by adding that they were only able include about 200 households not in the 1872-1883 original compilation.

borders (Krantz 2004a, 119). By providing novel regional estimates of GDP per capita, this paper will show that this assumption is not fully satisfactory, since the acquired counties were on average richer in terms of GDP per capita compared to Old Sweden. Thus, our new regional GDP estimates will make it possible to revise the national estimate of Sweden's GDP per capita, taking productivity differentials between Old and New Sweden into account.

2.2. Methodology

The regionalization of Swedish GDP in 1571 is based on the national benchmark for Sweden in current prices constructed by Krantz (2004a).[10] The basic idea is to take the national value added VA in each sector j and multiply it by some region specific measure s_{ij} representing the sector's share of value added in county i.

$$VA_{ij} = VA_{Nj} * s_{ij}$$

Thereafter, the sum of all the sectors in the county are cumulated to arrive at an estimate of regional GDP:

$$GDP_i = \sum^{j} VA_{ij}$$

The principle for regionalization of each sector's share of national value added s_{ij} will differ based on the availability of historical information that can be allocated into regions. Table 1 provides the reader with an overview of the principles and sources that have been used for regional allocation of national

[10] The GDP per capita of Sweden has since then been revised by Schön and Krantz (2012, 2015) presenting annual series of GDP per capita from 1560 to 1800. Yet, we will use Krantz (2004a, 2004b) as the main source, since these two works give the most comprehensive and detailed sectoral disaggregation value added. Since the regional GDP presented here will mainly be presented as shares of the national total, the levels of national GDP per capita is of less importance.

sectoral VA. The table also displays the valued added of each sector in current prices and its relative share of national GDP.

At the national level, the share of agriculture amounts to 48% while industry accounts for 17% and services for 35%. This may look surprising, given the agricultural character of the economy. However, Krantz attributes 60% of industrial production to the food industry (production of beer, dairy products and slaughter/butcheries). Much of the industrial value added in these sectors could just as well have been attributed to the agricultural sector. The estimated level of GDP per capita per county is not sensitive to the sectoral division used.[11]

[11] These sectoral shares were later revised in Schön and Krantz (2015). The main difference between Schön and Krantz (2015) and Krantz (2004a) is that the latter apportions relatively more value to the secondary and tertiary sectors. However, sectoral shares are hard to define for the 16th century, and the basis for regionalization of the shares would not differ even if a larger share of value added was apportioned into agriculture.

As seen from Table 1, several sources have been used to regionalize the value added. We have relied heavily on the regional break-down of population, cattle, and agricultural production in the database supplied by Andersson Palm (2013). Andersson Palm has put together the data by carefully scrutinizing the historical sources in Älvsborg's ransom for Old Sweden, but he has also added material from the former Danish-Norwegian counties using for example Lunds Stifts Landebok (Blekinge and Scania), Husarbetsboken (Gotland) Trondheims Reformats (Jämtland/Härjedalen). Thus, the data from Andersson Palm covers Sweden at current borders.[12]

2.2.1. Detailed discussion on each sector in 1571

This section gives the detailed reasoning and sources behind the regionalization of the sectoral value added that was summarized in Table 1.

2.2.1.1. Agriculture with ancillaries

Agriculture made up the lion share of Sweden's national GDP in 1571, with grain production accounting for 24% of the total. In order to regionalize the value added from grains, we have calculated the differing crop yields per county. Instead of using an average crop yield of 3 as in Krantz (2004), we have corrected the share of output for the varying county crop yields, ranging from 6 to 2 as summarized in Andersson Palm (2013). Each county's value added in crops is calculated as harvest minus seeds and thereafter the value

[12] The interested reader is referred to Andersson Palm (2013) for more detail.

added of the sector is multiplied with each region's share of total value added. Allowing for differing rates of crop yields results in the incorporated counties being relatively less specialized in grains.[13]

For animal products and milk production, we use the regional shares of livestock from Andersson Palm (2013). As seen in Table 1, value added of milk amounts to 16% of national GDP in the estimates of Krantz (2004a). Milk was rarely used for direct consumption, but the gross value in butter production (an intensively traded and exported good) amounted to 90% from the value of inputs from milk (Krantz 2004a, 28).

Since the value added of milk made up a relatively large proportion of the agricultural value added, care must be given when allocating it to regions. The regional share of cows to the national total is straightforward to measure for Old Sweden, but unfortunately, given the limits of our historical sources we do not know the proportion of cows in relation to total cattle in the Danish counties. According to the estimates of cattle by Andersson Palm (2013), the two Scanian counties, Malmöhus and Kristianstad, were much more endowed in terms of cattle than the old Swedish counties. Yet, the figure seems unreasonably high. Comparing the relative size of the Scanian cattle stock in 1571 to reports from with 1630 (Andersson Palm, 2012) the implication would be that cattle possessions dropped by 25% since the 16th century. The suspicion is also that Scanian cattle stock to a larger extent consisted of horses

[13] Compared to Old Sweden, this raises the total value added of grains by 29% which is less than the proportion of population (31%).

and oxen (this relative specialization of Scanian cattle has been documented for 1630 in Andersson Palm (2013, 302)) that cannot be used for milk production. It seems therefore reasonable to adjust the Scanian cattle by reducing the figure by 30%. Comparing the resulting relative shares of value added between Old and New Sweden indicates that the incorporated counties were relatively more specialized in animal production as their value added is increased more than their population proportion.[14]

Forestry is harder to regionalize. Luckily, its share of value added in national GDP only amounts to 3% of GDP, which reduces the potential error of regional misallocation. Since the value of sawn timber is reported under wood industry, forestry only accounts for the value of tree products that have not been sawn. For forestry, the value of wooden products used as inputs into other industries, construction and for the use of heating are reported. We make the assumption that forestry products used for heating purposes make up the lion part of the value added and that the consumption of these products could vary proportionally to population, adjusting for the relative differencing temperatures in the climatic zones in Sweden.[15]

Tithes paid in skins have been preserved for all parishes of the Norrbotten and Västerbotten counties (Friberg 1983, 206). It appears that value added for

[14] Value added is raised by 40% for animal production and 35% for milk production in comparison with Old Sweden.

[15] There are three climate zones in Sweden. The need for heating is adjusted for the climate zone according to the principle that climate zone 1 needed 4% less fire wood and climate zone 3 needed 55% more than the national average (which corresponds to climate zone 2).

hunting products were concentrated in these two most northern counties while fewer products were brought out from the rest of the country.[16] Accounts of export of furs from Norrbotten to Russia appear to have been similar in terms of value as the total export of furs from Stockholm at the same time.[17] Krantz (2004a) bases his national value added estimate on values for hunting products reported from values of skin trade reported for the most northern counties in Forsell (1869-75, II), and assumes that these northern counties accounted for 70% of total value added. We follow this suggestion and allocate the rest of the value added from hunting according to population shares.

Similarly to hunting, the value added of fishing was estimated on the basis of reported value of traded fish from the northern counties. Forsell (1869-1875, 51) calculated the total amount of trade in fish to 281,097 mk. For northern Sweden, trade in salmon was relatively lucrative, although some trade in herring is also reported. Based on Forsell's figures, Krantz (2004a) estimates the total value added in the sector to be 400,000 marks which corresponds to 1.1% of the GDP of Old Sweden. However, Heckscher (1935, 144) has argued that fishing must have been one of the most important economic activities of the country. Based on taxed records, Heckscher (1935) noted that fish products amounted to about 5% of the total tax for Sweden-Finland at the

[16] Friberg (1983, 251) documents that farmers from Hälsingland travelled from Hudiksvall with agricultural products and linen textiles for a value of 11,000 dalel. However, furs and fish products were almost negligible. Similar findings are reported from Ångermanland (Friberg 1983, 238).

[17] Friberg (1983) compares Stockholm's 3,000-4,000 skins with the 2,000-3,000 skins of upper Norrland and Finland.

borders of the 16th century. This suggests that the value of fish products has been underestimated in the historical national accounts.

A potential underestimation of the value of fish products in GDP is a main concern in the Sound area between Sweden and Denmark (Öresund). Historical records suggest that fishing of herring in Öresund was one of Europe's earliest known streams of traded goods and formed the basis for the Hanseatic trade in the region. Although historians have disputed its relative importance recent historical research have calculated that the value of fish products traded in Öresund amounted to about 300,000 barrels around the year 1400 (Holm 1998, 15). Herring was by far the most commonly traded fish.

Holm (1998, 22) estimates that the county of Bohuslän exported 34,800 barrels of herring on average during the 1570s and that the total value of traded fishing products in the Sound came to about 300,000- 400,000 barrels of Danish herring to a value between 450,000 – 600,000 daler in 1540, making trade in fish products correspond to at least one and a half times the value of Danish trade in agricultural products in 1540 (Holm 1998, p. 21).

Thus, the evidence of such a large and dynamic trade in herring squares oddly with the reported data in Forsell. Swedish value added share of 1% from fishing seems low for 1571, especially considering that the new estimates should cover Sweden by its present borders for which both Bohuslän and Öresund are included. Taking Holm's estimate for Bohuslän at face value suggests that the regional value added amounted to 714,000 marks solely from

herring. In order to account for the value of fishing, we attribute 714,000 marks of value added to Bohuslän and then double the value to account for the rest of the Öresund and distribute the value of fishing according to the share of population in the new provinces.[18] Adjusting for the value of herring in the Danish counties raises the value added of the fishing sector in New Sweden from 400,000 to 1,828,000, thus more than four times. This raises the national share of value added in fishing products from 1% to slightly about 3%, thus making a modest impact on the level of total GDP for Sweden. However, as outlined in the case of Bohuslän, the regional impact is very large. After we adjust the value added for fishing according to the inclusion of the Danish provinces, the new share comes closer to the share of fish taxes reported in Heckscher's (1935) appendix. This suggests that the adjustment for value added in fishing is reasonable in both national and regional terms.

2.2.1.2. Industry

In 1571, mining was the most important industry in terms of value added. There are reliable figures for the export of iron in the 16th century found in Heckscher (1949a) and quoted by Krantz (2004a). We regionalize the mining industry based on information about the location of mines found in Olsson-Spjut (2007), assuming similar sizes of production units (an assumption not

[18] We checked the availability of herring (clupea harengus) by coordinates in the Aquamaps database. However, most locations along the southern Swedish coast give a probability of around 60-75%. The importance of herring is well documented for the area around Bohuslän in 1571, but there are also indications that other places enjoyed an economic upswing due to the herring period. Since it is documented that fishing and agricultural work occurred in tandem and seasonally, we have assumed that relative population shares in the southern province captures the variation in regional value.

entirely unreasonable given the technology of the time). Around 1575, there were about 84 iron works and tilt hammers in Sweden. Their regional distribution is reported in Table 2. Örebro County had by far the most iron works. In one parish (Lindesberg) there were as many as 15 iron works. Although the King had expressed early on his interest in nationalizing these important mines, the iron production was not as regulated in 1571 as it became in the 17th century. This means that cooperative miners (berslag/bergmanstillverkning) might be underreported. However, cooperatives were generally located in the same areas as iron works and tilt hammers, which should make the regional error negligible.

Silver and copper production are relatively easy to locate, since there was only one open silver mine and two copper mines in Sweden 1571. We take the value added from Krantz, estimated on the basis of information found in Forsell (1872-83) and distribute it to the relevant counties. For copper production, we assume that the Falu copper mine amounted to 87% of the total production while the remaining 13% is accrued to the copper mine of Åtvidaberg, based on estimation in Heckscher (1949a).

Wood industries (including tar production, sawn timber and shipyards) were to play an important role in Sweden's industrialization from the 19th century onwards. However, in the 16th century, their contribution to GDP was modest, only 1% of GDP according to Krantz (2004a). A reason is probably that a lot of the products were constructed and consumed as part of the rural home industry mentioned previously. Consumption of sawn timber was estimated to 0.8 m^3 per person during the 19th century by Arpi (1959). This industry was likely to be producing mostly for its own consumption. Tar production for a value of SEK 10,700 was also produced mainly for own consumption, as all ships were impregnated with tar. Export figures of tar are not well kept but Forsell (1869-1875) has put together some figures from various ports. In 1559, Kalmar exported most tar (2,224 barrels), followed by Stockholm. There are accounts of tar being exported from the Finnish part of the country as well as the northern part. In all, the wood industries appear to have been located everywhere and in close relation with the region's own consumption. Regionalizing its share of value added is probably best done in relation to population shares.

Food industries make up a much larger share of the total value added. Krantz (2004a) estimates that these industries accounted for around 10% of GDP, with the value added of breweries making up the lion share of production. The value added relating to dairies, butcheries and breweries are difficult to assess, especially since we do know how much of the value added that was marketed

compared to own consumption. Drawing the line is probably impossible, therefore we assume that consumption is here a good proxy for production. Again, our concern is less on the overall levels of GDP and more on the correct regional distribution. Assuming similar levels of market penetration in the industry, regional figures of cows in Andersson Palm (2013) can be used to distribute value added of dairies while the share of total livestock for output is used to regionalize the value of slaughtered animals.

Breweries are more difficult. The contribution of breweries to national GDP is large, around 7%. Krantz (2004a) shows that previous estimates of beer consumption of 1000 litres of beer per person per year based on Heckscher (1935) must be an overestimation since such a high consumption would require more than the entire grain yield to be devoted to beer production. But as previously mentioned, Heckscher (1935) came to rather surprising conclusions about the "barbaric wellbeing" of the 16th century person, casting doubts on his sources. Krantz (2004a) adjusts Heckscher's figure downwards to a consumption of 165 litres for adult males. It is also clear that a lot of beer was drunk at home and probably produced close to the consumers. Since we know relatively little about the regional specialization of beer production in Sweden, we have assumed that beer was produced in the same proportion as population.

The textile industry has been estimated on basis of a need for clothing in the adult population of 8 alnar per person. The replacement of clothing has been

assumed to be needed every 5 year. Assuming that the majority of clothing was made of wool, we may use the regional distribution of sheep, as found in Andersson Palm (2013), to allocate the regional production. Although wool was the most used material, flax was not completely unusual. The county of Gävleborg is known for a specialization in flax production since medieval times. Historical sources talk about traders from the specific area producing a surplus of linen goods.[19]

Despite the considerable attention to the value of home industries for GDP in for example Edvinsson (2013b), handicrafts' contribution to GDP is estimated in 1% in 1571. Krantz (2004a) estimates the value added based on the number of craftsmen in Forsell's account of the Älvsborg's ransom. The number of craftsmen in this period was remarkably low and does not match well with the number of crafts that were carried out by local craftsmen and seasonally specialized farmers in the rural areas. Although Forsell (1869-1875) talks about the presence of a tailor, a shoemaker, a skinner and a smith in each parish, these were most often recorded as farmers in official sources. So far, given the high uncertainty of the value and regional location of these industries the best we can do at the current stage is to regionalize this value added on basis of population shares.

[19] Perhaps an adjustment upward to the value of linen production would be appropriate, but we decided to leave the revision for future research.

2.2.1.3. Services

Needless to say, calculating the value added of services in a pre-industrial economy is a daunting task, let alone trying to regionalize it. Yet, there are principles and shortcuts that can be used. Starting with the total value added of transportation and communications, Krantz (2004b, 45) assumes that value added in shipping amounts to 10% of the sum of imports and exports which in turn correspond to 5% of GDP in Old Sweden. About 3% was shipping and 2% land transportation. We have followed here Krantz's estimate and regionalized it according to the export and import share by ports as documented in Heckscher (1935, 21).[20] The value of foreign shipping might be somewhat low given the dynamic exports of herring in the Öresund and Bohuslän that we have already documented, but we leave it up to future research to make an appropriate adjustment.

Land transportation was assumed to be used mainly for goods transported by horses. Unfortunately, for the incorporated counties there are no separate accounts of the share of horses in the total cattle stock, so we have approximated the share of horses using regional shares of hay production. Other services also include construction (assumed to follow population

[20] The value added in trade does not relate to the value of the goods traded, but to the resources that were used for trade to occur. There is evidence on the activity of traders, such as landsköpmän and birkakarlar. These traders were documented to bring goods between Stockholm and the northern counties, since agricultural production was not sufficient to sustain the population under the harsh conditions that the arctic climate delivered. Birkakarlar was the name of the traders that sailed between Stockholm and the Northern counties. Their wealth is well documented in the tax registers of Älvsborg's ransom summarized in (Friberg 1983, 232). Based on reports of taxes on trade in the northern provinces, Krantz (2004b) estimated a value added in trade of 100,000 MK in the northern provinces and the same value for the rest of Sweden.

shares), public services (where the value of the royal court was allocated to Stockholm) and military services (distributed according to share of population living in administrative towns). The value added of civil services was estimated on the basis of costs from the local bailiffs reported in Forsell (1872-83).

3. The 1750-1850 ten-year benchmarks

3.1. Methodology

For the 1750-1850 estimates we use a methodology, introduced by Geary and Stark (2002), that is standard practice for historical GDP estimates and is considered the most reliable when direct measures of output are not a viable option. Geary and Stark (2002) show that for the UK their method produces results of promising precision. In a recent article, Geary and Stark (2015) further test the method on UK regions, showing that the results are robust.[21] For the Swedish regions, Enflo, Henning, and Schön (2014) demonstrate that the method produces reasonable results for the 19th and 20th century. We

[21] Regarding the relationship between wages and productivity, there is a debate especially among labour economists on whether the former well reflect the latter (see for instance Manning 2011 for a contemporary discussion). We are aware that the extent to with wages reflect productivity can vary across countries and historical periods. However, we believe that differential in wages across regions in pre-industrial Sweden had to be linked to productivity: wages excessively below the productivity level of the region would have pushed workers out of the market and into home production, leading to no wages being paid at all, while wages excessively above the productivity level would have made it impossible for employers to afford to pay wages at all. Therefore, we believe that even in pre-industrial periods wages had to some extent reflect differences in regional productivity.

therefore decided to follow the same path to obtain our estimates for 1750-1850.

We therefore define regional GDP in county i (Y_i) in the following way:

$$Y_i = \sum^{j} y_j \ \beta_j \left(\frac{w_{ij}}{w_j}\right) \times L_{ij}$$

where y_{ij} is the average value added per worker in county i and sector j, w_{ij} is the level of wages in county i in sector j and L_{ij} the number of workers in county i and industry j. β_j is a scalar that will reflect regional relative differences, but ensuring that regional totals add up to the known national total for each industry. Essentially, the Geary-Stark method allocates the GDP estimates at the nation/sectoral level (which are usually more easily computable) to the counties based on their shares of labor force corrected by wage differentials to take into account differences in labour productivity. The assumption that wages are a good indicator of productivity differentials across region was recently tested by Geary and Stark (2015, p. 132-133) showing that the method yields good results. In the next sections, we describe the sources used in each step of the procedure and we motivate the necessary corrections that we adopted in each specific case.

3.2. Sources

3.2.1. National sectoral value added

The first step to obtain regional GDP is to identify the most reliable existing national estimates. In our case, these are the ones from the Swedish Historical National Accounts (SHNA). Thanks to recent advancements in national accounting, SHNA now provides sectoral value added for Sweden from 1560 onwards (Schön and Krantz 2012; 2015). The SHNA dataset presents aggregate figures for national GDP and GDP per capita as well as a break down for the main sectors (agriculture, manufacturing, building and construction, transportation and communication, private services, public services and services of dwellings). The national figures are annual but, because of the partial coverage of some censuses, we were only able to reconstruct regional GDP figures for 10-year benchmarks from 1750 to 1850.[22] To match these sectors with the availability of workforce and wages, we decided to aggregate and disaggregate the national series in the following way.

First of all, we decided to consider mining as a separate from the rest of industry. This is because only for mining it was possible to reconstruct direct production by county relying on information at parish level from Olsson-Spjut

[22] The censuses were actually carried on in 1749, 1760, 1769, 1780, 1790, 1800, 1810, 1820, 1830, 1840 and 1850. We decided to use 1749 to break down the 1750 national GDP and the 1769 to break down the 1770 national figures to obtain a regular time pattern. We will therefore refer from now on to 1750 and 1770 as being benchmark years.

(2007). Mining is therefore the only sector not estimated through labour force and wages.

Since the Krantz and Schön (2015) do not report national value added in mining as a separate industry, we needed to infer its share from other sources. From 1800 onwards it was relatively straight forward to estimate the contribution of mining to industry VA by using shares recorded in Schön (1988). However, for the period 1750-1800 we had to rely on the yet unpublished work by Krantz and Olsson-Spjut (forthcoming) who have estimated VA in mining based on export statistics. In order to harmonize the sources we have calculated mining as a share of industry and as a share of GDP from 1750 to 1850 (see Table 3).

Table 3 shows that mining-related industries were a large share of Swedish total industry by 1750 (about 91%) but as the economy modernized and more manufacturing industries were established, the share gradually diminished to about 44% in 1850. Similarly, its sectoral share of GDP roughly halved from about 12% in 1750 to about 6% in 1850. Yet, the fact that only a few counties specialized into mining may have been a large contributor to regional GDP differences outside the agricultural sector, and especially so in the beginning of our period. It is also clear that iron ore mining was the most importation contributor to value added, with mining of gold and silver only contributing negligibly. For this reason we decided to allocate them according to the shares of production of the rest of the sector. Copper, although placed secondary to iron ore, was a more important part of the industry. In the late 18th century it contributed with 11.6% of the total industrial value added. However, during the 17th century, copper played a dominant role in Swedish industry as about half of the mining value came from copper (Heckscher 1949b, 368). Since almost the entire copper production was mined in the large Falu copper mine (Stora Kopparberg) we allocate all of the value added in copper to Kopparberg county.[23]

In terms of aggregation, we added building and construction to manufacturing and transportation and communication to private services because of lack of

[23] Falu Coppermine was Europe's largest copper mine during the 17th century as it filled some two thirds of the European market for copper. In 1650, 30,000 tons of copper were mined in the area and about 1,000 people were employed. After the devastation of 1687, the mine started to stagnate, but was still responsible for the lion share of the copper generated in Sweden. In 1751, 711 tons out of a total of 846 (85%) were extracted from the main mine (Heckscher 1949b, 369).

specific figures on the regional employment in these sectors. As for services of dwellings, this component does not depend on any share of the labour force and it was allocated on the basis of the shares of the Swedish population in each county.

3.2.2. Regional labour force

Our data on the labor force in each county and sector are from Tabellverket and are provided by the Demographic Database, CEDAR, Umeå University. In the database, the number of individuals in each social group and corresponding job titles has been digitized by parish from the church registers. The reclassification for the period 1750-1800 into the SNI92 scheme (Svensk Näringsgrensindelning) is provided in the dataset and allowed to easily identify five broad sectors: agriculture, mining, manufacturing, private services and public services. We were unfortunately not able to include women in our labour force estimates as they were often counted in common categories with children. This is a frequent issue when reconstructing labour force figures and it is often necessary to restrict the analysis to men in order to avoid bias.[24] For the benchmarks 1810-1850, the numbers as reported in the source are provided. We therefore had to aggregate job titles into our five sectors based on our own judgement. To assess the coverage of the labour force resulting from Tabellverket accounts, we compared the size of its labour force with the one emerging from the national accounts by Schön and Krantz (2015). Unfortunately, the authors do not provide labour force figures before 1850. However, we observe that after 1850 the share of the labour force on the

[24] Not having reliable female labour force figures, we were confronted with the choice of using male labour force only for each year or, for instance, add to this an estimated female labour force worked out from information on female labour force participation in later periods. We judged that the former solution would create less bias than imposing a late 19th century female labour structure to 18th century estimates. This solution is similar the case of labour force figures for Italy, for which Ciccarelli and Fenoaltea (2013) only use male employment to assess the provincial labour force. For a discussion on the bias introduced by unadjusted women's employment see Ciccarelli and Missiaia (2013).

total population of Sweden is quite stable, around 40% up to 2010.[25] We therefore estimated the size of the labour force in Sweden using the share of 38.44% from 1850 and applying that to the national population in the previous years. We then compared these figures with Tabellverket ones, finding that the latter corresponds to a minimum of 60.20% of the national labour force in 1780 and a maximum of 75.86% in 1840. Considering that women are not included in our sample, we find our figures likely to be representative of the (male) Swedish labour force. Also, from 1810 mining cannot be accounted separately from manufacturing. We solved this by assuming that in all years the same share of industry from 1800 was employed in mining and we moved that share of manufacturing to mining in each county.[26] Moreover, the labour force figures for services as a whole in 1850 appeared overestimated by some 10% compared to the ones by Enflo, Henning, and Schön (2014) for 1860. We therefore decided to keep the share of workers in services constant at the 1860 level in all years and redistribute the excess workers in the other sectors.[27] It should finally be noted that four clear outliers in the labour force figures of Stockholm required interpolation. These are 1780 (agriculture and manufacturing), 1800 (agriculture and manufacturing), 1840 (manufacturing) and 1850 (manufacturing). Table 4 shows the resulting shares of labour force in each of the four sectors within in each county in three selected years.

Up to now, we have presented the procedure to estimate the shares of employment in each sector within each county. Another aspect to consider for obtaining consistent estimates of the labour force is also to account for the correct relative size of the counties. We are well aware that several factors that

[25] This figure may appear low for modern Sweden, but we should not forget that people today spend a larger proportion of their lives in education and retirement than ever before in history.
[26] It should be stressed here that mining employment enters our calculation only because it is detracted from industrial employment (which then only represents manufacturing). It is not used to break down the mining value added because of the availability of production figures.
[27] This assumption seems reasonable in light of the relatively stable share of services in GDP at national level.

might affect the representativeness of our labour force from Tabellverket. For instance, the sectors might be correctly assessed in terms of shares within each county, but there might be some general underreporting because of different coverage of the census (say for instance that in some counties more parishes did not get recorded compared to other counties). We could also suspect that different counties had a larger participation of women in the workforce, which we decided not to include for the reasons explained above.[28] In order to account for these differences, we decided to rescale each county's weight in the national VA according to each county's share in the national labour force. In the lack of direct labour force shares before 1860, we estimated them by taking the 1860 labour force shares for the counties from Enflo, Henning, and Schön (2014) and projecting these backward according to the population growth of each county. Doing so, we corrected the underrepresentation of counties that had a labour participation above or below the average. Table 5 presents the regional shares of the national labour force calculated this way.

[28] In particular, we expect cities to have a stronger presence of women in the labour force. This can be noticed by looking at the 1855 labour force shares for the Swedish counties from Enflo, Henning, and Schön (2014) and comparing them with the regional population shares. For instance, a quite agricultural county like Malmöhus had 7.38% of the Swedish population and 7.54% of the Swedish labour force. In the same year Stockholm had 5.93% of the Swedish population but 7.20% of the Swedish labour force, suggesting a general higher participation of the population (including women) in the labour market.

3.2.3. Wages

Regarding the wage adjustment to proxy for productivity differentials, it proved impossible to reconstruct wages for all the five sectors and 24 counties. We have however a rather complete coverage of the agricultural wages from Jörberg (1972) consisting in about 85% of the year-county pairs needed. We filled the gap for each county in a specific year by taking the ratio between the national average wage and the county's wage from the closest year available and then applying that ratio to the missing year.[29] For industrial wages we used a series of builders for Stockholm from Söderberg (2010) and one for Malmö kindly provided by Gary (2017). These two are taken as indicators of the ratio between wages in the capital vs. the rest of the country (see Figure 2). To reconstruct wage differentials across all counties, we used, along with the above series, the wages of manufacturing workers in 1860 for all the 24 counties from Collin (2016). In the lack of a more complete coverage for the years before 1860, we assumed that in 1850 the wage differential across counties was the same as 1860 and use the Stockholm-Malmö ratio for the period 1750-1850 as an index to work out the ratio between Stockholm and each other county in the years before 1860.

[29] Let us assume that the wage level for county A in 1750 was missing but the wage level for 1760 was known. We took the ratio between the wage in county A in 1760 and the national average in 1760 and assumed the same relationship held in 1750. From that we worked out the 1750 wage.

Private services are corrected using the agricultural wages from Jörberg (1972) under the assumption that there was in most of the counties a high level of substitution between agricultural workers and private services workers. Moreover, private services were often connected with transportation of agricultural products in pre-industrial Sweden, making the two types of employment highly overlapping. We tested this assumption by comparing wages of night guards in the copper mine, a relatively unskilled services, reported in Boëthius (1951, 305) with agricultural wages reported by Jörberg (1972) and found that they mimic each other closely.[30]

For public services, we decided not to correct for regional differentials because of the homogeneity of the type of employment across counties.[31] Table 6 shows the estimated agricultural and industrial wages for all

[30] 13 1/3 öre silvermynt per day for a night guard as compared to 14 öre silver per day in Kopparberg 1769 for a day labor in agriculture.
[31] To provide an example, clergy is part of public services employment. There is no reason to believe that a priest was in any way more productive in one county rather than in another.

3.2.4. Mining production

The only sector that we were able to include in our GDP estimates using direct production figures is mining. This is due to the concentration of the production in few, state controlled mines. We aggregated parish level iron-ore production according to counties (the parish level data was kindly provided by Olsson-Spjut (2007)). We then calculated the share of total production for the 24 counties and we allocated the national value added of mining net of copper according to these shares (see Table 7 for the iron ore shares of production). As we mentioned earlier, the national copper production was disaggregated from the rest of mining and allocated to the county of Kopparberg which we assume accounted for the entire national production. The other types of mining, which only accounted for a small share of the total (see Table 3), were allocated

4. Results

This section presents our GDP estimates for 1571 and for the period 1750-1850. Table 8 reports the regional GDP estimates for 1571.

We illustrate the total GDP shares for each region, the estimated population, the GDP per capita level and the normalized GDP with the national average set equal to 100. We also keep the regions of Old and New Sweden separate and we calculate their corresponding share in the national GDP. In Table 9, the sectoral shares of GDP per capita are presented.

As the table shows, industrial specialization varies the most among regions, from the lowest shares (10%) in the Scanian provinces to the highest in the mining districts (34% in Örebro, followed by Kopparberg with 32%, and Västmanland with 30%). Table 10 provides the relative GDP per capita for the 24 Swedish counties in current prices.[32] Table 11 provides the shares of the total Swedish GDP that are allocated to each county.[33] Table 12 provides the breakdown of value added within each county into agriculture, manufacturing, mining, private services, public services and services of dwellings.[34] Finally, Table 13 provides the population estimates that have been used to go from total to per capita values. It should be noted here that the figures are based on

[32] The reader interested in the levels of GDP per capita in SEK for any given county and year will simply need to take the value of the national GDP per capita in current prices from Schön and Krantz (2015, Table 1) and multiply that for the relevant value of Table 10, divided by 100.

[33] As above, the reader can easily work out the total GDP or each county in each year in SEK by applying the shares to the total GDP provided by Schön and Krantz (2015, Table I).

[34] The value added for each sector in each county can be worked out from the total GDP of each county (calculated as in the previous footnote) by applying the shares provided.

the share for each county from *Historisk Statistik för Sverige* which are then multiplied for the total population of Sweden provided Schön and Krantz (2015, Table V).[35]

The aim of this paper is mainly to discuss the methodological issues in the estimation rather than the economic interpretation of the results. However, the reader might note that the decades 1790-1800 are peculiar since the share of value added that is attribute to agriculture increases quite dramatically in some counties (from 33% to 46% for Kalmar, for example). This relative increase stems from the share of value added that is attributed to agriculture in the Swedish Historical Accounts from Schön and Krantz (2015). Schön and Krantz attribute 29% of Sweden's GDP in current prices to agriculture sector in 1790, whereas the same figure is 40% in 1800. This relative increase of the agricultural sector is explained by Schön (2010, p.54-57) as an investment cycle. Rising corn prices favored active, commercially oriented farmers and made the agricultural sector more vibrant. The enclosure movement was particularly active at the turn of the 19th century, especially in the plains if southern Sweden and much agricultural imports were redirected towards internal production. The jump in agricultural value added is extra visible in the counties initially specialized in agriculture, such as Kalmar län. As these counties were relatively small and agricultural, the period 1790-1800 becomes remarkably dynamic in terms of the agricultural share of GDP.

[35] This procedure is pursued to ensure perfect consistency between our regional estimates and the SHNA estimates.

5. Concluding remarks

This paper has presented new regional GDP estimates for the 24 counties of Sweden for ten-year benchmarks from 1750 to 1850 as well as for the very early benchmark of 1571. The availability of labour force figures at regional level for the pre-industrial period makes the Swedish case an exception in the European context. Our estimates, when connected to existing ones from the second half of the 19th century, allow building the so far longest series of regional GDP using the Geary-Stark method. The 1571 benchmark represents an even more remarkable effort as the estimates are based on a one-off tax and provide a unique view on regional inequality almost three centuries before industrialization.

This paper does not only provide the final GDP estimates, but it also takes the reader through each step of the estimation, making information available on production, labour force, wages and population. We believe that the careful illustration of all sources and the provision of underlying data will boost future research in several ways. First, it will encourage further research on Swedish regional development in the pre-industrial period through the use of both the GDP figures we provide and the different components that could be of interest to address a variety of research questions. Second, the breakdown of the series will allow any researcher to focus on each particular component of the GDP series and possibly contribute to improving them through further data collection.

Finally, the existence of a set of regional GDP figures for an entire country in the pre-industrial period provides a solid term of comparison for all other countries for which some empirical evidence on economic activity before industrialization can be collected and used in a similar way.

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Table 1. Sectoral distribution and regional principle for 1571.

Sector	Current prices	Share of total	Principle	Source
Agriculture with ancilliaries	17,079,500	48%		
Agriculture	15,324,000	43%		
Vegetables	8,391,000	24%	Yields	AP (2013)
Animal products	6 933,000	20%		
Live stock	1 175,000	3%	Cattle	AP (2013)
Milk	5 758,000	16%	Cows	AP (2013)
Forestry	1 105 500	3%	Climate adj. population	
Hunting	250,000	1%		Friberg (1983), Forsell (1872-83)
Fishing	400,000	1%	Yields and population	Forsell (1872-83), Holm (1998)
Industry and handicrafts	5,873,700	17%		
Mining and metal	1,534,100	4%		
Iron production	642,000	2%	Location of mines	Olsson-Spjut (2007)
Silver production	423,000	1%	Location of mines	Forsell (1872-83)
Copper production	469,100	1%	Location of mines	Forsell (1872-83)
Wood industries	300,300	1%		
Sawn timber	208,600	1%	Population	
Tar	10,700	0.03%	Population	
Shipyards	70,000	0.19%	Population	
Food industries	289,300	10%		
Dairies	639,800	2%	Cows	AP (2013)
Butcheries	205,400	1%	Cattle	AP (2013))
Breweries	2,637,500	7%	Population	AP (2013)
Textile industries	350,000	1%	Sheep	AP (2013)
Handicrafts	217,600	1%		
Building and construction	2,596,400	7%	Population	AP (2013)

Table 1. Sectoral distribution and regional principle for 1571 (cont.).

Sector	Current prices	Share of total	Principle	Source
Transport and communication	1,733,200	5%		
Foreign shipping	846,000	2%	Ports	Heckscher (1935)
Domestic shipping	160,700	0.50%	Ports	
Land transport	726,500	2%	Horses an oxen	AP (2013)
Private service production	1,333,000	4%		
Trade (wholesale and retail)	400,000	1%	Pop. weight by north/south	AP (2013) Krantz (2004a)
Hotels and restaurants	133,300	0.004%	Population	AP (2013)
Domestic services	799,700	2%	Population	AP (2013)
Public service production	2,354,000	7%		
State services	1,708,000	5%		
The royal court	695,000	2%	Stockholm	
Civil services	268,000	1%	Local costs of tax and administration	Forsell (1872-83)
Military services	745,000	2%	Population	AP (2013)
Municipal services	646,000	2%		
Town administration	27,000	0.08%	Urbanisation	Lilja(1996)
Religious services	619,000	2%	Population	AP (2013)
Dwellings	4,430,500	13%	Population	AP (2013)
Gross National Product	35 400 300	100%		

Sources: GDP divided into sectors from Krantz, (2004a, Table 2). Shares: own calculations. Regionalization: own assumptions. Sectoral value added and share of national GDP: Krantz (2004b, 17). Notes: AP refers to Andersson Palm (2013).

Table 2. Regional distribution of iron works in 1571.

County	Number of iron works	Share
Stockholm	2	2
Uppsala	6	7
Östergötland	1	1
Jönköping	4	5
Älvsborgs	2	2
Örebro	45	54
Västmanland	12	14
Kopparberg	12	14
Total	84	100

Sources: adapted from Olsson-Spjut (2007, Appendix 6, established and closed down iron works and tilt hammers).

Table 3. Value added in current SEK in branches of mining, industry and GDP (1750-1850).

	Gold and silver	Copper	Mining	Share of gold and silver in industry VA	Percent copper in industry VA	Industry	Share of mining in industry	GDP	Percent Mining in GDP
1750			2,954			3,245	91.03%	25,418	11.62%
1760			3,327			4,928	67.53%	43,618	7.63%
1770			4,154	0.53%	11.60%	5,046	82.33%	44,778	9.28%
1780			4,258			7,311	58.24%	71,970	5.92%
1790			3,653			8,608	42.44%	84,941	4.30%
1800	30	666	7,815	0.38%	8.52%	14,401	54.27%	130,887	5.97%
1810	19	1,055	7,593	0.25%	13.89%	13,031	58.27%	197,897	3.84%
1820	81	2,020	21,449	0.38%	9.42%	37,525	57.16%	319,235	6.72%
1830	83	1,728	21,666	0.38%	7.98%	37,026	58.52%	349,508	6.20%
1840	119	1,834	30,303	0.39%	6.05%	53,928	56.19%	438,175	6.92%
1850	161	2,476	33,222	0.48%	7.45%	75,659	43.91%	538,239	6.17%

Sources: The share of copper in 1770 refers to 1772 from Heckscher (1949b, 359). This share has been used to extrapolate 1750 and 1760 and interpolate 1780 and 1790. 1750-1800 VA in mining from Krantz and Olsson – Spjut (forthcoming). Deflators for 1732-1800 from Jörberg (1972). Posthumus (1943) (1624-1777). 1800-1850: value added in mining, copper and gold / silver from Schön (1988, Table 3 68ff). Industry and GDP (1750-1850) from Schön and Krantz (2015). Principles for revisions and extension of data 1560-1800 are found in Schön and Krantz (2015).

Table 4. Labour force shares in the Swedish counties (1750-1850).

	1750			1760		
	Agriculture	Manuf.	Mining	Agriculture	Manuf.	Mining
Stockholms län	33.90%	31.73%	0.74%	36.87%	28.53%	0.97%
Uppsala län	74.24%	6.89%	2.52%	78.07%	3.25%	2.34%
Södermanlands län	81.10%	3.62%	1.75%	80.87%	3.60%	2.00%
Östergötlands län	78.09%	6.14%	1.05%	77.16%	6.83%	1.29%
Jönköpings län	84.91%	3.98%	0.43%	84.57%	4.36%	0.39%
Kronobergs län	89.04%	1.33%	0.74%	88.98%	1.55%	0.58%
Kalmar län	81.96%	2.57%	0.57%	81.33%	3.16%	0.61%
Gotlands län	80.70%	0.34%	0.42%	80.64%	0.44%	0.37%
Blekinge län	75.34%	2.67%	0.30%	74.71%	3.28%	0.33%
Kristianstads län	84.51%	4.16%	1.09%	84.18%	4.67%	0.91%
Malmöhus län	79.50%	5.63%	0.22%	79.76%	5.45%	0.15%
Hallands län	83.91%	4.45%	0.15%	83.80%	4.62%	0.09%
Göteborg/Bohus län	73.61%	3.00%	0.12%	72.62%	4.05%	0.06%
Älvsborgs län	86.65%	4.04%	0.36%	86.51%	4.25%	0.29%
Skaraborgs län	86.35%	2.80%	0.12%	85.58%	3.59%	0.10%
Värmlands län	87.43%	2.37%	1.34%	87.05%	2.52%	1.57%
Örebro län	81.54%	6.92%	1.74%	79.29%	8.68%	2.24%
Västmanlands län	78.65%	4.71%	2.13%	77.59%	5.81%	2.10%
Kopparbergs län	81.95%	4.75%	4.05%	83.20%	3.48%	4.07%
Gävleborgs län	72.63%	7.70%	3.87%	72.24%	8.64%	3.32%
Västernorrlands län	85.59%	2.79%	1.13%	84.95%	3.64%	0.92%
Jämtlands län	90.59%	0.47%	1.73%	89.79%	1.04%	1.96%
Västerbottens län	89.31%	0.54%	0.44%	89.72%	0.52%	0.05%
Norrbottens län	88.31%	0.16%	0.26%	88.00%	0.32%	0.41%
Sweden	76.19%	7.35%	1.18%	76.93%	6.86%	1.20%

Table 4. Labour force shares in the Swedish counties (1750-1850) (cont.).

	1770			1780		
	Agriculture	Manuf.	Mining	Agriculture	Manuf.	Mining
Stockholms län	41.15%	24.13%	1.09%	38.53%	26.61%	1.22%
Uppsala län	77.78%	2.84%	3.03%	74.54%	3.85%	5.26%
Södermanlands län	80.88%	3.88%	1.71%	73.28%	9.12%	4.07%
Östergötlands län	81.51%	2.67%	1.10%	80.36%	3.09%	1.83%
Jönköpings län	85.04%	3.90%	0.39%	86.55%	2.07%	0.70%
Kronobergs län	88.62%	1.55%	0.94%	88.34%	1.49%	1.27%
Kalmar län	81.94%	2.72%	0.44%	81.31%	2.87%	0.92%
Gotlands län	80.08%	0.80%	0.58%	76.98%	3.93%	0.54%
Blekinge län	74.36%	3.73%	0.22%	76.00%	2.19%	0.12%
Kristianstads län	84.93%	4.21%	0.61%	86.21%	2.89%	0.66%
Malmöhus län	81.39%	3.85%	0.12%	80.02%	5.27%	0.06%
Hallands län	83.32%	5.09%	0.10%	85.44%	3.01%	0.06%
Göteborg/Bohus län	72.23%	4.42%	0.08%	73.02%	3.68%	0.02%
Älvsborgs län	87.10%	3.60%	0.35%	88.06%	2.13%	0.86%
Skaraborgs län	85.88%	3.21%	0.19%	85.84%	2.97%	0.47%
Värmlands län	87.85%	2.07%	1.22%	84.04%	2.50%	4.60%
Örebro län	81.36%	6.83%	2.02%	69.80%	6.23%	14.18%
Västmanlands län	77.35%	5.83%	2.31%	75.37%	4.50%	5.61%
Kopparbergs län	84.22%	3.04%	3.49%	77.76%	2.74%	10.26%
Gävleborgs län	70.87%	9.03%	4.30%	70.86%	7.11%	6.23%
Västernorrlands län	84.99%	2.66%	1.88%	85.94%	1.11%	2.47%
Jämtlands län	90.17%	0.95%	1.67%	90.24%	1.04%	1.52%
Västerbottens län	88.87%	0.95%	0.46%	88.89%	0.68%	0.71%
Norrbottens län	87.84%	0.48%	0.40%	86.01%	1.69%	1.03%
Sweden	78.40%	5.56%	1.18%	76.47%	5.80%	2.93%

Table 4. Labour force shares in the Swedish counties (1750-1850) (cont.).

	1790			1800		
	Agriculture	Manuf.	Mining	Agriculture	Manuf.	Mining
Stockholms län	38.81%	26.28%	1.27%	36.76%	28.38%	1.22%
Uppsala län	71.81%	6.31%	5.54%	71.44%	6.38%	5.84%
Södermanlands län	76.91%	5.41%	4.15%	77.79%	6.39%	2.29%
Östergötlands län	80.36%	3.26%	1.66%	76.57%	6.39%	2.32%
Jönköpings län	85.24%	2.84%	1.24%	85.25%	2.55%	1.52%
Kronobergs län	88.04%	2.10%	0.96%	87.76%	2.27%	1.07%
Kalmar län	81.42%	2.79%	0.88%	81.18%	3.05%	0.87%
Gotlands län	76.56%	4.37%	0.53%	76.20%	4.56%	0.70%
Blekinge län	72.03%	6.18%	0.10%	71.13%	7.10%	0.08%
Kristianstads län	86.73%	2.61%	0.42%	86.65%	2.67%	0.44%
Malmöhus län	80.47%	4.74%	0.14%	78.70%	6.25%	0.40%
Hallands län	85.26%	3.23%	0.02%	85.14%	3.30%	0.07%
Göteborg/Bohus län	72.68%	4.00%	0.05%	69.79%	6.83%	0.12%
Älvsborgs län	88.52%	1.95%	0.57%	87.77%	2.69%	0.59%
Skaraborgs län	86.27%	2.65%	0.36%	86.26%	2.37%	0.65%
Värmlands län	83.77%	2.22%	5.15%	82.75%	2.66%	5.73%
Örebro län	72.32%	5.18%	12.71%	76.82%	5.27%	8.12%
Västmanlands län	75.07%	5.42%	5.00%	75.43%	5.77%	4.28%
Kopparbergs län	80.07%	2.69%	8.00%	80.00%	2.30%	8.45%
Gävleborgs län	71.09%	5.94%	7.17%	71.49%	6.23%	6.48%
Västernorrlands län	86.40%	1.31%	1.81%	83.67%	2.78%	3.07%
Jämtlands län	89.84%	1.35%	1.61%	89.16%	2.48%	1.15%
Västerbottens län	88.44%	1.20%	0.64%	88.09%	1.69%	0.50%
Norrbottens län	86.99%	0.99%	0.73%	85.88%	1.66%	1.18%
Sweden	77.06%	5.56%	2.77%	76.59%	6.27%	2.46%

Table 4. Labour force shares in the Swedish counties (1750-1850) (cont.).

	1810			1820		
	Agriculture	Manuf.	Mining	Agriculture	Manuf.	Mining
Stockholms län	35.45%	29.63%	1.28%	32.95%	32.03%	1.38%
Uppsala län	71.68%	6.25%	5.72%	71.01%	6.60%	6.04%
Södermanlands län	76.11%	7.62%	2.73%	75.88%	7.80%	2.79%
Östergötlands län	76.11%	6.73%	2.44%	75.98%	6.82%	2.48%
Jönköpings län	84.42%	3.06%	1.84%	84.67%	2.91%	1.74%
Kronobergs län	86.48%	3.14%	1.48%	86.18%	3.35%	1.58%
Kalmar län	79.41%	4.43%	1.26%	78.43%	5.19%	1.47%
Gotlands län	74.33%	6.17%	0.95%	73.00%	7.33%	1.13%
Blekinge län	69.00%	9.21%	0.10%	66.44%	11.74%	0.13%
Kristianstads län	84.54%	4.48%	0.74%	83.72%	5.18%	0.86%
Malmöhus län	78.41%	6.53%	0.42%	76.84%	8.01%	0.51%
Hallands län	85.20%	3.24%	0.06%	84.43%	4.00%	0.08%
Göteborg/Bohus län	67.76%	8.82%	0.15%	70.30%	6.32%	0.11%
Älvsborgs län	87.54%	2.88%	0.63%	87.38%	3.01%	0.66%
Skaraborgs län	85.81%	2.72%	0.75%	85.12%	3.26%	0.90%
Värmlands län	85.20%	1.88%	4.05%	85.25%	1.86%	4.02%
Örebro län	80.15%	3.96%	6.10%	80.30%	3.90%	6.01%
Västmanlands län	75.13%	5.95%	4.41%	74.84%	6.12%	4.53%
Kopparbergs län	80.47%	2.20%	8.08%	79.73%	2.36%	8.66%
Gävleborgs län	71.47%	6.24%	6.49%	70.89%	6.52%	6.79%
Västernorrlands län	80.92%	4.09%	4.51%	81.96%	3.59%	3.97%
Jämtlands län	90.20%	1.77%	0.82%	89.95%	1.94%	0.90%
Västerbottens län	85.99%	3.30%	0.98%	86.59%	2.84%	0.85%
Norrbottens län	84.23%	2.63%	1.87%	84.00%	2.76%	1.96%
Sweden	76.57%	6.69%	2.35%	76.07%	7.13%	2.36%

Table 4. Labour force shares in the Swedish counties (1750-1850) (cont.).

	1830			1840		
	Agriculture	Manuf.	Mining	Agriculture	Manuf.	Mining
Stockholms län	30.71%	34.18%	1.47%	35.75%	29.35%	1.26%
Uppsala län	71.06%	6.58%	6.02%	68.08%	8.13%	7.44%
Södermanlands län	75.68%	7.93%	2.84%	70.98%	11.40%	4.08%
Östergötlands län	74.81%	7.66%	2.78%	71.39%	10.19%	3.70%
Jönköpings län	83.47%	3.66%	2.19%	81.69%	4.78%	2.86%
Kronobergs län	85.65%	3.71%	1.75%	85.59%	3.75%	1.77%
Kalmar län	78.42%	5.08%	1.44%	76.74%	6.51%	1.85%
Gotlands län	73.91%	5.87%	0.90%	71.38%	8.74%	1.34%
Blekinge län	67.45%	10.37%	0.11%	56.52%	21.56%	0.23%
Kristianstads län	82.95%	5.80%	0.96%	81.08%	7.45%	1.24%
Malmöhus län	76.61%	8.13%	0.52%	70.27%	14.18%	0.91%
Hallands län	84.16%	4.01%	0.08%	81.62%	6.76%	0.13%
Göteborg/Bohus län	70.34%	5.63%	0.10%	65.41%	11.13%	0.19%
Älvsborgs län	87.09%	3.23%	0.71%	85.67%	4.41%	0.97%
Skaraborgs län	85.61%	2.87%	0.79%	85.23%	3.18%	0.87%
Värmlands län	85.32%	1.84%	3.97%	83.95%	2.28%	4.91%
Örebro län	80.55%	3.80%	5.85%	77.17%	5.14%	7.90%
Västmanlands län	73.37%	6.95%	5.15%	70.58%	8.56%	6.35%
Kopparbergs län	84.88%	1.26%	4.61%	83.40%	1.58%	5.78%
Gävleborgs län	72.52%	5.72%	5.95%	68.09%	7.90%	8.22%
Västernorrlands län	83.00%	3.07%	3.39%	79.00%	5.00%	5.52%
Jämtlands län	90.82%	1.35%	0.63%	89.62%	2.17%	1.00%
Västerbottens län	86.62%	2.81%	0.84%	86.04%	3.27%	0.97%
Norrbottens län	77.42%	6.60%	4.69%	81.38%	4.29%	3.05%
Sweden	76.17%	7.19%	2.18%	73.97%	8.93%	2.77%

Table 4. Labour force shares in the Swedish counties (1750-1850) (cont.).

	1850					
	Agriculture	Manuf.	Mining	Private services	Public Services	Sum
Stockholms län	35.75%	29.35%	1.26%	26.58%	7.06%	100%
Uppsala län	64.78%	9.86%	9.02%	12.08%	4.26%	100%
Södermanlands län	69.53%	12.47%	4.46%	10.32%	3.22%	100%
Östergötlands län	68.90%	12.02%	4.36%	11.71%	3.02%	100%
Jönköpings län	80.16%	5.73%	3.43%	6.86%	3.82%	100%
Kronobergs län	85.13%	4.06%	1.92%	5.35%	3.54%	100%
Kalmar län	76.97%	6.33%	1.80%	11.82%	3.08%	100%
Gotlands län	69.24%	10.59%	1.63%	15.10%	3.44%	100%
Blekinge län	57.26%	20.83%	0.22%	13.86%	7.84%	100%
Kristianstads län	80.23%	8.17%	1.36%	7.21%	3.03%	100%
Malmöhus län	66.14%	18.06%	1.15%	11.29%	3.36%	100%
Hallands län	81.05%	7.31%	0.14%	9.78%	1.72%	100%
Göteborg/Bohus län	60.09%	16.36%	0.28%	19.61%	3.66%	100%
Älvsborgs län	85.29%	4.72%	1.04%	6.45%	2.51%	100%
Skaraborgs län	82.77%	5.11%	1.40%	7.45%	3.27%	100%
Värmlands län	82.93%	2.60%	5.61%	6.55%	2.32%	100%
Örebro län	77.70%	4.93%	7.58%	7.61%	2.18%	100%
Västmanlands län	69.63%	9.11%	6.75%	10.45%	4.06%	100%
Kopparbergs län	82.19%	1.83%	6.73%	6.31%	2.94%	100%
Gävleborgs län	67.20%	8.33%	8.67%	12.14%	3.66%	100%
Västernorrlands län	77.71%	5.61%	6.20%	8.55%	1.93%	100%
Jämtlands län	88.93%	2.64%	1.22%	3.64%	3.57%	100%
Västerbottens län	85.56%	3.64%	1.08%	7.45%	2.27%	100%
Norrbottens län	81.10%	4.46%	3.17%	8.31%	2.96%	100%
Sweden	72.70%	9.97%	3.03%	10.79%	3.51%	100%

Sources: our own calculations. Notes: the shares of services in 1850 can be applied to all other years to arrive to 100% of employment.

Table 5. Shares of total labour force by county (1750-1850).

	1750	1760	1769	1772	1795	1800	1810	1820	1830	1840	1850	1855
Stockholms län	9.96%	10.39%	9.99%	10.20%	8.91%	8.86%	8.26%	8.11%	7.75%	7.51%	7.23%	7.20%
Uppsala län	3.61%	3.52%	3.51%	3.50%	3.47%	3.49%	3.42%	3.13%	2.86%	2.75%	2.59%	2.52%
Södermanlands län	4.54%	4.39%	4.30%	4.34%	4.21%	4.18%	4.22%	3.98%	3.82%	3.73%	3.51%	3.46%
Östergötlands län	7.53%	7.35%	7.24%	7.27%	7.09%	7.03%	7.17%	6.97%	6.78%	6.88%	6.68%	6.65%
Jönköpings län	5.46%	5.46%	5.27%	5.22%	4.56%	4.47%	4.48%	4.31%	4.37%	4.40%	4.31%	4.21%
Kronobergs län	3.25%	3.22%	3.25%	3.15%	3.24%	3.22%	3.26%	3.20%	3.25%	3.34%	3.39%	3.41%
Kalmar län	5.34%	5.49%	5.66%	5.70%	5.65%	5.48%	5.79%	5.76%	5.71%	5.85%	5.78%	5.81%
Gotlands län	1.37%	1.34%	1.37%	1.38%	1.32%	1.33%	1.37%	1.37%	1.35%	1.33%	1.28%	1.29%
Blekinge län	2.08%	2.18%	2.16%	2.79%	2.74%	2.77%	3.03%	3.18%	3.10%	3.19%	3.24%	3.19%
Kristianstads län	4.97%	4.86%	4.99%	4.84%	4.88%	4.89%	4.98%	5.12%	5.12%	5.20%	5.36%	5.31%
Malmöhus län	6.00%	5.83%	5.94%	5.82%	6.12%	6.17%	6.60%	6.97%	7.07%	7.21%	7.43%	7.54%
Hallands län	3.35%	3.38%	3.35%	3.34%	3.14%	3.13%	3.18%	3.18%	3.17%	3.11%	3.13%	3.13%
Göteborg/Bohus län	5.03%	5.03%	5.21%	5.10%	5.70%	5.84%	5.77%	6.13%	6.28%	6.19%	6.34%	6.36%
Älvsborgs län	6.22%	6.10%	6.14%	5.99%	6.24%	6.26%	6.16%	6.32%	6.58%	6.70%	6.80%	6.72%
Skaraborgs län	5.12%	5.25%	5.23%	5.09%	5.53%	5.41%	5.33%	5.37%	5.43%	5.40%	5.38%	5.38%
Värmlands län	5.33%	5.32%	5.34%	5.23%	5.40%	5.46%	5.37%	5.43%	5.67%	5.91%	6.04%	6.06%
Örebro län	3.96%	3.95%	3.96%	3.88%	4.01%	3.91%	3.87%	3.75%	3.89%	3.85%	3.83%	3.80%
Västmanlands län	3.80%	3.63%	3.59%	3.57%	3.35%	3.48%	3.27%	3.13%	2.92%	2.79%	2.63%	2.57%
Kopparbergs län	5.04%	5.11%	5.04%	5.04%	4.83%	4.83%	4.62%	4.40%	4.32%	4.08%	4.03%	4.04%
Gävlesborgs län	2.98%	3.01%	3.28%	3.32%	3.52%	3.51%	3.48%	3.51%	3.52%	3.47%	3.42%	3.44%
Västernorrlands län	2.18%	2.20%	2.18%	2.23%	2.34%	2.42%	2.62%	2.67%	2.80%	2.82%	2.95%	3.05%
Jämtlands län	1.05%	1.06%	1.05%	1.08%	1.13%	1.17%	1.30%	1.33%	1.36%	1.36%	1.40%	1.44%
Västerbottens län	0.96%	1.02%	1.02%	1.01%	1.38%	1.41%	1.32%	1.45%	1.61%	1.62%	1.81%	1.95%
Norrbottens län	0.86%	0.91%	0.92%	0.91%	1.24%	1.27%	1.14%	1.20%	1.27%	1.31%	1.41%	1.46%

Sources: our own calculations based on Enflo et al. (2014) and SCB (1955). Notes: for each benchmark we used the closest year as a reference.

Table 6. Agricultural and industrial wages in the Swedish counties (1750-1850, Sweden=1).

Agricultural wages	1750	1760	1770	1780	1790	1800	1810	1820	1830	1840	1850
Stockholms län	1.02	0.99	1.17	1.19	1.03	0.88	0.83	0.93	1.14	1.19	1.14
Uppsala län	1.02	0.99	1.56	1.06	1.03	1.18	1.12	1.25	1.23	1.24	1.11
Södermanlands län	0.65	0.68	0.58	0.92	1.03	0.88	0.74	0.83	0.76	0.89	0.77
Östergötlands län	0.76	0.74	1.02	0.79	1.03	0.96	0.83	0.83	0.85	0.89	0.77
Jönköpings län	0.97	0.99	0.88	0.92	1.03	0.96	1.03	1.12	1.02	0.99	1.03
Kronobergs län	1.30	0.99	1.17	1.06	1.03	0.88	1.12	1.12	0.94	1.07	1.03
Kalmar län	0.97	0.99	0.78	1.06	1.03	1.03	1.12	1.04	1.04	1.01	1.03
Gotlands län	0.51	0.49	0.88	0.66	0.77	0.88	0.70	0.93	0.85	0.89	0.85
Blekinge län	0.91	0.89	0.91	0.92	0.88	0.88	1.69	1.25	1.02	0.96	0.92
Kristianstads län	0.66	0.65	0.66	0.67	0.64	0.59	0.83	1.03	0.76	0.80	0.85
Malmöhus län	0.80	0.77	0.61	0.62	0.77	1.18	0.83	0.77	0.76	0.83	0.85
Hallands län	1.05	1.02	1.04	1.06	1.03	0.88	0.99	0.83	1.02	1.07	1.03
Göteborg/Bohus län	0.93	0.90	0.93	1.06	0.90	1.18	1.12	1.12	1.32	1.19	1.37
Älvsborgs län	1.36	1.32	0.93	1.06	1.03	1.03	1.12	0.93	0.76	0.71	0.77
Skaraborgs län	1.30	1.30	1.46	1.06	1.03	0.88	0.99	0.83	0.94	0.96	0.92
Värmlands län	1.30	1.24	0.68	1.06	1.03	0.88	0.74	0.83	0.94	0.96	0.92
Örebro län	1.30	1.24	1.10	1.06	1.03	0.96	0.70	0.73	1.00	0.97	0.85
Västmanlands län	0.65	0.99	1.02	1.06	1.03	1.18	1.12	0.93	1.05	1.01	0.92
Kopparbergs län	1.02	0.99	1.27	1.06	1.03	1.10	0.99	1.28	1.20	1.13	1.08
Gävleborgs län	0.89	1.11	0.95	1.06	1.03	1.03	1.06	1.12	1.16	1.07	1.15
Västernorrlands län	0.61	0.93	1.10	1.06	1.03	1.18	1.26	1.12	1.14	1.07	1.29
Jämtlands län	1.67	1.62	1.66	1.69	1.62	1.61	1.62	1.67	1.52	1.43	1.37
Västerbottens län	1.35	1.31	1.34	1.36	1.30	1.30	1.30	1.25	1.14	1.43	1.71
Norrbottens län	1.67	1.62	1.66	1.69	1.62	1.61	1.62	1.67	1.52	1.43	1.53

Sources: our own calculations.

Table 6. Agricultural and industrial wages in the Swedish counties (1750-1850, Sweden=1) (cont.).

Industrial wages	1750	1760	1770	1780	1790	1800	1810	1820	1830	1840	1850
Stockholms län	0.96	0.88	0.75	1.11	1.24	1.22	1.04	0.88	1.39	1.22	1.22
Uppsala län	0.75	0.75	0.76	0.74	0.73	0.73	0.74	0.75	0.72	0.73	0.73
Södermanlands län	1.06	1.07	1.08	1.05	1.03	1.03	1.05	1.06	1.02	1.04	1.04
Östergötlands län	0.94	0.94	0.95	0.92	0.91	0.91	0.93	0.94	0.90	0.92	0.91
Jönköpings län	0.94	0.94	0.95	0.92	0.91	0.91	0.93	0.94	0.90	0.92	0.91
Kronobergs län	0.94	0.94	0.95	0.92	0.91	0.91	0.93	0.94	0.90	0.92	0.91
Kalmar län	0.87	0.88	0.89	0.86	0.85	0.85	0.87	0.88	0.84	0.85	0.85
Gotlands län	0.81	0.82	0.83	0.80	0.79	0.79	0.80	0.81	0.78	0.79	0.79
Blekinge län	1.00	1.01	1.02	0.98	0.97	0.97	0.99	1.00	0.96	0.98	0.98
Kristianstads län	1.06	1.07	1.08	1.05	1.03	1.03	1.05	1.06	1.02	1.04	1.04
Malmöhus län	0.81	0.82	0.83	0.80	0.79	0.79	0.80	0.81	0.78	0.79	0.79
Hallands län	0.94	0.94	0.95	0.92	0.91	0.91	0.93	0.94	0.90	0.92	0.91
Göteborg/Bohus län	1.12	1.13	1.14	1.11	1.09	1.10	1.11	1.13	1.08	1.10	1.10
Älvsborgs län	0.81	0.82	0.83	0.80	0.79	0.79	0.80	0.81	0.78	0.79	0.79
Skaraborgs län	1.06	1.07	1.08	1.05	1.03	1.03	1.05	1.06	1.02	1.04	1.04
Värmlands län	1.19	1.19	1.21	1.17	1.16	1.16	1.17	1.19	1.14	1.16	1.16
Örebro län	1.12	1.13	1.14	1.11	1.09	1.10	1.11	1.13	1.08	1.10	1.10
Västmanlands län	1.06	1.07	1.08	1.05	1.03	1.03	1.05	1.06	1.02	1.04	1.04
Kopparbergs län	1.12	1.13	1.14	1.11	1.09	1.10	1.11	1.13	1.08	1.10	1.10
Gävleborgs län	1.25	1.26	1.27	1.23	1.22	1.22	1.24	1.25	1.20	1.22	1.22
Västernorrlands län	1.62	1.63	1.65	1.60	1.58	1.58	1.61	1.63	1.57	1.59	1.59
Jämtlands län	0.81	0.82	0.83	0.80	0.79	0.79	0.80	0.81	0.78	0.79	0.79
Västerbottens län	1.25	1.26	1.27	1.23	1.22	1.22	1.24	1.25	1.20	1.22	1.22
Norrbottens län	0.75	0.75	0.76	0.74	0.73	0.73	0.74	0.75	0.72	0.73	0.73

Sources: our elaboration from agricultural wages by Jörberg (1972), industrial wages in Stockholm by Söderberg (2010) and in Malmö by Gary (2017). The relative difference across counties in industrial wages is from Collin (2016).

Table 7. Regional iron ore production shares (1748-1850).

	1748	1763	1770	1780	1790	1805	1810	1820	1830	1844	1850
Stockholms län	1.17%	1.14%	1.17%	1.22%	1.27%	1.34%	1.27%	1.11%	0.95%	0.73%	0.66%
Uppsala län	10.14%	9.73%	9.60%	9.41%	9.23%	8.95%	8.35%	7.15%	5.95%	4.27%	3.75%
Södermanlands län	2.87%	2.87%	2.96%	3.08%	3.20%	3.37%	3.36%	3.34%	3.32%	3.29%	3.23%
Östergötlands län	4.08%	4.34%	4.34%	4.35%	4.35%	4.36%	4.39%	4.46%	4.52%	4.61%	4.59%
Jönköpings län	1.98%	1.86%	1.80%	1.71%	1.63%	1.50%	1.61%	1.84%	2.07%	2.39%	2.53%
Kronobergs län	1.72%	1.57%	1.62%	1.69%	1.76%	1.86%	1.79%	1.65%	1.51%	1.31%	1.23%
Kalmar län	2.53%	2.52%	2.40%	2.24%	2.08%	1.84%	1.82%	1.79%	1.76%	1.72%	1.68%
Gotlands län	0.65%	0.60%	0.57%	0.52%	0.48%	0.41%	0.44%	0.50%	0.56%	0.64%	0.68%
Blekinge län	0.14%	0.14%	0.12%	0.08%	0.05%	-	-	-	-	-	-
Kristianstads län	-	-	-	-	-	-	-	-	-	-	-
Malmöhus län	-	-	-	-	-	-	-	-	-	-	-
Hallands län	-	-	0.09%	0.21%	0.33%	0.52%	0.46%	0.35%	0.25%	0.10%	0.07%
Göteborg/Bohus län	-	-	-	-	-	-	0.02%	0.06%	0.10%	0.15%	0.22%
Älvsborgs län	1.64%	1.68%	1.73%	1.81%	1.88%	1.99%	2.13%	2.41%	2.70%	3.09%	3.26%
Skaraborgs län	2.19%	2.52%	2.47%	2.40%	2.33%	2.22%	2.21%	2.18%	2.15%	2.10%	2.06%
Värmlands län	18.96%	19.61%	19.37%	19.02%	18.68%	18.16%	18.39%	18.86%	19.32%	19.97%	20.01%
Örebro län	15.14%	14.35%	14.44%	14.56%	14.69%	14.87%	14.42%	13.51%	12.60%	11.33%	10.72%
Västmanlands län	12.97%	12.68%	12.62%	12.53%	12.45%	12.33%	12.05%	11.49%	10.93%	10.14%	9.72%
Kopparbergs län	8.69%	8.84%	8.90%	8.99%	9.09%	9.22%	9.67%	10.56%	11.46%	12.71%	13.17%
Gävleborgs län	9.80%	10.40%	10.61%	10.91%	11.22%	11.67%	11.63%	11.55%	11.47%	11.35%	11.16%
Västernorrlands län	3.83%	3.69%	3.70%	3.72%	3.74%	3.77%	4.28%	5.30%	6.32%	7.75%	8.51%
Jämtlands län	0.23%	0.23%	0.28%	0.35%	0.43%	0.54%	0.49%	0.38%	0.28%	0.14%	0.11%
Västerbottens län	-	-	0.18%	0.44%	0.70%	1.09%	1.11%	1.16%	1.20%	1.25%	1.26%
Norrbottens län	1.27%	1.24%	1.03%	0.74%	0.44%	0.00%	0.12%	0.36%	0.61%	0.95%	1.38%
Sweden	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Sources: Our aggregation of parish level data from Olsson-Spjut (2007). Notes: for each benchmark we used the closest year as a reference.

Table 8. Regional GDP per capita 24 counties in 1571.

County	GDP share	Population	GDP capita	Index
Stockholms län	8%	44,782	92	108
Uppsala län	5%	29,588	95	112
Södermanlands län	4%	27,547	82	96
Östergötlands län	6%	38,106	85	99
Jönköpings län	4%	30,399	77	90
Kronobergs län	3%	24,827	74	86
Kalmar län	3%	27,541	68	79
Älvsborgs län	5%	41,554	67	78
Skaraborgs län	4%	37,473	63	74
Värmlands län	1%	10,907	66	77
Örebro län	3%	16,949	91	106
Västmanlands län	5%	25,527	99	116
Kopparbergs län	4%	28,393	85	99
Gävleborgs län	4%	22,454	95	110
Västernorrlands län	3%	20,062	77	90
Västerbottens län	1%	7,650	91	106
Norrbottens län	1%	6,779	88	102
Old Sweden (marks)	35,806,502	440,537	81	95
Gotlands län	2%	12,398	84	98
Blekinge län	2%	12,123	83	98
Kristianstads län	8%	44,964	95	111
Malmöhus län	12%	65,632	101	118
Hallands län	4%	26,749	90	106
Göteborg/Bohus län	5%	25,031	111	130
Jämtlands län	1%	11,767	65	76
New Sweden (marks)	54,715,276	639,201	86	100
Share New Sweden	35%	31%		

Sources: our own calculations. Notes: Monetary values reported in marks.

Table 9. Sectoral shares of GDP 24 counties in 1571.

	Agriculture	Industry	Services
Stockholms län	32%	11%	58%
Uppsala län	62%	12%	26%
Södermanlands län	59%	12%	3%
Östergötlands län	56%	13%	3%
Jönköpings län	54%	15%	31%
Kronobergs län	53%	15%	33%
Kalmar län	44%	15%	42%
Älvsborgs län	46%	16%	38%
Skaraborgs län	46%	16%	38%
Värmlands län	52%	14%	34%
Örebro län	40%	34%	26%
Västmanlands län	46%	3%	24%
Kopparbergs län	42%	32%	26%
Gävleborgs län	61%	1%	29%
Västernorrlands län	57%	13%	31%
Västerbottens län	62%	12%	26%
Norrbottens län	61%	12%	27%
Old Sweden	50%	16%	34%
Gotlands län	42%	12%	46%
Blekinge län	39%	13%	49%
Kristianstads län	44%	12%	44%
Malmöhus län	48%	11%	41%
Hallands län	44%	12%	45%
Göteborg/Bohus län	54%	9%	36%
Jämtlands län	51%	14%	35%
New Sweden	49%	15%	37%

Sources: our own calculations.

Table 10. GDP per capita in the Swedish counties (1750-1850, Sweden=100).

	1750	1760	1770	1780	1790	1800	1810	1820	1830	1840	1850
Stockholms län	171	182	175	218	223	176	148	160	200	188	190
Uppsala län	121	112	151	112	111	119	112	123	119	117	105
Södermanlands län	70	75	67	93	98	90	81	88	83	93	87
Östergötlands län	81	83	99	83	99	98	90	89	91	94	87
Jönköpings län	74	78	71	72	80	76	84	85	81	79	81
Kronobergs län	81	69	78	70	71	66	82	78	70	76	72
Kalmar län	90	90	77	96	94	95	106	97	97	95	95
Gotlands län	64	65	89	77	87	91	80	96	91	93	91
Blekinge län	103	115	101	109	121	103	162	128	111	109	110
Kristianstads län	58	62	61	61	63	57	77	86	71	73	77
Malmöhus län	76	79	64	69	81	107	86	79	79	84	89
Hallands län	85	82	89	89	86	82	95	80	93	97	94
Göteborg/Bohus län	120	119	119	139	125	148	146	141	160	149	170
Älvsborgs län	92	88	73	77	76	81	92	77	67	65	67
Skaraborgs län	93	93	106	82	81	74	84	72	79	79	77
Värmlands län	118	104	84	92	85	86	75	86	92	94	88
Örebro län	127	111	114	96	90	97	77	85	98	96	86
Västmanlands län	94	109	113	106	105	116	108	103	109	109	101
Kopparbergs län	119	101	122	92	88	98	94	116	111	110	105
Gävleborgs län	116	125	117	117	112	114	111	121	121	118	121
Västernorrlands län	75	89	105	93	89	109	117	110	112	113	125
Jämtlands län	96	93	103	98	95	106	113	109	101	96	90
Västerbottens län	88	84	94	93	88	99	105	98	91	110	124
Norrbottens län	111	101	110	104	96	103	110	107	99	97	102
Sweden	100	100	100	100	100	100	100	100	100	100	100

Sources: our own calculations.

Table 11. Shares of total GDP in the Swedish counties (1750-1850).

	1750	1760	1770	1780	1790	1800	1810	1820	1830	1840	1850
Stockholms län	13.99%	15.99%	13.62%	16.31%	15.30%	12.98%	11.11%	11.54%	10.85%	10.06%	10.01%
Uppsala län	4.30%	3.97%	3.98%	3.81%	3.85%	3.79%	3.55%	3.34%	3.01%	2.81%	2.62%
Södermanlands län	4.10%	3.96%	3.98%	4.17%	3.96%	4.03%	4.10%	3.85%	3.71%	3.65%	3.47%
Östergötlands län	7.00%	6.90%	6.79%	6.83%	6.66%	6.84%	7.07%	6.77%	6.65%	6.77%	6.64%
Jönköpings län	4.46%	4.66%	4.47%	4.33%	3.92%	3.83%	3.98%	3.69%	3.81%	3.85%	3.75%
Kronobergs län	2.55%	2.59%	2.64%	2.48%	2.64%	2.70%	2.84%	2.68%	2.75%	2.80%	2.80%
Kalmar län	4.91%	5.02%	5.26%	5.34%	5.26%	5.16%	5.65%	5.47%	5.46%	5.58%	5.47%
Gotlands län	1.37%	1.31%	1.36%	1.43%	1.37%	1.35%	1.43%	1.41%	1.40%	1.38%	1.35%
Blekinge län	2.18%	2.54%	2.23%	3.08%	3.39%	2.96%	3.19%	3.36%	3.27%	3.45%	3.59%
Kristianstads län	3.81%	3.88%	4.05%	3.88%	3.98%	4.10%	4.44%	4.36%	4.43%	4.48%	4.64%
Malmöhus län	5.26%	5.27%	5.32%	5.44%	5.79%	5.84%	6.41%	6.61%	6.74%	7.00%	7.52%
Hallands län	2.67%	2.66%	2.84%	2.78%	2.58%	2.76%	2.96%	2.83%	2.85%	2.81%	2.82%
Göteborg/Bohus län	5.37%	5.40%	5.54%	5.77%	6.44%	6.45%	6.49%	6.66%	6.87%	6.85%	7.29%
Älvsborgs län	4.77%	4.73%	4.98%	4.66%	4.85%	5.22%	5.42%	5.33%	5.63%	5.77%	5.80%
Skaraborgs län	4.21%	4.43%	4.49%	4.29%	4.70%	4.68%	4.81%	4.67%	4.75%	4.72%	4.68%
Värmlands län	5.78%	5.22%	5.71%	4.91%	4.75%	5.30%	5.15%	5.46%	5.68%	6.02%	5.90%
Örebro län	4.53%	4.06%	4.40%	3.73%	3.66%	4.00%	3.80%	3.88%	3.93%	3.88%	3.71%
Västmanlands län	4.58%	4.17%	4.24%	3.90%	3.67%	3.87%	3.45%	3.53%	3.29%	3.17%	2.93%
Kopparbergs län	6.19%	5.43%	5.71%	4.82%	4.46%	4.76%	4.65%	4.67%	4.61%	4.47%	4.33%
Gävleborgs län	3.65%	3.53%	3.91%	3.75%	3.85%	3.91%	3.69%	3.94%	3.92%	3.91%	3.77%
Västernorrlands län	2.06%	1.93%	2.06%	1.94%	1.95%	2.22%	2.46%	2.56%	2.74%	2.88%	2.96%
Jämtlands län	0.75%	0.79%	0.79%	0.79%	0.86%	0.94%	1.09%	1.05%	1.08%	1.07%	1.08%
Västerbottens län	0.72%	0.76%	0.82%	0.80%	1.09%	1.22%	1.21%	1.28%	1.43%	1.45%	1.58%
Norrbottens län	0.80%	0.81%	0.83%	0.78%	1.03%	1.07%	1.02%	1.04%	1.13%	1.18%	1.27%
Sweden	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Sources: our own calculations.

Table 12. Shares of value added by sector in the Swedish counties, (1750-1850).

Agriculture	1750	1760	1770	1780	1790	1800	1810	1820	1830	1840	1850
Stockholms län	9.97%	8.97%	16.26%	10.22%	8.11%	11.89%	14.24%	12.52%	11.34%	15.01%	13.76%
Uppsala län	25.83%	25.59%	39.48%	28.47%	25.12%	38.04%	42.78%	39.38%	39.58%	40.21%	36.63%
Södermanlands län	31.02%	27.65%	34.95%	29.60%	30.78%	41.17%	41.57%	39.19%	37.55%	38.03%	33.26%
Östergötlands län	31.21%	26.66%	42.82%	32.00%	32.45%	41.70%	43.27%	39.78%	39.07%	38.77%	33.71%
Jönköpings län	41.96%	36.40%	47.03%	41.01%	37.61%	52.58%	56.54%	54.86%	51.75%	51.58%	49.89%
Kronobergs län	50.33%	40.72%	55.85%	46.12%	41.01%	53.83%	60.45%	57.21%	53.39%	57.71%	55.69%
Kalmar län	36.07%	32.74%	40.22%	35.72%	33.17%	46.70%	49.49%	45.28%	44.84%	45.01%	44.22%
Gotlands län	26.29%	22.58%	38.42%	26.38%	25.26%	39.25%	38.42%	38.01%	36.93%	37.25%	34.20%
Blekinge län	28.42%	22.26%	34.14%	26.88%	20.51%	34.02%	44.29%	36.42%	34.59%	28.38%	26.61%
Kristianstads län	38.82%	31.63%	44.45%	37.36%	32.66%	46.67%	52.93%	52.99%	46.84%	48.17%	46.45%
Malmöhus län	34.75%	29.63%	38.53%	29.50%	29.09%	47.12%	45.80%	40.93%	40.26%	38.74%	34.26%
Hallands län	43.31%	39.50%	48.65%	42.03%	39.31%	50.27%	53.89%	48.86%	50.61%	51.01%	48.57%
Göteborg/Bohus län	27.51%	23.94%	32.37%	26.24%	23.05%	34.84%	36.17%	35.37%	36.45%	33.70%	30.22%
Älvsborgs län	50.43%	45.76%	51.78%	46.67%	43.28%	57.02%	60.51%	55.08%	50.50%	49.97%	49.65%
Skaraborgs län	46.18%	41.23%	53.99%	41.70%	38.26%	51.19%	55.71%	49.68%	51.36%	53.08%	49.15%
Värmlands län	37.10%	36.16%	32.94%	36.71%	35.78%	42.96%	46.85%	42.02%	44.38%	44.40%	43.44%
Örebro län	32.92%	31.41%	37.05%	29.80%	29.77%	39.01%	41.55%	35.97%	42.46%	41.54%	39.52%
Västmanlands län	20.87%	24.64%	32.21%	28.41%	25.86%	38.58%	43.43%	34.46%	35.56%	34.28%	31.74%
Kopparbergs län	26.55%	27.89%	39.55%	33.02%	32.44%	44.52%	46.14%	44.08%	45.59%	43.75%	41.68%
Gävleborgs län	22.56%	23.54%	27.82%	25.45%	24.21%	34.04%	39.86%	34.92%	36.54%	33.70%	33.72%
Västernorrlands län	29.14%	33.65%	44.60%	40.17%	38.55%	49.82%	52.78%	46.29%	46.64%	42.53%	43.73%
Jämtlands län	60.34%	53.66%	66.44%	58.46%	53.19%	67.27%	70.98%	69.38%	67.99%	68.71%	66.81%
Västerbottens län	51.88%	48.01%	57.42%	48.83%	45.40%	57.46%	58.64%	55.39%	53.86%	57.61%	58.81%
Norrbottens län	45.42%	43.67%	53.99%	46.65%	45.49%	59.77%	61.00%	58.55%	53.13%	55.08%	54.40%
Sweden	31.31%	28.28%	38.18%	30.75%	28.76%	40.71%	44.73%	40.56%	40.59%	40.59%	38.52%

Table 12. Shares of value added by sector in the Swedish counties, (1750-1850) (cont.).

Manufacturing	1750	1760	1769	1780	1790	1800	1810	1820	1830	1840	1850
Stockholms län	14.90%	16.83%	12.58%	20.51%	28.28%	33.03%	25.24%	26.97%	32.18%	24.18%	28.98%
Uppsala län	3.00%	2.20%	1.45%	3.20%	6.67%	5.49%	4.19%	5.19%	4.51%	5.39%	8.79%
Södermanlands län	3.85%	5.24%	6.36%	12.95%	9.28%	10.33%	10.02%	12.13%	11.12%	13.64%	19.28%
Östergötlands län	5.12%	8.14%	2.68%	4.45%	4.98%	8.66%	7.24%	9.49%	8.91%	10.90%	16.77%
Jönköpings län	3.22%	4.85%	4.82%	3.05%	4.74%	3.91%	3.13%	3.74%	4.22%	5.34%	7.60%
Kronobergs län	0.92%	1.83%	1.63%	2.12%	3.70%	3.76%	3.07%	4.40%	4.65%	4.11%	5.66%
Kalmar län	1.73%	3.07%	3.13%	3.20%	4.01%	3.78%	3.61%	5.94%	4.93%	6.12%	7.22%
Gotlands län	0.30%	0.56%	0.74%	5.07%	6.30%	5.49%	6.25%	7.85%	5.66%	7.78%	11.68%
Blekinge län	1.87%	3.00%	3.93%	2.56%	8.25%	9.76%	5.89%	12.16%	10.56%	21.05%	24.61%
Kristianstads län	5.19%	7.89%	7.41%	6.07%	6.75%	6.58%	6.02%	7.96%	9.26%	10.94%	13.81%
Malmöhus län	4.26%	5.79%	5.06%	7.79%	7.49%	6.56%	6.26%	10.68%	9.23%	14.26%	20.88%
Hallands län	3.50%	5.48%	5.59%	4.02%	5.64%	5.26%	3.26%	6.15%	4.49%	6.88%	9.32%
Göteborg/Bohus län	2.30%	4.54%	5.03%	4.31%	6.58%	8.27%	7.92%	7.57%	5.01%	10.12%	15.77%
Älvsborgs län	2.39%	3.78%	3.93%	2.65%	3.12%	3.50%	2.42%	3.90%	4.05%	5.45%	6.79%
Skaraborgs län	2.09%	3.87%	3.06%	4.44%	5.03%	4.29%	3.19%	5.73%	3.93%	4.09%	8.19%
Värmlands län	1.56%	2.74%	2.83%	3.75%	4.54%	4.71%	2.78%	3.09%	2.44%	2.78%	4.11%
Örebro län	4.12%	8.53%	6.66%	8.67%	9.67%	8.00%	5.57%	6.34%	4.58%	5.96%	7.75%
Västmanlands län	3.48%	5.41%	5.27%	5.22%	8.00%	6.77%	5.46%	7.57%	6.90%	8.11%	11.21%
Kopparbergs län	2.89%	3.62%	2.65%	3.79%	4.94%	3.32%	2.41%	2.70%	1.28%	1.53%	2.26%
Gävleborgs län	5.70%	8.63%	9.74%	9.25%	10.20%	9.14%	6.92%	8.49%	6.30%	8.48%	10.60%
Västernorrlands län	4.31%	6.90%	4.32%	2.43%	3.84%	5.80%	5.78%	6.98%	4.97%	7.59%	9.30%
Jämtlands län	0.26%	0.85%	0.72%	0.99%	1.66%	2.40%	1.18%	1.73%	1.09%	1.76%	2.74%
Västerbottens län	0.49%	0.72%	1.20%	1.05%	2.46%	2.69%	3.63%	4.30%	3.88%	3.56%	4.26%
Norrbottens län	0.06%	0.20%	0.28%	1.24%	1.00%	1.37%	1.48%	2.05%	4.52%	2.84%	3.41%
Sweden	4.76%	6.87%	5.73%	7.39%	8.88%	8.94%	6.91%	9.24%	8.23%	9.52%	12.88%

Table 12. Shares of value added by sector in the Swedish counties, (1750-1850) (cont.).

Mining	1750	1760	1770	1780	1790	1800	1810	1820	1830	1840	1850
Stockholms län	0.83%	0.49%	0.66%	0.35%	0.30%	0.57%	0.41%	0.63%	0.43%	0.41%	0.33%
Uppsala län	23.48%	16.49%	14.94%	12.80%	9.41%	11.89%	7.26%	11.44%	10.05%	8.72%	7.92%
Södermanlands län	9.13%	5.93%	8.52%	4.07%	3.07%	4.95%	3.29%	5.87%	6.06%	6.30%	6.17%
Östergötlands län	6.93%	4.95%	5.16%	3.95%	2.51%	3.62%	2.35%	4.54%	4.36%	4.85%	4.71%
Jönköpings län	4.50%	2.67%	3.61%	2.21%	1.59%	2.21%	1.30%	2.79%	3.07%	4.10%	3.81%
Kronobergs län	5.64%	4.05%	4.50%	3.47%	2.55%	4.11%	1.91%	3.46%	3.28%	2.92%	2.48%
Kalmar län	5.23%	3.36%	4.48%	2.15%	1.52%	1.92%	0.98%	1.95%	1.81%	2.01%	1.75%
Gotlands län	7.39%	4.56%	3.79%	2.59%	1.61%	1.83%	1.33%	2.29%	2.60%	3.38%	3.32%
Blekinge län	0.69%	0.39%	0.45%	0.15%	0.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Kristianstads län	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Malmöhus län	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Hallands län	0.00%	0.00%	0.24%	0.38%	0.49%	1.13%	0.52%	0.87%	0.49%	0.21%	0.15%
Göteborg/Bohus län	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.05%	0.06%	0.13%	0.14%
Älvsborgs län	2.76%	1.99%	3.04%	1.99%	1.49%	2.05%	1.19%	2.91%	3.34%	4.45%	3.92%
Skaraborgs län	4.31%	3.21%	3.40%	2.85%	1.89%	2.83%	1.52%	3.20%	2.69%	2.99%	2.66%
Värmlands län	28.44%	22.28%	33.45%	19.76%	14.94%	20.02%	14.22%	23.20%	20.08%	22.07%	20.32%
Örebro län	29.13%	20.97%	25.40%	19.93%	15.26%	20.68%	15.52%	24.84%	18.30%	19.24%	18.04%
Västmanlands län	34.13%	20.19%	23.99%	16.48%	12.96%	15.75%	10.62%	20.47%	18.46%	20.59%	19.75%
Kopparbergs län	41.55%	30.29%	29.55%	23.13%	17.46%	20.71%	19.40%	24.66%	22.97%	26.60%	27.46%
Gävleborgs län	28.01%	18.25%	22.40%	14.68%	10.97%	15.74%	9.88%	16.38%	15.16%	17.88%	15.30%
Västernorrlands län	24.03%	12.90%	13.64%	9.71%	7.21%	8.07%	4.74%	11.33%	11.88%	16.30%	13.56%
Jämtlands län	2.17%	1.42%	1.97%	1.65%	1.44%	2.20%	1.02%	1.50%	1.08%	0.64%	0.46%
Västerbottens län	0.00%	0.00%	1.44%	2.32%	2.08%	3.98%	2.47%	4.59%	4.31%	4.27%	3.00%
Norrbottens län	11.13%	7.46%	6.96%	3.42%	1.20%	0.00%	0.27%	1.44%	2.31%	4.04%	4.58%
Sweden	11.62%	7.63%	9.28%	5.92%	4.30%	5.97%	3.84%	6.72%	6.20%	6.92%	6.17%

Table 12. Shares of value added by sector in the Swedish counties, (1750-1850) (cont.).

Private services	1750	1760	1770	1780	1790	1800	1810	1820	1830	1840	1850
Stockholms län	51.85%	41.13%	51.44%	49.35%	37.30%	36.77%	41.24%	42.81%	40.93%	46.37%	42.96%
Uppsala län	27.89%	25.18%	30.04%	32.32%	28.39%	27.53%	27.86%	28.40%	28.06%	29.65%	28.69%
Södermanlands län	26.19%	22.43%	21.84%	29.19%	27.74%	23.37%	21.78%	22.59%	21.37%	22.97%	20.72%
Östergötlands län	31.04%	25.71%	30.12%	32.64%	31.75%	27.28%	25.72%	25.99%	25.53%	26.42%	24.05%
Jönköpings län	22.48%	18.76%	18.57%	22.75%	20.33%	18.09%	17.74%	18.83%	17.72%	17.99%	17.92%
Kronobergs län	20.08%	15.57%	16.52%	19.58%	16.76%	14.05%	14.46%	15.07%	13.91%	15.00%	14.71%
Kalmar län	34.53%	30.26%	28.42%	36.38%	32.36%	29.10%	28.47%	28.94%	28.47%	28.81%	28.52%
Gotlands län	32.66%	26.88%	35.50%	36.26%	33.48%	33.29%	30.17%	33.35%	32.78%	32.76%	31.33%
Blekinge län	34.69%	26.25%	31.16%	34.33%	26.51%	28.36%	34.37%	32.21%	30.14%	28.92%	27.04%
Kristianstads län	21.98%	17.23%	18.49%	21.89%	18.25%	16.62%	17.45%	19.35%	17.06%	17.80%	17.53%
Malmöhus län	32.73%	26.65%	26.17%	29.14%	27.41%	28.91%	25.47%	25.49%	24.90%	25.85%	24.55%
Hallands län	33.48%	29.29%	27.96%	33.68%	30.28%	24.70%	23.89%	23.99%	25.06%	25.39%	24.60%
Göteborg/Bohus län	48.62%	41.09%	43.03%	49.34%	41.78%	41.88%	40.44%	41.83%	43.56%	41.96%	41.40%
Älvsborgs län	24.90%	21.68%	18.77%	23.93%	21.18%	17.92%	17.22%	17.23%	15.60%	15.63%	15.76%
Skaraborgs län	26.43%	22.81%	22.93%	25.34%	22.19%	18.91%	18.69%	18.43%	18.63%	19.27%	18.57%
Värmlands län	18.44%	17.29%	12.02%	20.03%	18.79%	14.54%	13.91%	13.68%	14.20%	14.39%	14.40%
Örebro län	20.39%	19.17%	16.98%	22.76%	21.05%	16.54%	15.25%	14.46%	16.73%	17.02%	16.26%
Västmanlands län	18.39%	21.10%	21.31%	27.59%	24.18%	22.86%	23.34%	20.40%	21.13%	21.09%	20.00%
Kopparbergs län	13.55%	13.44%	14.50%	18.75%	17.16%	15.01%	13.97%	14.78%	14.12%	13.74%	13.43%
Gävleborgs län	25.02%	25.14%	23.33%	30.53%	27.77%	24.73%	26.16%	25.35%	25.52%	24.96%	25.57%
Västernorrlands län	19.31%	21.54%	21.98%	27.99%	25.63%	21.79%	21.55%	20.48%	20.12%	19.13%	20.20%
Jämtlands län	16.09%	13.83%	13.14%	16.52%	14.48%	11.75%	11.07%	11.90%	11.36%	11.60%	11.48%
Västerbottens län	28.73%	25.35%	23.59%	28.67%	25.71%	20.80%	19.64%	20.21%	19.35%	20.73%	21.51%
Norrbottens län	28.37%	26.23%	25.03%	31.58%	29.21%	24.76%	23.27%	24.57%	23.82%	23.38%	23.42%
Sweden	30.54%	26.63%	27.18%	32.26%	28.19%	25.68%	25.41%	25.45%	24.96%	25.30%	24.56%

Table 12. Shares of value added by sector in the Swedish counties, (1750-1850) (cont.).

Public services	1750	1760	1770	1780	1790	1800	1810	1820	1830	1840	1850
Stockholms län	14.43%	25.02%	11.22%	13.28%	19.85%	9.95%	6.55%	6.96%	6.00%	5.28%	5.14%
Uppsala län	10.32%	20.36%	6.53%	13.00%	20.08%	7.42%	4.35%	4.58%	5.06%	4.28%	4.68%
Södermanlands län	13.43%	23.29%	11.18%	11.85%	17.32%	7.42%	4.55%	4.83%	5.51%	4.11%	4.31%
Östergötlands län	11.17%	20.23%	7.29%	12.78%	16.39%	6.61%	3.96%	4.59%	4.86%	3.91%	4.14%
Jönköpings län	13.74%	23.95%	11.34%	16.51%	22.70%	9.48%	4.75%	5.37%	6.10%	5.17%	4.98%
Kronobergs län	10.93%	23.61%	8.99%	14.77%	22.22%	9.47%	4.23%	5.11%	6.15%	4.71%	4.86%
Kalmar län	9.88%	18.08%	9.14%	10.81%	16.91%	6.63%	3.28%	4.14%	4.49%	3.77%	3.71%
Gotlands län	15.59%	28.04%	8.86%	15.05%	20.37%	7.72%	4.90%	4.65%	5.52%	4.28%	4.30%
Blekinge län	22.87%	37.82%	18.61%	25.28%	34.90%	16.33%	5.73%	8.33%	10.53%	8.69%	8.54%
Kristianstads län	14.81%	25.37%	11.28%	16.47%	24.55%	10.66%	4.38%	4.49%	5.93%	4.75%	4.44%
Malmöhus län	13.03%	23.19%	12.25%	16.82%	21.79%	6.57%	4.53%	5.65%	6.13%	4.72%	4.41%
Hallands län	6.00%	11.48%	4.54%	6.75%	10.66%	4.42%	2.11%	2.89%	2.72%	2.12%	2.16%
Göteborg/Bohus län	10.41%	19.24%	8.35%	10.51%	17.88%	5.98%	3.34%	4.00%	3.87%	3.36%	2.89%
Älvsborgs län	7.61%	14.48%	7.58%	10.60%	16.50%	6.08%	2.96%	4.10%	5.02%	4.33%	4.09%
Skaraborgs län	9.55%	17.49%	6.63%	12.69%	19.54%	8.47%	4.13%	5.56%	5.47%	4.50%	4.56%
Värmlands län	5.37%	11.22%	6.00%	8.08%	13.33%	5.25%	3.30%	3.32%	3.36%	2.71%	2.85%
Örebro län	4.81%	10.07%	4.27%	7.44%	12.09%	4.46%	3.12%	3.23%	3.03%	2.56%	2.81%
Västmanlands län	11.77%	18.80%	7.78%	12.23%	18.84%	6.80%	4.01%	4.86%	4.93%	4.11%	4.34%
Kopparbergs län	6.62%	14.36%	5.13%	9.97%	16.04%	5.71%	3.27%	3.07%	3.45%	2.89%	2.97%
Gävleborgs län	9.03%	15.44%	7.12%	10.50%	16.79%	6.51%	3.71%	3.91%	4.19%	3.57%	3.44%
Västernorrlands län	7.65%	11.88%	4.35%	7.20%	11.59%	3.76%	1.92%	2.37%	2.51%	2.05%	1.82%
Jämtlands län	10.07%	18.92%	7.45%	11.55%	18.10%	6.43%	3.33%	4.00%	4.61%	4.05%	4.21%
Västerbottens län	6.92%	13.36%	5.15%	7.72%	12.37%	4.38%	2.28%	2.81%	3.25%	2.25%	1.96%
Norrbottens län	6.46%	13.05%	5.16%	8.03%	13.27%	4.92%	2.55%	3.00%	3.51%	2.97%	2.79%
Sweden	10.41%	19.24%	8.28%	12.34%	18.52%	7.34%	4.04%	4.65%	4.97%	4.09%	4.01%

Table 12. Shares of value added by sector in the Swedish counties, (1750-1850) (cont.).

Services of dwellings	1750	1760	1770	1780	1790	1800	1810	1820	1830	1840	1850
Stockholms län	8.02%	7.56%	7.84%	6.29%	6.17%	7.79%	12.33%	10.11%	9.12%	8.75%	8.83%
Uppsala län	9.49%	10.18%	7.56%	10.20%	10.33%	9.63%	13.56%	11.01%	12.74%	11.74%	13.29%
Södermanlands län	16.38%	15.45%	17.15%	12.33%	11.81%	12.76%	18.80%	15.39%	18.38%	14.94%	16.26%
Östergötlands län	14.53%	14.31%	11.92%	14.18%	11.92%	12.12%	17.46%	15.60%	17.27%	15.14%	16.63%
Jönköpings län	14.11%	13.37%	14.64%	14.46%	13.03%	13.72%	16.54%	14.40%	17.14%	15.82%	15.80%
Kronobergs län	12.10%	14.21%	12.51%	13.94%	13.75%	14.79%	15.88%	14.76%	18.62%	15.54%	16.60%
Kalmar län	12.56%	12.50%	14.61%	11.74%	12.03%	11.89%	14.16%	13.76%	15.46%	14.28%	14.58%
Gotlands län	17.77%	17.39%	12.70%	14.65%	12.99%	12.42%	18.94%	13.85%	16.53%	14.55%	15.16%
Blekinge län	11.45%	10.29%	11.71%	10.80%	9.77%	11.53%	9.72%	10.89%	14.18%	12.96%	13.20%
Kristianstads län	19.20%	17.88%	18.38%	18.22%	17.79%	19.47%	19.23%	15.21%	20.92%	18.34%	17.77%
Malmöhus län	15.22%	14.73%	17.99%	16.76%	14.23%	10.83%	17.94%	17.25%	19.47%	16.43%	15.90%
Hallands län	13.70%	14.25%	13.03%	13.14%	13.61%	14.23%	16.33%	17.24%	16.63%	14.40%	15.21%
Göteborg/Bohus län	11.15%	11.20%	11.23%	9.60%	10.70%	9.03%	12.13%	11.19%	11.03%	10.73%	9.57%
Älvsborgs län	11.91%	12.32%	14.90%	14.16%	14.44%	13.42%	15.71%	16.77%	21.48%	20.17%	19.79%
Skaraborgs län	11.45%	11.40%	9.98%	12.97%	13.09%	14.31%	16.76%	17.39%	17.92%	16.07%	16.87%
Värmlands län	9.09%	10.32%	12.76%	11.67%	12.61%	12.52%	18.93%	14.68%	15.54%	13.65%	14.88%
Örebro län	8.64%	9.84%	9.64%	11.40%	12.15%	11.30%	19.00%	15.17%	14.90%	13.69%	15.62%
Västmanlands län	11.36%	9.86%	9.44%	10.07%	10.17%	9.25%	13.13%	12.25%	13.01%	11.83%	12.95%
Kopparbergs län	8.84%	10.41%	8.60%	11.34%	11.96%	10.73%	14.80%	10.70%	12.59%	11.48%	12.22%
Gävleborgs län	9.67%	8.99%	9.59%	9.59%	10.06%	9.84%	13.48%	10.95%	12.28%	11.41%	11.37%
Västernorrlands län	15.55%	13.12%	11.11%	12.48%	13.17%	10.77%	13.23%	12.56%	13.88%	12.41%	11.39%
Jämtlands län	11.07%	11.31%	10.29%	10.83%	11.13%	9.96%	12.42%	11.49%	13.87%	13.25%	14.30%
Västerbottens län	11.98%	12.56%	11.20%	11.40%	11.97%	10.69%	13.36%	12.70%	15.36%	11.58%	10.47%
Norrbottens län	8.55%	9.39%	8.58%	9.07%	9.83%	9.19%	11.43%	10.38%	12.71%	11.70%	11.40%
Sweden	11.35%	11.36%	11.35%	11.35%	11.36%	11.35%	15.07%	13.38%	15.04%	13.58%	13.85%

Sources: our own calculations.

Table 13. Population in the Swedish counties (1750-1850).

	1750	1760	1769	1772	1795	1800	1810	1820	1830	1840	1850
Stockholms län	146,694	164,709	168,177	177,719	161,117	172,133	163,347	172,505	183,913	193,436	206,483
Uppsala län	63,719	66,948	70,880	73,012	75,215	81,290	81,166	79,860	81,389	84,853	88,794
Södermanlands län	79,597	82,733	86,223	89,943	90,573	96,736	99,384	100,842	107,859	114,326	119,402
Östergötlands län	128,556	135,051	141,480	146,815	148,691	158,366	164,513	171,781	186,799	205,558	221,166
Jönköpings län	106,024	114,129	117,144	120,048	108,707	114,704	116,980	121,015	136,884	149,700	162,458
Kronobergs län	67,098	71,693	76,733	77,101	82,269	87,775	90,634	95,593	108,271	120,827	135,814
Kalmar län	95,788	105,984	116,134	120,945	124,360	129,801	139,432	149,237	165,027	183,604	200,981
Gotlands län	24,494	25,739	28,039	29,074	28,788	31,352	32,845	35,406	38,786	41,360	44,308
Blekinge län	35,596	40,074	42,279	56,359	57,547	62,524	69,701	78,601	85,364	95,312	107,188
Kristianstads län	90,086	94,864	103,445	103,742	108,645	116,909	121,392	134,086	149,722	165,023	188,504
Malmöhus län	104,873	109,654	118,696	120,361	131,198	142,334	154,948	175,854	199,239	220,525	251,585
Hallands län	58,074	63,187	66,557	68,535	66,827	71,739	74,224	79,738	88,591	94,444	105,100
Göteborg/Bohus län	76,326	82,059	90,369	91,527	106,054	116,902	117,472	134,321	153,389	164,122	186,472
Älvsborgs län	115,534	121,787	130,393	131,439	142,103	153,236	153,476	169,316	196,843	217,489	244,678
Skaraborgs län	97,648	107,675	114,048	114,651	129,436	135,962	136,479	147,873	166,661	180,113	198,713
Värmlands län	100,424	107,879	114,918	116,558	124,792	135,703	135,793	147,603	172,111	194,536	220,571
Örebro län	73,013	78,433	83,551	84,743	90,730	95,211	95,932	100,014	115,753	124,415	136,845
Västmanlands län	71,754	73,742	77,475	79,644	77,554	86,752	82,802	85,255	88,876	92,016	96,118
Kopparbergs län	97,160	105,913	111,080	114,775	114,232	122,864	119,519	122,296	134,238	137,427	150,600
Gävlesborgs län	53,669	58,265	67,640	70,812	77,915	83,423	84,205	91,354	102,292	109,230	119,446
Västernorrlands län	37,774	41,008	43,173	45,642	49,728	55,224	60,942	66,790	78,082	85,431	98,968
Jämtlands län	20,138	21,863	23,017	24,333	26,511	29,441	33,421	36,730	42,043	45,533	51,961
Västerbottens län	18,344	20,925	22,380	22,901	32,491	35,679	33,979	40,185	49,778	54,321	67,273
Norrbottens län	18,423	21,015	22,476	22,999	32,630	35,832	32,639	36,977	43,697	49,073	58,487
Sweden	1,780,807	1,915,328	2,036,308	2,103,680	2,188,114	2,351,893	2,395,226	2,573,235	2,875,607	3,122,673	3,461,914

Sources: our own calculations based on SCB (1955) rescaled to match with Schön and Krantz (2015, Table V). Notes: for each benchmark we used the closest year as a reference.