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# Lund Papers in Economic History



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# Regional GDP estimates for Sweden, 1571-1850<sup>1</sup>

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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 et al. (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.

JEL: N01, N13, N93

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## 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 et al. (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 (1570-2010). 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).

Another big challenge is the availability of reliable and homogeneous *regional* statistics before the mid-19<sup>th</sup> 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-18<sup>th</sup> 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.

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.<sup>2</sup> 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 19<sup>th</sup> century, Forsell remarked that the statistics from the 16<sup>th</sup> century appeared to be of no worse quality than the ones from his own time (Forsell 1872-83, 318).<sup>3</sup> The coverage of the source is of about 84,000 households and 500,000 taxed individuals, covering some 1100 parishes from Sweden at its historical borders.<sup>4</sup> 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.<sup>5</sup>

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<sup>2</sup> For a thorough discussion about the quality of the source, see Myrdal and Söderberg (1991).

<sup>3</sup> 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 parish. Yet, in his magnum opus there are a lot of additional material about estimated wealth, prices and production values besides the regional tables.

<sup>4</sup> Forsell’s (1872-83) compilation only covers the Swedish part of the country. For the Finnish part see Nummela (2011).

<sup>5</sup> 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.

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-17<sup>th</sup> 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 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.



*Figure 1. Sweden's 24 counties. "Old Sweden" in dark grey and the acquired counties of "New Sweden" in light grey.*



## 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).<sup>6</sup> 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 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 of dwellings 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/butcherries). 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.<sup>7</sup>

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<sup>6</sup> 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.

<sup>7</sup> 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 16<sup>th</sup> century, and the basis for regionalization of the shares would not differ even if a larger share of value added was apportioned into agriculture.

**Table 1. Sectoral distribution and regional principle for 1571.**

| Sector                       | Current prices | Share of total | Principle               | Source                            |
|------------------------------|----------------|----------------|-------------------------|-----------------------------------|
| Agriculture with ancillaries | 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 and 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).

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 Landbok (Blekinge and Scania), Husarbetsboken (Gotland) Trondheims Reformats (Jämtland/Härjedalen). Thus, the data from Andersson Palm covers Sweden at current borders.<sup>8</sup>

### **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.

#### *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 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.<sup>9</sup>

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

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<sup>8</sup> The interested reader is referred to Andersson Palm (2013) for more detail.

<sup>9</sup> Compared to Old Sweden, this raises the total value added of grains by 29% which is less than the proportion of population (31%).

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 16<sup>th</sup> century. The suspicion is also that Scanian cattle stock to a larger extent consisted of horses 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.<sup>10</sup>

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.<sup>11</sup>

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 hunting products were concentrated in these two most northern counties while fewer products were brought out from the rest of the country.<sup>12</sup> Accounts of export of furs from Norrbotten to Russia appear to have

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<sup>10</sup> Value added is raised by 40% for animal production and 35% for milk production in comparison with Old Sweden.

<sup>11</sup> 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).

<sup>12</sup> 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).

been similar in terms of value as the total export of furs from Stockholm at the same time.<sup>13</sup> 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 borders of the 16<sup>th</sup> 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, 21).

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<sup>13</sup> Friberg (1983) compares Stockholm's 3,000-4,000 skins with the 2,000-3,000 skins of upper Norrland and Finland.

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.<sup>14</sup> 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.

### *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 16<sup>th</sup> 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 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 17<sup>th</sup> century. This means that cooperative miners (berslag/bergmanstillverkning) might be underreported. However, cooperatives were

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<sup>14</sup> 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.



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).

**Table 2. Regional distribution of iron works in 1571.**

| County       | Number of iron works | Share |
|--------------|----------------------|-------|
| Stockholm    | 2                    | 0.02  |
| Uppsala      | 6                    | 0.07  |
| Östergötland | 1                    | 0.01  |
| Jönköping    | 4                    | 0.05  |
| Älvsborgs    | 2                    | 0.02  |
| Örebro       | 45                   | 0.54  |
| Västmanland  | 12                   | 0.14  |
| Kopparberg   | 12                   | 0.14  |
| Total        | 84                   | 100   |

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

Wood industries (including tar production, sawn timber and shipyards) were to play an important role in Sweden's industrialization from the 19<sup>th</sup> century onwards. However, in the 16<sup>th</sup> 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<sup>3</sup> per person during the 19<sup>th</sup> 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 not 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 16<sup>th</sup> 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.<sup>15</sup>

Despite the considerable attention to the value of home industries for GDP in for example Edvinsson (2013), 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.

### *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).<sup>16</sup> 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

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<sup>15</sup> Perhaps an adjustment upward to the value of linen production would be appropriate, but we decided to leave the revision for future research.

<sup>16</sup> 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.

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 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).

**Table 3. Regional GDP per capita 24 counties in 1571.**

| County              | GDP share  | Population | GDP capita | Index |
|---------------------|------------|------------|------------|-------|
| Stockholms län      | 8%         | 44,782     | 92         | 1.08  |
| Uppsala län         | 5%         | 29,588     | 95         | 1.12  |
| Södermanlands län   | 4%         | 27,547     | 82         | 0.96  |
| Östergötlands län   | 6%         | 38,106     | 85         | 0.99  |
| Jönköpings län      | 4%         | 30,399     | 77         | 0.9   |
| Kronobergs län      | 3%         | 24,827     | 74         | 0.86  |
| Kalmar län          | 3%         | 27,541     | 68         | 0.79  |
| Älvsborgs län       | 5%         | 41,554     | 67         | 0.78  |
| Skaraborgs län      | 4%         | 37,473     | 63         | 0.74  |
| Värmlands län       | 1%         | 10,907     | 66         | 0.77  |
| Örebro län          | 3%         | 16,949     | 91         | 1.06  |
| Västmanlands län    | 5%         | 25,527     | 99         | 1.16  |
| Kopparbergs län     | 4%         | 28,393     | 85         | 0.99  |
| Gävleborgs län      | 4%         | 22,454     | 95         | 1.1   |
| Västernorrlands län | 3%         | 20,062     | 77         | 0.9   |
| Västerbottens län   | 1%         | 7,650      | 91         | 1.06  |
| Norrbottnens län    | 1%         | 6,779      | 88         | 1.02  |
| Old Sweden (marks)  | 35,806,502 | 440,537    | 81         | 0.95  |
| Gotlands län        | 2%         | 12,398     | 84         | 0.98  |
| Blekinge län        | 2%         | 12,123     | 83         | 0.98  |
| Kristianstads län   | 8%         | 44,964     | 95         | 1.11  |
| Malmöhus län        | 12%        | 65,632     | 101        | 1.18  |
| Hallands län        | 4%         | 26,749     | 90         | 1.06  |
| Göteborg/Bohus län  | 5%         | 25,031     | 111        | 1.30  |
| Jämtlands län       | 1%         | 11,767     | 65         | 0.76  |
| New Sweden (marks)  | 54,715,276 | 639,201    | 86         | 1     |
| Share New Sweden    | 35%        | 0.31       |            |       |

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

In Table 4, 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 4. Sectoral shares of GDP 24 counties in 1571.*

|                     | Agriculture | Industry | Services |
|---------------------|-------------|----------|----------|
| Stockholms län      | 32%         | 10%      | 58%      |
| Uppsala län         | 62%         | 12%      | 26%      |
| Södermanlands län   | 58%         | 12%      | 30%      |
| Östergötlands län   | 57%         | 13%      | 30%      |
| Jönköpings län      | 54%         | 15%      | 31%      |
| Kronobergs län      | 52%         | 15%      | 33%      |
| Kalmar län          | 43%         | 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%         | 30%      | 24%      |
| Kopparbergs län     | 42%         | 32%      | 26%      |
| Gävleborgs län      | 61%         | 10%      | 29%      |
| Västernorrlands län | 56%         | 13%      | 31%      |
| Västerbottens län   | 62%         | 12%      | 26%      |
| Norrbottnens län    | 61%         | 12%      | 27%      |
| Old Sweden          | 50%         | 16%      | 34%      |
| Gotlands län        | 42%         | 12%      | 46%      |
| Blekinge län        | 38%         | 13%      | 49%      |
| Kristianstads län   | 44%         | 12%      | 44%      |
| Malmöhus län        | 48%         | 11%      | 41%      |
| Hallands län        | 43%         | 12%      | 45%      |
| Göteborg/Bohus län  | 55%         | 9%       | 36%      |
| Jämtlands län       | 51%         | 14%      | 35%      |
| New Sweden          | 48%         | 15%      | 37%      |

Sources: our own calculations.

### 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. For the Swedish regions, Enflo et al. (2014) demonstrate that the method produces reasonable results for the 19<sup>th</sup> and 20<sup>th</sup> century. We therefore decided to follow the same path to obtain our estimates for 1750-1850.

We therefore define regional GDP  $Y$  in county  $i$  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  $j$ , and  $L_{ij}$  the number of workers in county  $i$  and industry  $j$ .  $\beta_j$  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. 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.<sup>17</sup> 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 (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 5).

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<sup>17</sup> The censuses were actually carried on in 1751, 1760, 1769, 1780, 1790, 1800, 1810, 1820, 1830, 1840 and 1850. We decided to use 1751 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.

*Table 5. Value added in current SEK in branches of mining, industry and GDP (1750-1850).*

|      | Gold and<br>silver | Copper | Mining | Share of<br>gold and<br>silver in<br>industry<br>VA | Percent<br>copper<br>in<br>industry<br>VA | Industry | Share of<br>mining<br>in<br>industry | GDP     | Percent<br>Mining<br>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). 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 5 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 important 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 18<sup>th</sup> century it contributed with 11.6% of the total industrial value added. However, during the 17<sup>th</sup> 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.<sup>18</sup>

In terms of aggregation, we added building and construction to manufacturing and transportation and communication to private services because of lack of 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 CEDAR Umeå Demographic database. 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

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<sup>18</sup> Falu Coppermine was Europe's largest copper mine during the 17<sup>th</sup> 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).

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.<sup>19</sup> 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 total population of Sweden is quite stable, around 40% up to 2010.<sup>20</sup> 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.<sup>21</sup> Moreover, the labour force figures for services as a whole in 1850 appeared overestimated by some 10% compared to the ones by Enflo et al. (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.<sup>22</sup> 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 6 shows the resulting shares of labour force in each of the four sectors within in each county in three selected years.

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<sup>19</sup> This is for example the case of labour force figures for Italy, for which for instance Ciccarelli and Fenoaltea (2013) only use male employment to assess the provincial labour force. For a discussion on the bias introduced by women's employment see Ciccarelli and Missiaia (2013).

<sup>20</sup> This figure may appear low for modern Sweden, but do not forget that people today spend a larger proportion of their lives in education and retirement than ever before in history.

<sup>21</sup> 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.

<sup>22</sup> This assumption seems reasonable in light of the relatively stable share of services in GDP at national level.

*Table 6. 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 6. 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%  |
| Norrbottnens 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 6. 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 6. 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 6. 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%  |
| Norrbottnens 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 6. Labour force shares in the Swedish counties (1750-1850) (cont.).**

|                     | 1850        |        |        |                  |                 | Sum  |
|---------------------|-------------|--------|--------|------------------|-----------------|------|
|                     | Agriculture | Manuf. | Mining | Private services | Public Services |      |
| 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/bohuss 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% |
| Norrbottnens 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.



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 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.<sup>23</sup> 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 et al. (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 7 presents the regional shares of the national labour force calculated this way.

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<sup>23</sup> 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 et al. (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.

*Table 7. 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% |
| Norrbottnens 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).

### 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.<sup>24</sup> 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.

Figure 2. Ratio between industrial wages in Stockholm and Malmö (1750-1850).



Sources: for Stockholm Söderberg (2010), for Malmö Gary (2017).

<sup>24</sup> 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.<sup>25</sup>

For public services, we decided not to correct for regional differentials because of the homogeneity of the type of employment across counties.<sup>26</sup> Table 8 shows the estimated agricultural and industrial wages for all benchmark years.

#### 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 9 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 5), were allocated according to the shares in Table 9.

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<sup>25</sup> 13 1/3 öre silver per day for a night guard as compared to 14 öre silver per day in Kopparberg 1769 for a day labor in agriculture.

<sup>26</sup> 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.

**Table 8. Agricultural and industrial wages in the Swedish counties (1750-1850, Sweden=1).**

| Agricultural wages  | 1750 | 1760 | 1769 | 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 |
| Norrbottnens 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 8. Agricultural and industrial wages in the Swedish counties (1750-1850, Sweden=1) (cont.).**

| Industrial wages    | 1750 | 1760 | 1769 | 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 |
| Norrbottnens 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 9. 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%  |
| Norrbottnens 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.

## 4. Results

This section presents our GDP estimates. Table 10 provides the relative GDP per capita for the 24 Swedish counties in current prices.<sup>27</sup> Table 11 provides the shares of the total Swedish GDP that are allocated to each county.<sup>28</sup> Table 12 provides the breakdown of value added within each county into agriculture, manufacturing, mining, private services, public services and services of dwellings.<sup>29</sup> 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 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).<sup>30</sup>

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<sup>27</sup> 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.

<sup>28</sup> As above, the reader can easily work out the total GDP for each county in each year in SEK by applying the shares to the total GDP provided by Schön and Krantz (2015, Table I).

<sup>29</sup> 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.

<sup>30</sup> This procedure is pursued to ensure perfect consistency between our regional estimates and the SHNA estimates.



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

|                     | 1750 | 1760 | 1769 | 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  |
| Norrbottnens 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   | 1769   | 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%  |
| Norrbottnens 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   | 1769   | 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% |
| Norrbottnens 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%  |
| Norrbottnens 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   | 1769   | 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%  |
| Norrbottnens 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   | 1769   | 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% |
| Norrbottnens 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   | 1769   | 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% |
| Norrbottnens 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   | 1769   | 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% |
| Norrbottnens 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 by county (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           |
| Norrbottnens län    | 18,423           | 21,015           | 22,476           | 22,999           | 32,630           | 35,832           | 32,639           | 36,977           | 43,697           | 49,073           | 58,487           |
| <b>Sweden</b>       | <b>1,780,807</b> | <b>1,915,328</b> | <b>2,036,308</b> | <b>2,103,680</b> | <b>2,188,114</b> | <b>2,351,893</b> | <b>2,395,226</b> | <b>2,573,235</b> | <b>2,875,607</b> | <b>3,122,673</b> | <b>3,461,914</b> |

Sources: our own calculations based on SCB (1955) rescaled to match with Schön and Krantz (2015, Table V).

## 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 estimates from the second half of the 19<sup>th</sup> 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 has not only provided the GDP final estimates, but it has also taken the reader through each step of the estimation, including information 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 on regional development in the pre-industrial period.

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