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One and a Half Millennium of Economic Change in Sweden

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One and a Half Millennium of Economic Change in Sweden^{a)}

Olle Krantz

Abstract

Construction of historical national accounts has a long history in Sweden. It started in the interwar period and later a number of improvements and extensions backward and forward in time have been made. Thus, now there are series from 1300 onwards. Of course, due to limitations of the source material, the estimates are more and more uncertain the further back in time they refer to. In this paper GDP per capita for the entire period is analysed. Growth episodes and stagnation periods are identified and comparisons of income levels with other countries are made. It is found that Sweden was not distinctly backward at any time during the whole period. Economic changes before 1300 are also discussed on the basis of previous historical research. Hence, it is to a certain extent conjectures. There were long-term ups and downs in the economy also in this early period. Furthermore, it is questioned whether the old opinion of the area later called Sweden as very poor compared to the rest of northern Europe can be upheld. Scandinavia was for instance expansive internationally with trading and raiding in the Viking period. Could this have characterised a very poor region?

Keywords: historical national accounts; Sweden; GDP

JEL codes: N13; 044

Long-term economic change can be usefully studied with the help of historical national accounts (HNA). These have been developed methodologically and empirically mainly after the Second World War and have become an important basis for economic-historical research. Here especially Simon Kuznets and Angus Maddison can be mentioned as prominent figures. They collected and published data reconstructed by researchers in different countries.¹ Maddison also contributed to the increasing interest in recent years in data series for older times – well before 1800 – by making estimates and guesstimates and collecting series from other scholars. Later, new and improved series have been published and analyzed by researchers in a number of countries. Several factors have contributed to the interest in very long-term series, among other things the discussion concerning *the Great Divergence*. This alludes to the growing difference between Asian countries' economic growth, especially China's, and Europe's and the US', the latter being faster. The question is if these differences began in the late Middle Ages or later and if they are decreasing today, perhaps even turning to the contrary. Another reason for the interest is a desire to gain a better perspective on the Industrial Revolution.

For Sweden, systematic work on historical national accounts began in the interwar period. Gösta Bagge, professor of economics at Stockholm University, was the initiator and leader of what today would be called a research program, *Wages, Cost of Living and National Income in Sweden 1860-1930*.² Within the program a project on national income, which resulted in the work *National Income of Sweden* (NI), was led by Erik Lindahl and eventually completed under the leadership of Karin Kock. These highly ambitious and skillfully elaborated estimates covered the period 1861-1930.³

Work with historical national accounts has since continued and the series have been extended and the estimates improved.⁴ Data constructed by Statistics Sweden, which are available from 1950 onward, have also been used.

A major project called *Historiska Nationalräkenskaper för Sverige* (HNS) was launched at the Department of Economic History, Lund University by Olle Krantz and Lennart Schön in the late 1970s with the aim of estimating new series back to 1800 and revising and improving

^{a)} This is an extended version of a paper from 2018, *Seven Centuries of Economic Change in Sweden*. The author's e-mail adress is o.krantz@outlook.com.

¹ See e.g. Kuznets (1966) and Maddison (2007).

² A background of the program is given in Carlson (1982).

³ Lindahl et al (1937).

⁴ Lindahl (1956), Johansson (1967) och Krantz and Nilsson (1975).

existing series.⁵ This work resulted in necessary data being collected, but aggregation to totals was for various reasons delayed for a number of years.⁶ Meanwhile, the sub-series were used in other works.⁷ The project at Lund University was later expanded by estimation of series for Sweden back to 1560.⁸ A continuation back to 1300 was also planned, but regrettably Lennart Schön passed away before this plan could be put into practice. Therefore, Krantz alone made an estimate that was presented in 2017.⁹ Another project that was planned was to make an in-depth analysis of the very long-term economic change in Sweden. An introductory sketch of this work is presented in the present paper.

In what follows, the historical national accounts for Sweden are briefly presented. Thereafter, the series for GDP per capita for the entire period from 1300 until present times is dealt with. Then economic change before 1300 is discussed in a tentative way. Unfortunately, no GDP data (still?) exist for this early period. Instead, the text is based on accounts by historians on the course of events. Generally, emphasis is laid on growth and stagnation phases. An international comparison is also made where the Swedish economic performance as to long-term change and level in relation to other countries is discussed. In conclusion an attempt is made to systematize the very long-term pattern of economic development in the territory that nowadays constitute Sweden.

The period from 1300 onwards

The data

The design of HNS was essentially the same as the one developed in the pioneering project, NI, primarily by Erik Lindahl. The methodology is based on gross production series for sectors and branches that are allocated to different uses and aggregated to various series. This means that an input-output method, though crude, is applied.¹⁰

Gross production in the sub-industries and imports are allocated to the different uses by means of shares of input, consumption and investment. These shares are based on various

⁵ For a number of years, part of the work in the project was performed at the Department of Economic History, Umeå University.

⁶ Krantz and Schön (2007), Schön and Krantz (2012b), Schön and Krantz (2015). However, preliminary series for GDP were computed.

⁷ Particularly in Edvinsson (2005).

⁸ Schön and Krantz (2012a, 2015).

⁹ Krantz (2017).

¹⁰ The procedure is described in Johansson 1967, p 20.

studies and assumptions and are to a great extent obtained from NI. Inputs are then deducted from gross production in the different branches, which gives value added. Summation of these values give GDP on the production side. Consumption, investment, import and export appear in GDP on the destination (expenditure) side and can be computed. It is self-evident that in current prices GDP on the two sides are identities.

This very briefly described procedure applies primarily to the national accounts for the period 1800-1950. For the time period following, relevant series from Statistics Sweden's national accounts have been linked to the series up to 1950. This procedure means that the size of the aggregates constructed differs from the corresponding ones from Statistics Sweden.¹¹ For the time span before 1800, simplifications have been necessary due to lack of data, a problem that is becoming more and more accentuated the farther back in time the calculations pertain to.

In the Lund project the data collection resulted in a number of books where data and estimates for all parts were reported.¹² Data were gathered from a variety of sources. Official statistics contributed a large proportion; Sweden has, far back in time, a well-developed system for collecting and publishing statistics concerning a great variety of topics. An internationally well-known example is population statistics beginning in 1749. The Swedish Government official report system¹³ is also of old date and there is a large amount of statistical data to retrieve. All this applies not only centrally but locally as well. The five-year reports of the county governors are for example important. However, the statistics does not comprise all necessary information and the statistics is sometimes far from perfect. This is for instance true for the agricultural statistics. Therefore, estimates of different types were necessary. It should be added that data collected by other researchers from different sources have also been useful.

As mentioned, aggregated series for the entire HNS for the period from 1800 onwards appeared first in Krantz and Schön (2007). In this work, a new approach to deflation was tested. Previously, single deflation had been used in the HNA while double deflation was applied in the contemporary national accounts of Statistics Sweden as recommended by international statistics authorities.¹⁴ As data were available in sufficient quantities, double deflation was considered possible to be tested in the historical series as well. It was probably

¹¹ This procedure has not been observed by all users. Many have instead believed that there is something wrong with the series because they are not the same as those from Statistics Sweden!

¹² All data from the project as well as information on books and papers are available at <http://www.ekh.lu.se/en/research/economic-history-data/shna>.

¹³ Statens Offentliga Utredningar (SOU) and predecessors.

¹⁴ SNA2008.

the first time this happened in HNA and it was commented at international conferences where the series were presented. The comments were partly critical with the argument that the procedure reduced comparability with series for other countries where it was not considered that a sufficient amount of data of such quality existed that double deflation was possible. This criticism, among other things, led to a revision of the Swedish accounts and series with simple deflation were presented in 2012.¹⁵ Thus, data constructed according to both approaches are now available, which makes comparisons possible.¹⁶

In the project, a work had then been started to construct HNS further back in time. The reason was the above mentioned international discussions about *the Great Divergence* and the desire to get a better and longer term perspective on the industrial revolution. The estimates for earlier times for other countries also stimulated such work in Sweden. The outcome was series from 1560 onwards.¹⁷ However, it is quite obvious that the data are scantier and of more and more problematic quality the longer back in time they refer to.

Very important for the estimates of HNA, not least for early periods, are population data. Such data exist for Sweden back to 1749 and fairly reliable figures are available for some previous decades. For the whole period back to 1560 there are estimates. In the first reconstruction of HNR for this time span, Andersson Palm's computations¹⁸ were used, but they had certain weaknesses, and in 2014, improved data were published by Edvinsson,¹⁹ which were used in a revised version. Data constructions of various kinds were applied for various variables, for example, for agricultural production where a technique was used that is common in this context, viz. the *demand approach*, which is based on price data. Data for foreign and domestic trade are also examples of data that play an important role, and for these, estimates also had to be made.

For the period 1300-1560, the data access is of course even more limited. Population estimates are, for example, only available for a few years around the Black Death and, in addition, a short series for cities around Lake Mälaren exists. For agriculture there are price data, albeit far from complete, but still they made the demand approach feasible. Information on iron and copper production is accessible for a number of years and for textile production a

¹⁵ Schön and Krantz (2012a, 2012b)

¹⁶ Since all data are available at <https://www.ekh.lu.se/en/research/economic-history-data/shna>, it is possible to use other deflation methods as well, for instance employing deflation periods of a certain length. Thereby, the principles recommended in an earlier Nordic project can for instance be applied; see Grytten (2001).

¹⁷ Schön and Krantz (2012a, 2012b, 2015)

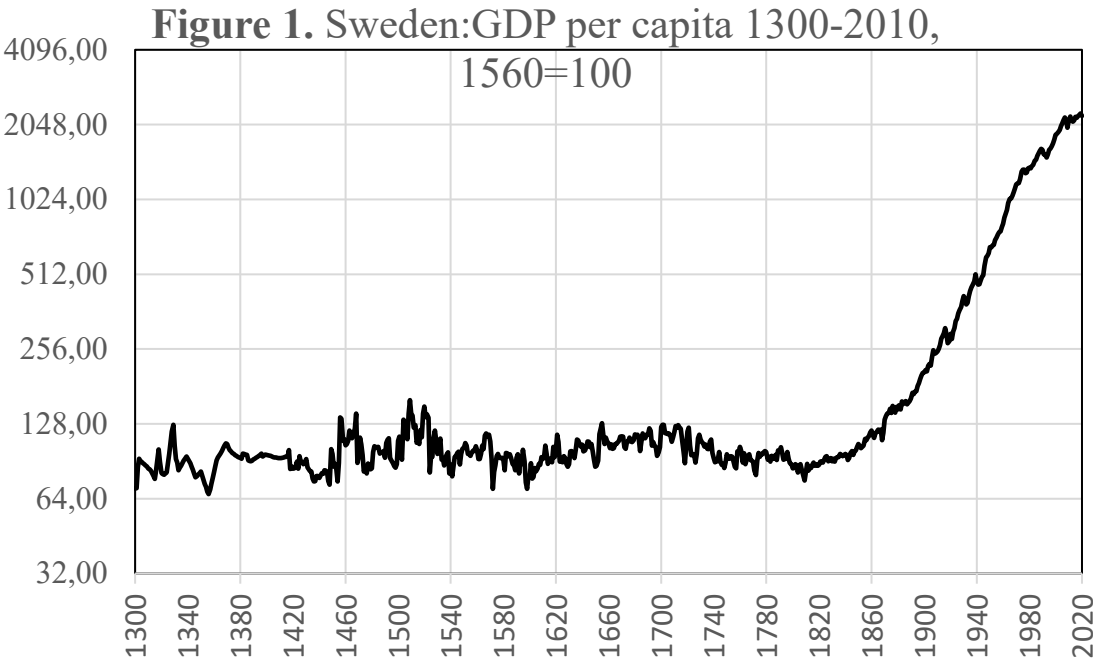
¹⁸ Andersson Palm (2000)

¹⁹ Edvinsson (2014).

form of demand approach was used. In general, interpolations and extrapolations had to be made in many cases, which means that short-term fluctuations should not be studied on the basis of the obtained series. It is almost superfluous to point out that the estimates for this early period are extremely uncertain, hence the title of the paper that reports the result: *Swedish GDP 1300-1560: A Tentative Estimate*.²⁰

Long-term Swedish development

The estimates briefly described above have made a series of GDP per capita 1300-2010 possible which is shown in figure 1.



Source: Swedish Historical National Accounts 1300–2020 | Lund University School of Economics and Management

First it should be emphasized that the data in figure 1 – which has also been pointed out above – are surrounded by margins of error. These are narrow towards the end of the period but get wider the further back in time they refer to. However, the errors are probably not of such a magnitude that the entire estimation is rendered unusable. During some periods, especially before 1560, the uncertainty may be large because the data used are particularly fragile. On the whole, however, the curve does not seem unreasonable.

²⁰ Krantz (2017).

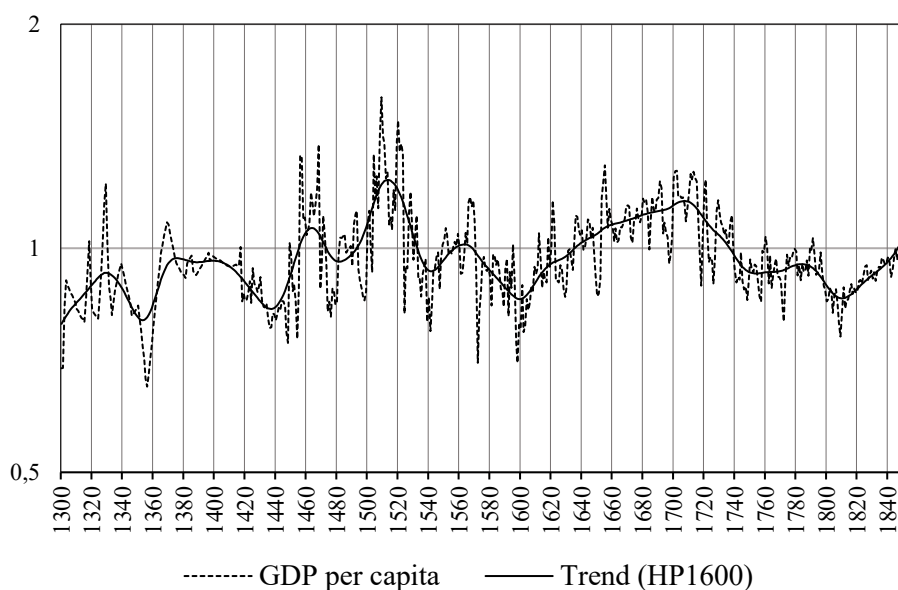
A first impression is that until the middle of the 19th century the changes were small; in the very long term, there seems to have been stagnation that was broken by a spectacular upturn. A clear boundary between two periods of very different character would thus exist in the first half of the 19th century. This phenomenon is familiar, the industrial breakthrough in Sweden. In turn, this was part of what is labelled *the Industrial Revolution* which was an international phenomenon. After about 10000 years of agricultural dominance, a period of industrial dominance began.²¹

It is of course not only in Sweden that a very long-term growth curve has a profile like the one in figure 1. Instead, it applies throughout the industrialized world, even if there are variations. It can also be added that the approximately 10000 years of agricultural dominance started with a similar change, which is called the agrarian revolution. This expression has also been diluted by its use for recent phenomena, such as the major changes in agriculture that preceded or occurred at the same time as the industrial revolution. It would be advantageous if some caution with terminology is exercised in historical contexts!

However, a conclusion of the type outlined about complete stagnation up to the industrial breakthrough is premature because the impression is governed by the great economic change that occurred in the 19th century. Thus, it turns out that shifts between growth and stagnation or decline can be distinguished in the long-term performance up to the 19th century. This is obvious in figure 2, the variations, however, being significantly less than in the 19th century which is not surprising due to the industrial break-through. Still there are important changes that are worthy of attention and analysis.

²¹ In this paper the industrial revolution refers to the "real" one. In recent decades, the expressions the first, second, third and now also the fourth industrial revolution have been introduced with the consequence that the term has been diluted and trivialized. In my opinion, there has been only one industrial revolution, namely the one that commenced in the decades around 1800. Similarly, there was only one agrarian revolution, i.e. the one about 10000 years ago.

Figure 2. GDP per capita 1300-1850, 1560=1



Source: See text

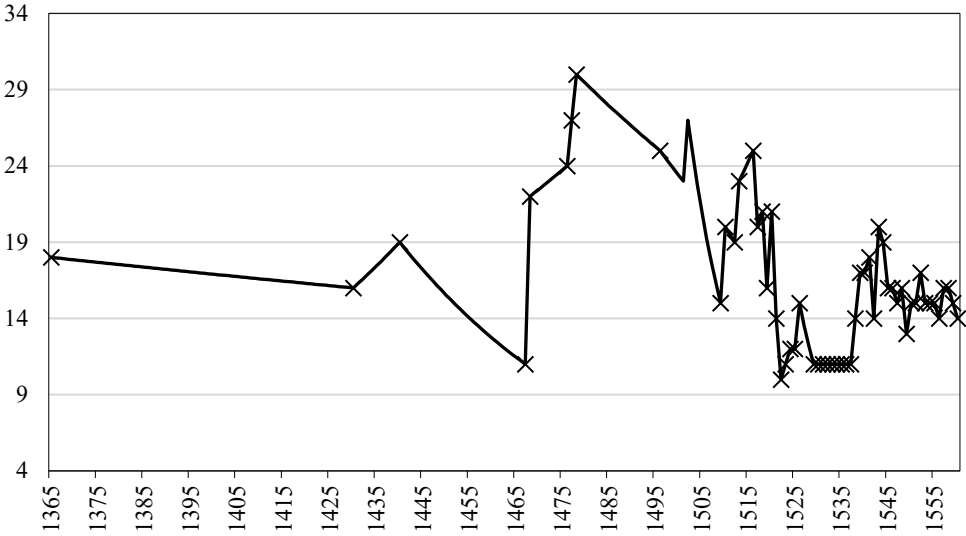
In general, the performance of the graph is as follows. In the first half of the 14th century, an upsurge occurred which was broken by the Black Death around 1350. It was followed by a turbulent period of stagnation or decline and some rise until a longer period of economic growth occurred in the second half of the 15th century. Then a decline ensued in the second half of the 16th century, after which economic growth characterized the entire 17th century. The 18th century came with decline and stagnation, which, as shown in figure 1, continued for a couple of decades in the 19th century before a turning point came with recovery and the industrial breakthrough.

Three growth phases (or episodes) are thus more or less clear. The first, i.e. in the first half of the 1300s, is probably a continuation of something that began in the previous century which appears to have been a very dynamic era with a "medieval modernization". Before that, Sweden was "a loosely interconnected kingdom, that only in the 13th century developed what could be called a state power."²² Now, a period of state building, Christianizing and Europeanization began. Thus, it seems that data for Swedish GDP in the 13th century – if they had existed – would have shown economic growth with a continuation in the first half of the following century. Probably it is a growth episode similar to those in the 1400s, 1600s and even that from the second half of the 19th century – the latter more powerful and radically different from the others. This early growth episode is dealt with more extensively below.

²² Lindkvist (2015) s 20ff, translated here.

The length of the second growth phase is somewhat uncertain, but it is likely that an increase occurred during the second half of the 1400s and the earlier decades of the 16th century. It came after a long troubled period following the Black Death. The fact that such a long-term process took place is indicated, among other things, by variations of the tax levels. According to a study by Retsö and Söderberg, the period 1320-1550 can be divided as follows: (1) a low-tax phase 1320-1363; (2) a high-tax one from 1363 to the Engelbrekt uprising 1434; (3) a new phase of low taxes until the mid-16th century. The high-tax period coincides with the economic stagnation and the troubled period after the Black Death, and thus with economically problematic times in contrast to the low-tax periods. The phase from about 1450 was "marked by low-tax regimes and favorable living conditions" but this "period of comparatively high living standards in Sweden is unlikely to have continued during the first decades of the 16th century."²³ According to Retsö and Söderberg, the pattern is supported by the long-term variations in the real wages. They are illustrated in figure 3. Data are not available for all years and therefore existing figures have been marked with crosses in the figure. It seems clear that an increase occurs from around 1425 and ends sometime during the first two decades of the 16th century. The changes thus coincide with the growth phase mentioned above that clearly appeared in the GDP per capita curve. Besides, this phase seems to have been shorter than the first and third ones outlined above.

Figure 3. Real wages in Sweden 1365-1560, index 1950=100



Source: Data from Söderberg (2010)

²³ Retsö and Söderberg (2015), p 12.

The third growth episode covers by and large the entire 17th century, that is, the time commonly referred to as the Swedish great power period – a designation especially popular among chauvinists.²⁴ It was a time bearing the stamp of war when Swedish forces, although in many cases consisting of mercenary troops, fought on the European continent and also on Swedish soil. In the historical literature the century has often been characterized as one of harsh conditions for the population with maintenance problems and major personal losses in the many wars. In particular, agriculture should have been affected. However, there is reason to make this view somewhat less rigid. As shown in figure 2, it was a long period of economic growth, which also meant economic transformation. In addition, the time was also characterized by state activity with the aim of achieving economic change. The administration was modernized and a renewal of the industry, among other things led by immigrated industrialists, was encouraged. Exports increased, which also led to capital imports. Urbanization occurred. The fact that much of this development had military implications because the country was belligerent for much of the century was of course negative. But it did not prevent growth to bring certain benefits to the population as well. Recruitment of soldiers took place, often from the lower strata of society, which obviously exerted influence on agriculture. Among other things, it may have meant that farming on inferior soils was shrunk or even abandoned. This may have resulted in increased overall productivity. At the same time, women played a greater role than before in the agricultural production. It is possible that there was still a certain shortage of labor which may have led to increased everyday rationalization and thus productivity growth as well as some wage increase. Therefore, the impact of the conscriptions of soldiers and the altered labor situation that followed may not have had a totally negative impact on production.

The periods between the growth phases were characterized by stagnation or even decline in economic activity as shown in figure 2. This applies to the period after the Black Death until about the mid-1400s, which can be described as adaptation following the great population decrease with all its consequences. Furthermore, what could be said to be a decline took place from about 1530 and especially during the latter part of the century, as already Heckscher pointed out.²⁵

²⁴ For a short analysis of the economy in this period, see Schön and Krantz (2012a), s 541f.

²⁵ Heckscher (1935-49).

After the third growth episode, a stagnation phase occurred with periods of decline during the first decades of the 1700s and in the decades around the turn of the century 1800. The stagnation period ended only when a recovery followed by the industrial breakthrough began. For the most part of the period in question, the designation the “Era of Freedom” has, for some reason, been coined. It was largely characterized by peace and this may even have contributed to the absence of economic growth, among other things as an effect of population growth. The government tried to implement various reforms that were expected to affect the economy in a positive direction, but the immediate impact was limited, as shown by the above-mentioned decline in GDP per capita in the decades around the turn of the century. This is also consistent with the decline in real wages which was pointed out by Lennart Jörberg in his price history. He states as an important factor that it was influenced by strong population growth which led to pauperization.²⁶

Among the attempts by the state to influence the economy in the 1700s the mercantilist policy can be mentioned. It aimed at stimulating economic growth. For example, manufactories were favored, i.e. a special form of companies that were heavily regulated.²⁷ However, the overall result was modest. Attempts were also made to stimulate exports and restrict imports. High population growth was also considered beneficial. Perhaps the most important element of the reform policy was the attempts to reorganize agriculture, especially through reforms aiming at redistribution of land. By doing so, agriculture was successively renewed, but a positive result for economic growth came only in the following century when the industrial breakthrough was stimulated by the changes.

The economic progress that began with the fourth growth phase is still continuing. Compared with the previous phases, it is different in that the growth is faster and persistent. The industrial era that followed resulted in a completely different society. It is probably also the case that this industrial society is now being superseded by what is designated as a service society, a digital society or any other name – there are many suggestions. Of course, these changes apply not only to Sweden but practically to the whole world, however with individual variations between – and even within – the different countries.

The rapid economic growth in Sweden from the mid-19th century involving the industrial breakthrough has been explained in several ways. One is that the main cause was an increase

²⁶ Jörberg (1972), p 186.

²⁷ Magnusson (1996). On the manufactories, see Krantz (1976).

in exports. Furthermore, it was facilitated by emigration which caused pressure of a growing population to be reduced. Thus, the growth and renewal of industrial production, not least of the steel and paper industries, as well as an emerging strong development of the engineering industry, was a response to international demand. This also included agricultural products, mainly oats to England. Another interpretation has given importance to development of agriculture and the major production changes there. The land redistribution mentioned above began to yield results as did significant rationalizations, land reclamations and new crops. Rapid growth of production followed. Imports of agricultural products that were previously important were now turning to large exports. All this meant income growth in agriculture and thus an increase in the domestic market for agricultural and particularly industrial products. However, these two interpretations, sometimes called the export school and the home market school, do not exclude each other. Rather, they are complementary; domestic market expansion and increase in exports led to the swift economic growth illustrated in figure 1.

The period before 1300

For the time before 1300 there are as mentioned no estimates of GDP per capita for Sweden, but on the basis of previous historical research, an idea can be obtained about long-term economic change even if it is uncertain. It should be added that in economic history the term economic growth usually has the meaning of long-term growth of GDP per capita. However, for this early period this kind of growth was almost certainly small and, when it occurred, mainly implied that the rich became richer while the poor remained more or less at the same level of living as before. Thus, it is perhaps better to use the term economic growth here as long-term increase of total production, i.e. extensive growth, which also could mean population increase, and save the term intensive growth, i.e. long-term change of GDP per capita, until measurement has been made.

Back in the Migration Period²⁸ there is very scarce or no information on macroeconomic changes and therefore only guesswork is possible. Besides, one could rightly ask if there is any sense in making such guesses. After all, there was certainly not a country named Sweden at that time, so why even talk about Swedish economic change then? Nevertheless, for what it is worth, some hints will be made here.

²⁸ The chronology used here is the accepted one in the Swedish literature on the Middle Ages and it is as follows (of course with approximate time limits): The Migration Period 375-550, The Vendel period 550-800, The Viking age 800-1050, The Early Middle Ages 1050-1200, The High Middle Ages 1200-1350 and The Late Middle Ages 1350-1520. It is reproduced here from Charpentier Ljungqvist (2016).

Around the year 536 an enormous catastrophe seems to have occurred. There was a severe cooling caused by large volcanic eruptions somewhere²⁹ followed by major epidemics and population decline. Probably this meant an interruption of economic better times that had lasted long. Gräslund writes for instance that Scandinavia “is characterized /.../ in the younger roman iron age and the Migration Time by a remarkable abundance of gold, mostly based on direct and indirect import from the Roman Empire via central and Eastern Europe”.³⁰ Then came the catastrophe followed by a protracted social and economic downturn. There was a “drastic reduction of human settlement, not least in the climate-sensitive Nordic region.” Population was probably reduced by 50 per cent.³¹ A comparison with what happened after the Black Death in the 14th century is appropriate here. Then it seems to have taken about one hundred years of adaptation before a recovery set in. If this was the same at this early occasion a recovery should have started around 650. At that time there was also an increase in iron production and probably some increase in foreign trade.³² In general, however, the positive changes were not very rapid and this lasted up to the Viking era. In the earlier centuries, i.e. before the catastrophe in the sixth century, there seems as mentioned to have been a more or less lively international trade and this was to a certain extent probably resumed in the eighth century and, thus, it constituted a prologue to the Viking epoch.

The Viking age was probably a period of great expansion as among others Boëthius has pointed out. It was important that shipping through improved sailing ships was developing strongly. "With the sailboats, it was suddenly possible to travel fast – even with a lot of loads – and over long distances. The Nordic region became less isolated than before."³³ After that, i.e. around 1050, a stagnation or even regression period, as mentioned above, commenced, but the question is whether it was also characterized by poverty compared with surrounding countries, including Denmark and Norway. If so, a question can be asked about the Viking Age: If it ended with a great relative poverty, despite the fact that it was economically expansive – it could actually have been a "vigorous expansion"³⁴ – how serious was then the relative and absolute poverty in the beginning of the Viking age? How could such an extremely poor country, much poorer than the rest of the world, develop the ability and power

²⁹ Charpentier Ljungqvist (2016), p 26, Gräslund (2018), pp 193ff.

³⁰ Gräslund (2018), p 44 (Translated here).

³¹ Gräslund (2018), p 193 (Translated here).

³² Charpentier Ljungqvist (2016), p 28.

³³ Charpentier Ljungqvist (2015), s 279 (Translated here).

³⁴ Boëthius (1965), s 73 (Translated here).

needed to achieve a significant shipbuilding and seafaring ability, and then excel internationally with conquests or, at least, victorious intrusion in other much richer geographical areas? The fact that such power development took place in Denmark and Norway is easier to understand because, according to the above comments, they would have been clearly richer than Sweden. If these circumstances actually prevailed, the process could be called a Swedish economic miracle. Doubt about this and, thus, Sweden's alleged relative poverty, seems justified.

One circumstance that indicates that the period after the Viking Age was hardly a period of great decline is that agriculture seems to have developed positively. Söderberg writes under the heading *the agrarian community*: "Towards the year 1000, there was an economic upturn in Europe." "Sweden was part of this European process in the early Middle Ages."³⁵ In the final chapter, it is said: "The old Middle Age was the most dynamic in terms of agricultural development."³⁶ However, it is likely that the period from 1050 to 1200 in comparison with the Viking Age as a whole was characterized by slower growth or stagnation.

After the stagnation period in the Early Middle Ages, a new period of expansion began during the High Middle Ages. It was to a high extent linked to the development of Christianity that had begun during the period before. In connection with this, the country also began to be organized in a more comprehensive way than before. Christianity was, thus, largely established as a central factor during this century. The parish structure in the country was mainly formed in this period, which also meant a period of significant church and monastery building.³⁷

Construction activities increased, partly by the fact that sacred buildings were added, partly because castles, mansions and other major houses were built to an increasing extent. The fact that the construction of churches strongly increased is indicated by the Swedish parish system that was formed and gradually comprised c. 2500 parishes, usually with at least one church in each parish. In addition, the construction of monasteries increased. It is difficult to find good statistical information concerning the annual development of churches, but for the number of monasteries there are data. These are shown in figure 4, with data for Sweden (excluding

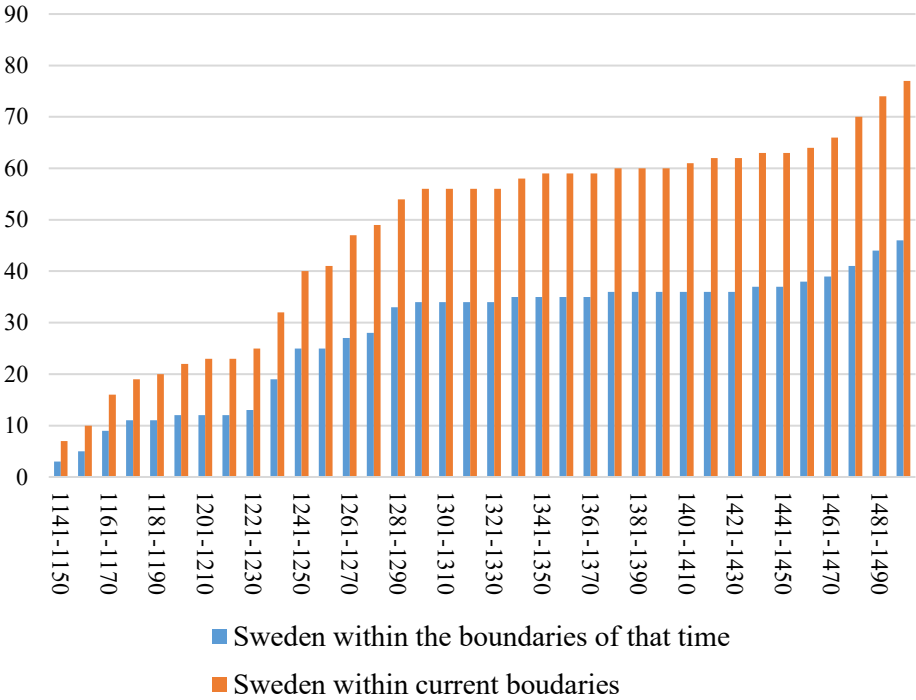
³⁵ Söderberg (1996), s 17 (Translated here).

³⁶ Söderberg (1996), s 216 (Translated here).

³⁷ Dahlberg (2008) and Berntson (2003).

Finland) within the limits of the time, as well as Sweden within the limits of today, ie with Skåneland, (Skåne, Blekinge and Halland), as well as Bohuslän included.

Figure 4. Monasteries in Sweden in the Middle Ages



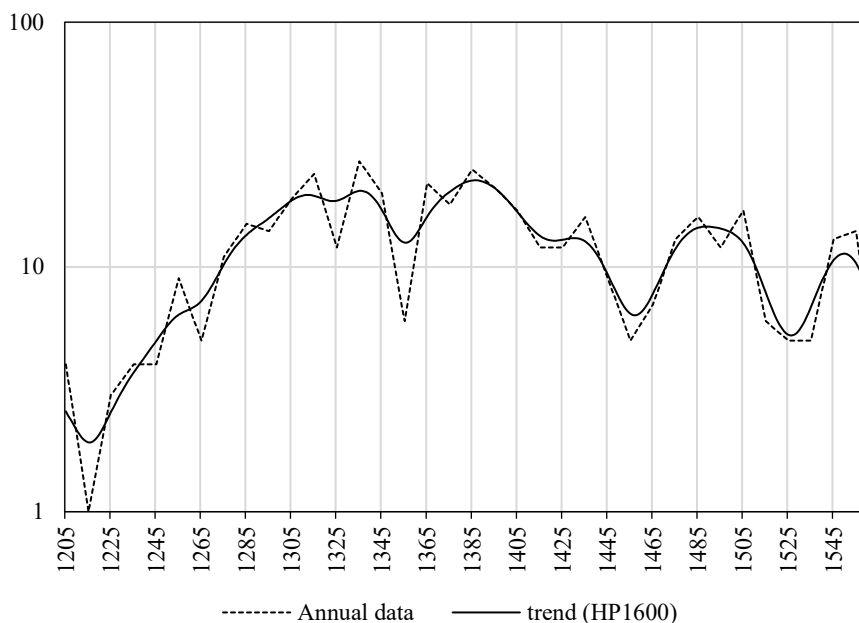
Source: See note 38.

According to the data on which figure 4 is based, there were 46 monasteries in Sweden in the end of the Middle Ages. Of these, 35 were built before 1350, when the Black Death occurred, and thus the end of the growth period. In the remaining part of the Middle Ages, the other 11 were added. In Bohuslän, there were a total of four monasteries during the period under review and they were all built before the end of the 1200s. In total in Norway there were 30 including the four mentioned. In Skåneland, which belonged to Denmark, there were a total of 27 monasteries, and in Denmark except these there were 122. The sparsely populated countries of Sweden and Norway thus had much fewer monasteries than the densely populated Denmark. In this respect, Skåneland clearly is similar to the rest of Denmark. From these data it is clear that this was a period of expansion.

Profane construction, which is building of castles, fortresses, mansions and the like can be seen as an indicator of economic change. An attempt to estimate a series for the period 1200-1560 has been made here. The procedure is accounted for in *Appendix* and the series is shown

in figure 5. A clear picture appears for the 13th century. There is a sharp upturn that clearly indicates economic growth. When a comparison with GDP per capita can be made from the year 1300, there are clear similarities between the performances of two curves.

Figure 5. Building of castles etc. 1205-1560



Source: See Appendix

Iron production in Bergslagen and Småland, the latter based on bog ore, also contributed to the economic growth. The importance of this has been noted more than before in recent years.³⁸ There was for instance a great boom in the 13th century, when many blast furnaces were established.³⁹ The dynamics is also visible in other ways. By the end of the 16th century, for example, there were slightly more than 70 cities in Sweden. 30 of these, or 42 percent, had been founded before 1300, most of them in the 13th century.⁴⁰

An international comparison

Sweden has often been described as a very poor country in the 19th century, perhaps being the poorest in Europe. Through a uniquely rapid economic growth that began in the second half of the century, the country became one of the richest in the 1970s. This has become something of an established self-image, a stylized fact. Any attempt to problematize it is a voice crying in the desert!⁴¹

³⁸ See e.g. Berglund (2015).

³⁹ Karlsson (2015), s 192.

⁴⁰ According to data from Orrling (2001), s 363f.

⁴¹ See e.g. Krantz (2008).

However, it is not only regarding the 19th century that the opinion of Sweden as an extremely poor country has been dominating. Actually, this is the main view of the country's economy far back in time: "If one/.../ should summarize the character of Sweden's medieval economy in its entirety, it may be said to have been primitive to a far greater extent than most western and central European countries; and the difference was greater than in the following periods."⁴² With this view Eli Heckscher launched a lasting idea of the state and long term development of the Swedish economy. In 2011, for example, Bo Franzén wrote: "Sweden 800 years ago was an underdeveloped society. This applies even if we compare with Denmark and Norway. /---/ Compared to the contemporary Danish landscape of Skåne, Västergötland was 1200, not at all as commercialized and urbanized, but compared to other Swedish counties, Västergötland appears as the most economically developed."⁴³ Franzén notes, for example, that in Sweden 800 years ago – which means around 1200 – there were only four cities. "In addition to Sigtuna in Uppland county (Birka's successor), we find Söderköping in Östergötland county and the radar pair Skara and Lödöse in Västergötland county."⁴⁴

The information that there were only four cities in the country could of course be an indicator of backwardness, but it is hardly a proof. These four cities were situated in Sweden (excluding Finland) within the limits of that time, i.e. without Skåne, Blekinge, Halland, Bohuslän and Jämtland. In these counties, there were towns according to written sources, namely Helsingborg, Lund and Kungahälla.⁴⁵ In addition, there may have been cities throughout the country that were founded before 1200, as suggested by archaeological material. The following could thus be added:⁴⁶

County	Towns
<i>Skåne:</i>	Simrishamn, Skanör, Tommarp, Trelleborg, Vä, och Åhus;
<i>Halland:</i>	Halmstad/Övraby;
<i>Småland:</i>	Kalmar och Växjö;
<i>Östergötland:</i>	Linköping, Norrköping och Skänninge;
<i>Södermanland:</i>	Nyköping, Strängnäs och Tälje;
<i>Uppland:</i>	Enköping, Stockholm och Uppsala;
<i>Västmanland:</i>	Västerås;
<i>Gotland:</i>	Visby;

⁴² Heckscher (1960), s 88. (Translated here) The first edition from 1941.

⁴³ Franzén (2011) (Translated here).

⁴⁴ Franzén (2011) (Translated here).

⁴⁵ Orrling 2001, s 363f.

⁴⁶ Orrling 2001, s 363f.

Thus, there may have been between seven and 27 cities in Sweden (within the borders of today) before 1200. Even if some of them were small and maybe not looking like towns, they may have been important for trade, both domestic and, in particular, foreign, even if – as Heckscher claimed – trade diminished in the period after the Viking age.

The number of cities and their size could also have to do with population density. A comparison with England shows that around the year 1300, there were approximately 36.4 persons per square kilometre, while the corresponding figure for Sweden was 1.6 according to the uncertain population data available. It is, though, to be noted that the very sparsely populated area, however large, that is Norrland is included in Sweden. If Norrland is excluded (with the unrealistic assumption that the whole population lived in the rest of the country) the Swedish population density was 2.9, which still means a significant difference in relation to England.⁴⁷ That England had a greater town population than Sweden in absolute terms and as a share of the country's population is thus not very strange. It has been estimated that the proportion in England in 1086 was 5.5 – 6.5 per cent and in 1377 8.5-10 percent. However, the numbers are unsafe and some, mainly small, towns may have been omitted. The urban share of Sweden is even more uncertain. If it is estimated only with the four cities that Franzén wrote about, it may have been 0.5 per cent, which it was also in 1570, but it should have been bigger if all the cities mentioned above are included. However, it is not likely that the proportion even came close to the English.

The year 1200 represented the end of a period most marked by economic stagnation or even decline which had begun when the Viking era approached its end, ie around 1050. Then a period began in Sweden called the early Middle Ages. This period is characterized by Franzén as "economic regress in the transition between the Viking Age and the Middle Ages" and he believes that "the hypothesis of Swedish economic decline from the mid-eleventh century /.../ is justified."⁴⁸ Boëthius also gives a clear characteristic: "It was a long phase of isolation and retardation, which followed the vigorous expansion of the Viking era and extensive trade journeys."⁴⁹ This period also appears to have been characterised by stagnation or maybe regression internationally.

⁴⁷ Population data for England according to Broadberry et al (2010) and for Sweden according to Krantz (2017). Territorial data according to *Swedish Statistical Yearbook*.

⁴⁸ Franzén (2015), s 84 (Translated here).

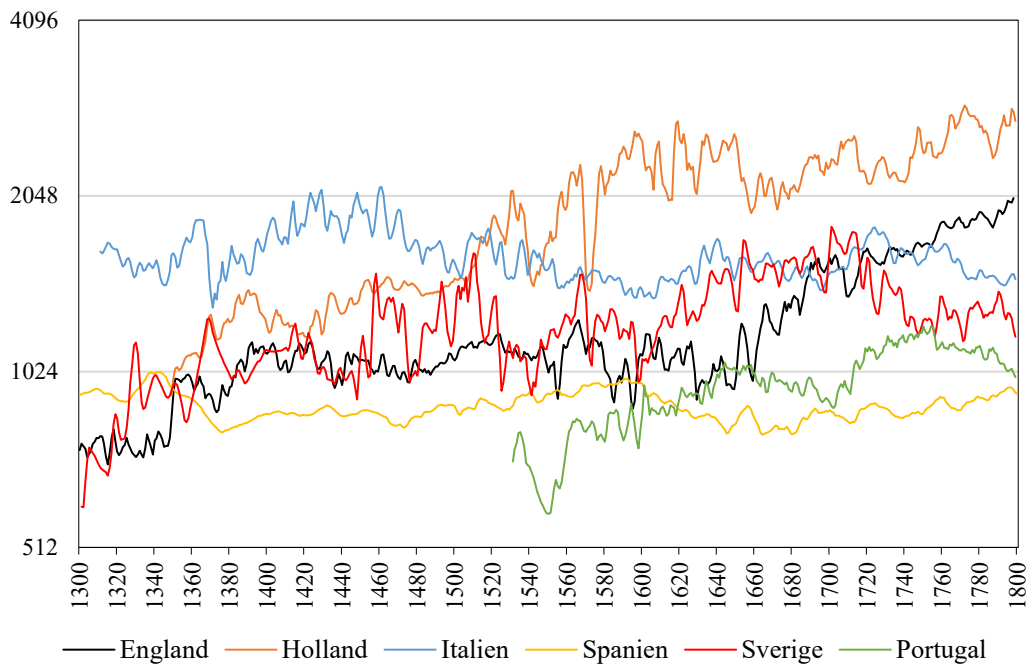
⁴⁹ Boëthius (1965), s 73 (Translated here).

Through the development of the international as well as of the Swedish historical national accounts, it is now possible to give a long time perspective on the view of Sweden as an economically backward country up to the 19th century. The new data are not a final proof that the old view is incorrect but they constitute a clear indication.

Long series for some countries up to 1800 have been collected and analyzed by Fouquet and Broadberry (2015). They use GDP per capita for England starting 1300, Holland 1348, Italy 1310, Spain 1300, Sweden 1560 and Portugal 1530. One important observation that they make is that the old idea of a stagnant economy before the industrial revolution is wrong. Instead, major changes occurred, and in particular growth and decline phases, which could also be called growth episodes and growth reversals, can be identified. Consequently, periods of convergence and divergence between countries can also be distinguished, with different economically leading countries appearing while others receded. Figure 6 reproduces the series analyzed by Fouquet and Broadberry with addition of data for 1300-1560 for Sweden.

The construction of figure 6 was made in such a way that the GDP per capita series for the different countries were linked to the values for 1800 expressed in \$(1990), which in turn were obtained through linking to data in Geary-Khamis's dollars for the year 1990. It hardly needs to be noted that the outcome of such calculations is uncertain. Over the long period between 1800 and 1990 much happened, especially the industrial revolution, and thus the transition from an agricultural to an industrial society. Furthermore, there was a rapid economic growth. However, control and adjustment of the purchasing power parities due to these and other conditions have not so far been done; actually this would certainly be difficult. That the problems become even greater when counting back to 1300 – still in \$(1990) – is hardly surprising. Thus, there are margins of uncertainty around the values in figure 6, but, nevertheless, they can reveal something about the relationships between the countries. In general, however, it must be emphasized that the results should be treated with great caution.

Figure 6. GDP per capita in six countries 1300-1800



Source: Fouquet and Broadberry (2015) and Krantz (2017).

The growth episodes that Fouquet and Broadberry discern are an Italian one that begins immediately after the Black Death and ends in the 15th century, a Dutch one that lasts throughout the 16th century, a Swedish one that is most apparent in the first half of the 17th century and finally an English one beginning in the second half of the 17th century. "Clearly, these pre-nineteenth century European economies were not stagnant."⁵⁰

In several cases, the growth phases were followed by growth reversals. Italy met with a long-lasting one after its success, and Sweden experienced "a collapse in the early eighteenth century, as it lost its great power status", and stagnation was as mentioned then clear throughout the century. Portugal had a dramatic "collapse" in the first half of the 16th century due to difficult weather conditions, and a second one came after the earthquake in Lisbon in 1755. Spain had a phase of decline in the 17th century, which was linked to the resource curse resulting from silver mining in the colonies.⁵¹

Another observation in figure 6 is how the Swedish economic level, relates to those of the other countries. As mentioned above, it is a common view that Sweden was one of Europe's poorest countries, perhaps the poorest of all before the industrialization. This "peripheral

⁵⁰ Fouquet and Broadberry (2015), p 231.

⁵¹ Fouquet and Broadberry (2015), p 231.

economy of medieval Europe"⁵² should, thus, have been poor also in the Middle Ages. Low prices relative to other countries are considered as an indication of this according to Franzén and Söderberg (2006). They compare the grain prices in Europe and maintain that because Sweden had relatively low prices (expressed in silver), the country was also backward in comparison to North-Western Europe; Sweden had "comparatively low welfare". However, the Polish areas were even more backward.⁵³

The curves in figure 6 do not support the idea of Swedish extreme backwardness. The Swedish curve is at about the same level as the English or sometimes even higher up to the 18th century while Italy up to the 17th century and Holland are clearly above. Spain and Portugal on the other hand were clearly below the Swedish level. Also in view of the margins of uncertainty, these findings appear valid. Even if it is assumed that the Swedish curve is 10-20 percent too high, a conclusion on severe relative poverty does not seem to be supported by this comparison.

As pointed out above, the Swedish economy was characterized by growth in the 17th century, particularly in the first half, while the English economy stagnated. In the second half of the century, England entered a growth phase, while Sweden's expansion slowed down. Then, a spectacular conversion occurred. England's growth continued and eventually led to the industrial revolution. Sweden's performance was different, stagnation and decline in the 18th century, which led to pauperization being considerable in the early 19th century. Only after a few decades, as shown in figure 2, and as observed above, a turn came that led to the industrial breakthrough. Sweden had then gone from being economically successful in the 17th century, even internationally seen, to be relatively poor in the first half of the 19th century. But poorest in Europe? Even though data for many countries are very uncertain or even missing, it seems hardly reasonable to draw that conclusion.

Thus Sweden appears to be part of a group of countries in northwestern Europe, which in the long run, were economically relatively advanced before the industrial revolution or until the 1700s. Of the countries in figure 6, it is the Netherlands, England and Sweden. Probably Denmark and Norway and also Germany, especially its northern part, Belgium, and perhaps France belong to this category. However, this is a guess. When historical national accounts for

⁵² Söderberg (2007), p 149.

⁵³ Franzén and Söderberg (2006), p 212.

more countries, as well as improved purchasing power parities, have been reconstructed it will be possible to gain better knowledge of this.

Concluding remarks

The long-term economic changes before 1300, as outlined above on the basis of conjectures, along with those during the period thereafter provide a possible periodization from prehistoric times to 2010 – with due reservations for the uncertainties of the data and information used. A summary is provided in table 1.

Table 1. Periodization of two millennia according to macroeconomic characteristics

375-550 (The Migration Period)	Some growth up to the cold weather disasters and epidemics after the year 536.
550-700	Regression or stagnation and disorganisation for a long time.
700-800 (The Vendel Period)	Recovery and some growth.
800-1050 (The Viking Age)	Economic growth in connection with international expansion.
1050-1200 (The Early Middle Ages)	Stagnation but certain changes in connection with the initial spread of Christianity.
1200-1350 (The Central Middle Ages)	Economic growth in connection with major changes as a result of the spread of Christianity and state formation.
1350-1450 (Part of the Late Middle Ages)	The Black Death and other epidemics lead to disorganization and economic regression or stagnation.
1450-1520 (Part of the Late Middle Ages)	Recovery and economic growth after the disasters.
1520-1600	Stagnation.
1600-1700	Economic growth and expansion (war economy)
1700-1840	Stagnation or regress.
1840-1910	Industrial breakthrough and stronger economic growth than before.
1910-1970	Economic growth.
1970-2010	Deceleration over a few decades, then increased economic growth.

Källa: Charpentier Ljungqvist (2016) and Krantz (2017).

The information on changes before 1300 is to a certain extent guesswork and is, thus, to be perceived with caution. Furthermore, national accounts series always have margins of error. This applies to the contemporary ones designed by statistical authorities as well as to the historical ones, usually constructed by individual researchers. The margins of the contemporary ones are, however, narrow but they become wider the further back in time they

refer to. This means that the series that have been estimated for old times, especially the Middle Ages, are far from certain.

Generally, how to apprehend the series, is a matter of judgement. On the one hand, the basis can be a traditional historical source-critical method, which means that facts, in this case quantitative data, can be accepted only after careful testing. Estimates are, however, most often refused. If this idea is applied, series cannot be constructed and existing ones have to be rejected, as they are based in part on estimates and even guesstimates. A totally different method is to test the series using quantitative source criticism. It is then a question of a likelihood judgement which involves checking whether the series are consistent with historical knowledge about the period that they refer to and if deviations can be satisfactorily explained.

Even when the second method is applied, the question is how far back in time one can go before it becomes meaningless to construct historical national accounts series, i.e. when available data become too few and uncertain to make meaningful estimates. The question is whether that limit was passed in the estimation of GDP per capita presented here. However, the series do not give the impression that they are totally unreasonable. This applies primarily to the long-term changes and not to short-term fluctuations which, due to data scarcity, are not meaningful to analyse for the early part of the time-span.

The pattern that emerges in the GDP per capita series used in the present paper with growth and stagnation or decline phases does not seem exorbitant. The assumption that economic growth occurred during the 13th and the first half of the 14th centuries in connection with the organization of the Swedish state centrally and locally, including the effects of Christianizing, is likely. Furthermore, it also seems reasonable that bad times followed in the latter half of the 14th century as a result of the Black Death and other epidemics, with severe population decline as a consequence. The reorganization that ensued took a long time. Thereafter, a recovery occurred during the second half of the 15th and the beginning of the 16th centuries. Economic growth in the 17th century is not surprising given that the policy with recurrent war brought about new demand and production. The stagnation and downturn in the 18th century can also be seen in this long-term pattern of change and it was only in the 19th century that a recovery and then a renewal in connection with the industrial breakthrough took place.

The international comparison, where Sweden does not appear to be remarkably poor in relative terms, also provides a possible pattern. Why would the country with its mining and

metal industries and international trade be significantly poorer than, for example, England? Important in the long-term pattern of change is the stagnation of the 18th century when other parts of north-western Europe experienced economic growth. This led to the often mentioned Swedish relative poverty in the 19th century even if there certainly are good reasons to question whether it was extreme to the extent that is often claimed.

To sum up, the series are surrounded by margins of error, which widens the further back in time that they refer to. However, the performance of per capita GDP does not seem unreasonable, but future research may show if, or rather to what extent, it has to be modified. The archives contain a lot of unused material that can provide new information, when research skills and ingenuity is applied.

References

- Andersson Palm, Lennart (2000), *Livet, kärleken och döden: Fyra uppsatser om svensk befolkningsutveckling 1300-1850*, Göteborg: L. A. Palm.
- Bedoire, Fredric (2006), *Svenska slott och herrgårdar: en historisk reseguide*, Stockholm: Bonnier.
- Berglund, Bengt (ed.) (2015), *Järnet och Sveriges medeltida modernisering*, Stockholm: Jernkontoret.
- Berntson, Martin (2003), *Klostren och reformationen: upplösningen av kloster och konvent i Sverige 1523-1596*, Skellefteå: Norma.
- Boethius, Bertil (1965), *Kopparbergslagen fram till 1570-talets genombrott. Uppkomst, medeltid, tidig vasatid*, Stockholm: Skrifter utgivna av Stora Kopparbergs bergslags aktiebolag.
- Broadberry, Stephen, Campbell, Bruce M. S. and van Leeuwen, Bas, *English Medieval Population: Reconciling Time Series and Cross Sectional Evidence*, <https://www2.warwick.ac.uk/fac/soc/.../medievalpopulation7.pdf>. (9/8 2018)
- Carlson, Benny (1982), *Bagge, Lindahl och nationalinkomsten: om "National Income of Sweden 1861-1930"*, Lund: Ekonomisk-historiska institutionen.
- Charpentier Ljungqvist, Fredrik (2015), *Den långa medeltiden. De nordiska ländernas historia från folkvandringstid till reformation*, Stockholm: Dialogos förlag.
- Dahlberg, Markus (2012), Sockenkyrkorna - en överblick, in Dahlberg, Markus and Franzén, Kristina (eds.), *Sockenkyrkorna: kulturarv och bebyggelsehistoria*, Stockholm: Riksantikvarieämbetet
- Edvinsson, Rodney (2005), *Growth, accumulation, crisis: with new macroeconomic data for Sweden 1800-2000*, Stockholm: Almqvist & Wiksell International.
- Edvinsson, Rodney (2014), Recalculating Swedish pre-census demographic data: Was there acceleration in early modern population growth?, *Cliometrica*, Vol. 9.
- Fouquet, Roger and Broadberry, Stephen (2015), Seven Centuries of European Economic Growth and Decline, *Journal of Economic Perspectives*, Vol 29.
- Franzén, Bo (2011), Utrikeshandel gav Lödöse en särställning, *Svenska Dagbladet* 8 augusti.
- Franzén, Bo (2015), Hade Heckscher rätt? Ekonomisk tillbakagång efter vikingatiden, i Gustavsson, Martin and Retsö, Dag (red.), *Långa linjer och många fält. Festskrift till Johan Söderberg*, Stockholm: Acta Universitatis Stockholmiensis.
- Franzén Bo and Söderberg, Johan (2006), Svenska spannmålspriser under medeltiden i ett europeiskt perspektiv, *Historisk tidskrift*, Vol. 126.
- Heckscher, Eli (1935-1949), *Sveriges ekonomiska historia från Gustav Vasa*, Stockholm: Bonniers.
- Heckscher, Eli (1960), *Svenskt arbete och liv*, Stockholm: Bokförlaget Aldus. (Första upplaga 1941).
- Honningdal Grytten, Ola (2001), Deflateringsprinciper för nordiska historiska nationalregnskaper, in Lindmark, Magnus and Vikström, Peter (eds.), *Nordiska Historiska Nationalräkenskaper, Occasional papers in Economic History 4*, Department of Economic History, Umeå University.
- Johansson, Östen (1967), *The Gross Domestic Product of Sweden and its composition 1861-1955*, Stockholm: Almqvist & Wiksell.
- Jörberg, Lennart (1972), *A History of Prices in Sweden 1732-1914*, volume two, Lund: CWK Gleerup.
- Karlsson, Catarina (2015), *Järnkonsumention ur ett agrart perspektiv*, in Berglund (2015).
- Kjellberg, Sven T (ed.) (1966-1971) *Slott och herresäten i Sverige: ett konst- och kulturhistoriskt samlingsverk I-XVIII*, Malmö: Allhems Förlag AB.
- Krantz, Olle (1976), *Production and Labour in the Swedish manufactories during the*

- eighteenth century, I-II, *Economy and History*, Vol. 19.
- Krantz, Olle (1986), *Transporter och kommunikationer 1800-1980*, Lund: Ekonomisk-historiska föreningen.
- Krantz, Olle (1987a), *Husligt arbete 1800-1980*, Lund: Ekonomisk-historiska föreningen.
- Krantz, Olle (1987b), *Offentlig verksamhet 1800-1980*, Lund: Ekonomisk-historiska föreningen.
- Krantz, Olle (1991), *Privata tjänster 1800-1980*, Lund: Ekonomisk-historiska föreningen.
- Krantz, Olle (2008), Economic Growth and Economic Policy in Sweden in the Twentieth Century: A Comparative Perspective, in Müller, Margrit and Myllyntaus, Timo (eds.), *Pathbreakers: Small European Countries Responding to Globalisation and Deglobalisation*, Bern: Peter Lang AG.
- Krantz, Olle, (2017), Swedish GDP 1300—1560: A Tentative Estimate, *Lund Papers in Economic History* 152, Department of Economic History, Lund University.
- Krantz, Olle and Nilsson Carl-Axel (1975), *Swedish National Product 1861-1970. New Aspects on Method and Measurement*, Lund: LiberLäromedel/Gleerup.
- Krantz, Olle and Schön, Lennart (2007), Swedish Historical National Accounts 1800-2000. *Lund Studies in Economic History* 41, Department of Economic History, Lund University.
- Kuznets, Simon (1966), *Modern Economic Growth: Rate, Structure, and Spread*, New Haven: Yale U.P.
- Lindahl, Erik, Dahlgren, Einar and Kock, Karin (1937), *The National Income of Sweden*, I-II, London: P.S.King.
- Lindahl, Olof (1956), *Sveriges nationalprodukt 1861-1951*, Stockholm: Meddelanden från Konjunkturinstitutet. Serie B.
- Lindkvist, Thomas (2015), *En medeltida modernisering*, i Berglund (2015).
- Ljungberg, Jonas (1988), *Deflaterer för industriproduktionen 1888-1955*, Lund: Ekonomisk-historiska föreningen.
- Maddison, Angus (2007), *Contours of the world economy 1-2030 AD: essays in macro-economic history*, Oxford: Oxford University Press.
- Magnusson, Lars (1996), *Sveriges ekonomiska historia*, Stockholm: Tiden.
- Nationalencyklopedin* (various years), Höganäs: Bra Böcker.
- Orrling, Carin (red.) (2001), *Medeltidens ABC*, Stockholm: Prisma.
- Pettersson, Lars (1987), *Byggnads- och anläggningsverksamhet 1800-1980*, Lund: Ekonomisk-historiska föreningen.
- Retsö, Dag and Söderberg, Johan (2015), The late Medieval Crisis Quantified, Real Taxes in Sweden, 1320–1550, *Scandinavian Journal of History*, Vol. 40.
- Schön, Lennart (1984), *Utrikeshandel 1800-1870*, Mimeo, Lund: Ekonomisk-historiska föreningen (printed 2015).
- Schön, Lennart (1988) *Industri och hantverk 1800-1980*, Lund: Ekonomisk-historiska föreningen.
- Schön, Lennart and Krantz, Olle (2012a), The Swedish economy in the early modern period. Constructing historical national accounts. *European Review of Economic History*, Vol. 16,.
- Schön, Lennart and Krantz, Olle (2012b), Swedish Historical National Accounts 1560-2010. *Lund Papers in Economic History* 123, Department of Economic History, Lund University.
- Schön, Lennart (1995), *Jordbruk med binäringar 1800-1980*, Lund: Ekonomisk-historiska föreningen.
- Slottsguiden*, <http://www.slottsguiden.info/slott.asp>, accessed 7 June 2017.
- Swedish Historical National Accounts 1300-2020*, Department of Economic History, Lund University School of Economic and Management, <https://www.lusem.lu.se/economic->

[history/databases/economic-history-data/swedish-historical-national-accounts](#), accessed 6 June 2023.

System of National Accounts 2008 (SNA2008) (2009) New York: European Communities, International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations and World Bank.

Söderberg, Johan (1996), *Sveriges ekonomiska och sociala historia. Medeltiden*, Malmö: Liber-Hermods.

Söderberg, Johan (2007), Prices and Economic Change in Medieval Sweden, *Scandinavian Economic History Review*, Vol. 52.

Söderberg, Johan (2010), Long-Term Trends in Real Wages of Labourers, in Edvinsson, Rodney, Jacobsson, Tor and Waldenström, Daniel (eds.) (2010), *Exchange Rates, Prices, and Wages, 1277–2008*, Stockholm: Sveriges Riksbank and Ekerlids Förlag.

<https://www.riksbank.se/sv/om-riksbanken/riksbankens-uppdrag/forskning/historisk-monetar-statistik-for-sverige/volume-i-exchange-rates-prices-and-wages-1277-2008/>

Wikipedia, Wikimedia Foundation, sv.wikipedia.org/wiki

Appendix

Building of castles and mansions 1200-1560

As mentioned, construction of spectacular buildings may be an indicator of economic change, and, therefore, an attempt is made to calculate a series of this. Data for the period dealt with are, however, unfortunately not collected and processed and therefore this had to be made for the present project.⁵⁴ The literature used for this purpose are Kjellberg, (ed.) *Slott och herresäten i Sverige* in 18 volumes, Bedoire, *Svenska slott och herrgårdar: en historisk reseguide*, and <http://www.slottsguiden.info/slott.asp>. *Nationalencyklopedin* and *Wikipedia* have been used as complement. 385 cases have been identified for the period 1300-1560. It is probably not all that were built, but the series probably still provides an acceptable picture of the changes.

In most cases, it was not possible to determine the exact year when construction began and therefore, approximations had to be made. This applies to the following: a) when no building year was specified, but only for instance "during the fourteenth century", these cases were distributed equally over the century; b) when for example, the term "at the end of the 1300s" or "at the beginning ..." were used, construction was considered to have begun in the last two decades and the first two, respectively; c) when the construction year was not mentioned but instead the year or period when the building was mentioned in the source for the first time, this year was also supposed to be the year of construction.

Because of all the uncertainty, the construction years were assumed to apply to decades and then the representative year was taken to be the one in the middle. Interpolations were then made between the representative years, whereby a series of annual figures was obtained. Obviously, all data problems make the series unsure, but still it does not seem to be completely unlikely. The outcome is shown in figure 5.

⁵⁴ See also Krantz (2017).