Economic Growth in Finland and in Sweden, 1733–2014
Comparative Estimates

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1. Introduction

Sweden is a great power of historical national accounts. There have been, since the 1930s, six or seven generations of studies constructing the historical GDP series for Sweden.¹ Now Swedes enjoy the luxury of two competing series: Schön’s and Krantz’s series² reaching back in time as far as 1560 and Edvindson’s series³ starting from 1620. Edvinson new series are partly a critical revision of both his own earlier series⁴ and the 2007 series of Krantz and Schön.⁵ However, in the meanwhile Schön and Krantz themselves revised their earlier series while constructing the 2012 edition. Both revisions raised GDP level of the early 19th century and lowered the growth rates for the subsequent decades, Edvinson up to the 1930s. Compared with the Swedish diligence in constructing historical national accounts Finland is an envious second cousin, since the Finnish GDP series compiled by Hjerppe cover ‘only’ the period from 1860 to present.⁷ The aim of our paper is to take a baby catch-up step by estimating the Finnish GDP per capita for the pre-1860 period, starting from the 1730s.

The comparison of Finnish and Swedish economic performance has been so far based mostly on Maddison’s long-term real GDP per capita series (in 1990 Geary–Khamis international dollars).⁸ These constant price series connect GDP per capita volume indices to the 1990 purchasing power parities. Maddison’s work is now continued in the framework of the Maddison Project.⁹ For Sweden the project has used the 2012 series of Schön and Krantz up to 1950 and the Conference Board Total Economy Database (TED) series for 1950–2010. The Finnish figures of the Maddison Project are Hjerppe’s (from 1860 onwards).

According to Maddison Project (MAP) series (see Figure 1) Finland’s GDP per head declined from 88% in 1820 to about 80% in the early 1860s. The ratio varied around this level until the end of the century but declined during the first decade of the 20th century. The First World War and the Finnish Civil War of 1918 caused a very deep economic shock to the Finnish economy resulting in

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¹ Bohlin 2003 counted five generations so far.
³ Edvinson 2013a and 2013b.
⁴ Edvinson 2005.
⁵ Krantz & Schön 2007.
⁶ Although Edvinsons article (2013a) is published later than Schön’s and Krantz’s new series (2012), it should be noted that it was submitted already 25 October 2011, as a revised version 6 October 2012 and accepted 9 October 2012 (Edvinson 2013, p. 1124). Edvinson’s supplementary Excel file is dated 14 October 2012.
⁷ Hjerpe 1989 and 1996.
a steep fall in GDP per capita compared with Sweden. In the 1920s the ratio approached 70% and after the decline during the Great Depression exceeded it in the late 1930s. The Second World War caused the ratio fall again to a bit over 60% in the late 1940s. During the 1950s and the 1960s the GDP per capita gap narrowed by 10 percentage points to 70%. Real catch-up started in the 1970s and in the late 1980s Finland had almost reached Sweden. The great Finnish depression of the early 1990s is reflected in these figures as a fall below 90% level. The rapid growth from the middle of the 1990s brought Finnish GDP per head back to about 95% of Swedish GDP per head. The Great Recession of our times again turned the ratio into decline.

Finnish GDP per head figures for 1820 and 1850 in MAP-series are estimations based on conjectures on Finnish growth rate, conjectures to which we contributed years ago. In this paper we return to the ‘crime scene’ and compare Finland’s economic performance with Sweden’s on the basis of the new Swedish GDP series and our new calculations for Finnish GDP per capita before 1860. Furthermore, we compare MAP-series against our new estimates. We try to turn the backwardness in the art of historical national accounting into an advantage and use the Swedish series as the basis of our estimates. With the help of our estimates and the newest Swedish series we can compare the economic performance of neighbouring countries diverging from the common institutional heritage in 1808–09, when Finland – a part of the Kingdom of Sweden – became a part of the Russian Empire, its Grand Duchy with large economic autonomy (own state finances and

Figure 1. Finnish/Swedish GDP per capita, 1820–2010

Source: The Maddison Project database

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Heikkinen et al. 1987, see See Maddison 1995, p. 127. Maddison has used 0.5% as the average real GDP per capita growth rate for Finland from 1820 to 1860.
administration – operating mainly in Swedish –, with a customs border between Finland and Russia and from 1860 onwards own currency).

The paper is organized as follows. In section 2 we describe our data and method for estimating Finnish real GDP per capita on the basis of ‘market price scale real wage’ for both Finland and Sweden for 1733–1913. We shortly report our estimates for Finnish GDP per head in 1733–1859 and compare economic growth in Finland and in Sweden from the 18th century up to the early 20th century. In section 3 we move on from the estimation of the long-term growth rates of real GDP per capita to measuring the difference between Finnish and Swedish GDP per capita levels and discuss the problems connected with PPP-adjustments. Section 4 concludes.

2. Figuring Finnish GDP per capita before 1860

Before commenting MAP-series of 1860–2010 we describe the data and methods for constructing an estimate for real Finnish GDP per capita for the period before 1860. Since there are three ways of measuring GDP – via output, income and expenditure –, also historical national accounts could be constructed applying any of these approaches. Because data seldom suffice for the use of expenditure method the historical GDP series are usually constructed using either output or income approach. The existing Finnish GDP series from 1860 onwards have been constructed using output approach. Our aim, however, is to produce an estimate of real GDP per head without the enormous work of calculating proper Finnish national accounts for the pre-1860 period. Thus, we are taking using a short-cut method.

There are several short-cut methods applied in constructing GDP series especially for the pre-19th century era. These short-cut methods estimate GDP from the point of view of demand using wage and price data as well as the shares of urban and non-urban populations as the cornerstones of the calculations. Our short-cut method is different, since we are basically just pegging our estimates to the new Swedish series. We calculate “market price scale real wage” for both countries for the whole period and compare the results to GDP figures: Sweden 1733–1913 and Finland 1860–1913.

The price and wage material used comes from “market price scales” (markegångstaxor). They were used in the Swedish realm – also in Finland – for converting taxes and payments in kind into money. Price scales, different for different part of the country, were published from 1730s onwards. For Sweden proper Jörberg has published market price scales in his two-volume book A History of

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11 Broadberry et al. 2015, pp. xxxii–xxxvii.
13 ‘Finland’ refers before 1809 to eastern provinces of the Kingdom of Sweden and ‘Sweden’ to Sweden ‘proper’.
Prices in Sweden 1732–1914 (1972). According to him market price scales reflect well “price movements and price changes in Sweden during the 18th and 19th centuries”. The Swedish data of our calculations comes from Jörberg; same material has been used also by Schön and Krantz as well as by Edvinson, the latter being more critical on the quality of the data.

The system of market price scales was maintained essentially unchanged in Finland after 1809 she was separated from Sweden and incorporated into Russia. The price setting started from below – in local price assessment committees which sent their proposals to the governor in every province. Committees consisted of representatives of nobility, clergy, bourgeoisie and peasantry in each and very province and city. A price assessment committee reconciled from the proposals made from below a fixed set of prices for the whole province. The market prices scales were not calculated as direct averages of the local price proposals. The final decisions of the yearly market price scales for each province was made by the central administration (From 1809 in Finland the Senate), which could also adjust the proposed prices. Market prices scales were not as volatile as the retail prices in the market places of the cities. It is quite clear that the decision-makers of the 19th century tried keep official market price scales more stable than the actual market prices due to greater volatility in daily cereal prices. Therefore we have used for the period 1810–1913 not the official scales but primary price reports to the governors collected for setting the market scales. They come from the price series published by Björkqvist for 1809–1822 and 1865–1913. For the years 1823–1864 we have collected the data from the archives. For the period 1731–1809 we have to rely on final market price scales, which are more ample from 1757 onwards than for the previous decades. The Swedish data consist for the whole period of official price scales, but fortunately the number of provinces is much larger in Sweden than in Finland. Thus we might assume that the national averages we are using give a reliable picture of long-term changes although there might be administrative stickiness in the prices of different provinces.

We have calculated ‘market price scale real wage’ for both Finland and Sweden for 1733–1913 by deflating the nominal male day labourer’s wage by the value of commodity basket consisting of four barrels (à 1.65 hectolitre) rye, three barrels barley, 1.5 lis pund (à 8.5 kg) butter and 0.5 barrels salted herring. These quantities correspond the diet of a poor rural family in Finland.

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14 Jörberg 1972, p. 8–12. Price data is partly available at Lund University Macroeconomic and Demographic Database (LU-MADD).
15 Schön & Krantz 2012b; Edvinson 2013b, p. 53.
17 National Archives of Finland, Archives of the Senate, Incoming letters, Governor’s proposals for market price scales 1823–1864.
18 Johansson 1926.
in the 1880s. Rye and barley prices are calculated as the average of two consecutive years \((t-1\) and \(t\)), butter and herring prices only from one year \((t)\). We are then measuring real wage \((year\ t)\) in units of this commodity basket. The method has two advantages. Firstly, we do not worry about changing monetary systems – and there were quite a many of them – since both wages and commodity prices are measured in same units. Secondly, we can directly compare Finland with Sweden (after 1809) without complicated PPP-adjustments.

Real wage as a proxy of GDP per head is not problematic at all. Angels has pointed out that GDP per capita and real wage developments can diverge if income distribution, labour supply per capita or relative prices change. Broadberry et al. again have shown that their output-based GDP per capita estimates for 13th–19th-century England differ greatly from Clark’s income/real-wage-based estimates. We are, however, not using our Finnish real wage series as direct proxies for Finnish real GDP per capita, since we are constructing out GDP per capita estimate on the basis of comparison of Swedish real wage and real GDP per capita series (Schön & Krantz). The comparison is plotted in Figure 2. It shows, as expected, that our crude real wage series fluctuates much more than real GDP per capita. Yet the long run growth rate is about the same as is the timing of the acceleration, the middle of the 19th century. Our hypothesis that “market price scale real wage” series reflect not only changes in agricultural wages but also changes in economy in general finds support from the Swedish data.

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19 We have presented a calculation for Finland from 1750 onwards in Heikkinen et al. 1987.
20 Angeles 2008.
21 Broadberry et al. 2015, 247–266.
Secondly our estimation procedure relies on the hypothesis that the relationship between real wage and real GDP per capita found in Swedish data holds also for Finland. The rationale behind this assumption is, firstly, that Finland and Sweden proper were until 1809 part of the same realm. Even after 1809, when Russia incorporated Finland, economies ties between countries remained close. Trade was first free between them, and only in 1845 they were treated in their mutual trade as any other country.\textsuperscript{22} Swedish money could be used in Finland until the monetary reform of 1840.\textsuperscript{23} Swedish legislation and property rights stayed in force in Finland after 1809 too. And as countries economic structures were rather similar, although Sweden was the more developed part, it is reasonable to assume that Finnish real GDP per capita can be estimated with the help of real wage series and Swedish GDP data.

\textsuperscript{22} Schybergson 1973, pp. 193–196.
\textsuperscript{23} Kuusterä & Tarkka 2011.
Although we believe that changes in our real wage series reflect the long and medium run changes of real GDP per capita we do not assume that they indicate relative living standards of the two countries. Therefore we are using these series by linking them to the existing Finnish GDP series using 1860–64 as the point of reference. Comparing Finnish/Swedish (FIN/SWE) real wage ratio with the difference in natural increase of population\(^{24}\) (see Figure 3) supports the idea of using FIN/SWE real wage ratio as an indicator of relative change FIN/SWE economic performance up to the late 1860s. After the Finnish famine of 1867–68, the last peace time famine in Western Europe,\(^{25}\) the sync of the series ends. That causes, however, no problem for our estimates, since from 1860 onwards we rely on the existing Finnish GDP series.

The first step estimation is simply to estimate real GDP per capita (for Sweden too) by anchoring our real wage series and GDP per capita series to 1860–64 averages. Comparison with the actual GDP series show that it does not make a big difference whether we use Schön’s and Krantz’s (S&K) or Edvinson’s (EDV) series for Sweden: in the long run real GDP per capita follows quite nicely the real wage trend. Annual fluctuations around the trend are rather large, but this is not surprising since our real wage index is quite crude (one wage series, although the averages of several provinces, and only four goods in the price index basket).


\(^{25}\) Häkkinen & Forsberg 2015.
estimated/actual ratio moves together with the Swedish ratios up to the middle of the 1890s. Despite this little divergence the comparison gives support for constructing Finnish GDP per capita estimates on the basis of our ‘market price scale real wage’ series.

On the basis of comparisons above we make two assumptions: firstly, that also in the Finnish case our real wage series indicate the long-run growth rate, and secondly, that the real GDP per capita relates to the medium-term variations of real wage as in Sweden. Yet, as real wage variations do not coincide in Finland and Sweden (see Figure 3), we cannot for instance estimate Finnish GDP per capita straightforwardly by using the Swedish GDP per capita/real wage -ratio. Our simple solution is to multiply Swedish real GDP per capita series by FIN/SWE real wage ratio. However, since real wage series are notably more volatile than GDP series, we are using series smoothed with Hodrick-Prescott-filter (HP) (λ=10). A further adjustment is made because of the greater amplitude of real wage fluctuations: in Swedish data for 1733–1859 the coefficient of variation of real wages is double (0.16) that of real GDP per capita (0.08). In order to level the effect of real wage variations we have used the square root of FIN/SWE real wage ratio as the multiplier of Swedish real GDP per capita. The results, as well as the competing Swedish series, are displayed in Figure 5.

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26 The divergence might result from the difference in wage data: Swedish series are the actual market price scales, while Finnish wage series come from the original material collected for the scales. The wages we have used are 1906–10 in relation to actual agricultural wage higher in Finland (30 % higher than the average of summer and winter wage) than in Sweden (19%); Finland, Historical Statistics , p. 408; Sweden, Statistisk årsbok för Sverige 1914, p. 135.
Biggest differences between alternative Swedish series concern the period from the 1770s up to the 1830s. According to Edvinson’s series development was rather even: real GDP per capita was during the first decade of the 19th century, a decade of wars, at the same level as in the 1770s and grew modestly (0.2% per year) in the following three decades (from the 1800s to the 1830s). The series of Schön and Krantz report clear decline from the 1770s to the 1800s with trough in the year 1809, the second year of the Sweden’s war with Russia ending in defeat and losing Finland to Russia. The post-war growth until the 1830s was only recovery from the previous decline so that in the 1830s real GDP per capita was at the same level as in the 1770s. From the 1830s to the pre-First-War decade (1904–13) the annual growth rate was 1.3% according both series.

The shape of Finnish GDP per capita curve is, of course, to some extent similar to Schön’s and Krantz’s since we have used their series as the basis of our calculations. The war years 1808–09 are the low point, which makes perfect sense. After the war real GDP per head grew according to our estimates faster in Finland than in Sweden. Growth ended with the demographic crises of the early 1830s. From the 1830s to the decade before the First World War Finnish GDP per head grew at 1.1% annual rate, a bit slower than in Sweden. The disturbances caused by the Crimean War in the 1850s and especially the famine years of the 1860s depressed Finnish growth. Furthermore, growth was from the end of the 19th century up to the First World War clearly faster in Sweden then in Finland. If we link our new estimates of Finnish GDP per capita to the 1860 level of the Maddison Project we end up in almost same figures for 1820 and 1850.
With the help of our new estimates we have extend Finnish real GDP per capita series back to the 1730s. The estimates for the 1730s–1750s (before 1757) are cruder than the rest of the period 1733–1859, since price material is scarcer and nominal wage stays constant. Therefore we assume that from the 1760s onwards our series give a truer picture of the medium-term changes. The long run series we have constructed linking our 1733–1859 estimates to the historical series of Hjerppe, updated by Statistics Finland. Our Swedish series come from Schön and Krantz for period 1733–1950, thereafter from Statistics Sweden. Then we have converted both volume series into 1990 international Geary–Khamis dollars using the 1990 levels of Maddison’s 2010 series as the point of reference.

3. Comparing GDP per capita levels

Comparing income or output levels over time and across space is an art of compromise: How to give an accurate picture of development in different countries or regions and at the same time measure correctly their relative income levels? Angus Maddison’s solution in his widely used historical series on real GDP per capita was to use one measure – ‘1990 international Geary–Khamis dollars’ – over decades and centuries as well as over the globe. GDP figures expressed in national currencies are made comparable with the help of purchasing power parities (PPP). This multilateral PPP-conversion is supposed to give us correct levels of relative real GDP per capita, and by linking national volume series to these benchmark levels the comparison is brought back in time.

The main problem of this method is that the further back we move the more unlikely it is that the measure based on recent PPP estimates correctly reflects GDP levels, say, of the 19th century. As economies grow also price structures change and they can change very differently in different countries. Therefore the modern PPPs used can reflect less and less correctly the price level differences as the series are extrapolated backwards. Maddison, if anyone, was well aware of the problems related to PPP-conversions.

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27 The difference
28 De Jong & van Ark 2012.
30 Prados de la Escosura 2000; De Jong & van Ark 2012.
The comparison of Finland and Sweden exemplifies how large an effect PPP-adjustment can have on relative GDP per capita levels compared with straightforward comparison of current price figures converted into same currency at exchange rate. Figure 6 shows that measured in current prices at exchange rate Finnish GDP per head was from 1860 to 1913 between 50–60% of Swedish GDP/capita. In the 1920s and 1930s Finnish GDP per head was only 40% of the Swedish. PPP-adjustment (in 1990 int. $) raises Finnish GDP per capita relative to Swedish notably: to over 80% in the latter half of the 19th century and nearly to 70% during the interwar era. According to our estimates Finnish GDP per capita was about 90% of Swedish level between 1750 and 1850. Both curves cannot be true, but the question is, is neither of them.

The reason for not comparing GDP levels by converting current them into a common currency with the help of official exchange rates is well-known reasons: exchange rates do not always reflect correctly the differences in the purchasing power parities of the currencies. We know that price level tends to be lower in poorer countries than in richer for various reasons. Therefore the International Comparison Program (ICP) initiated in the 1960s has estimated the purchasing power parities of the currencies of already in several ‘rounds’. At the same time the small research
project conducted has grown into a true global statistical initiative.\(^{32}\) The latest round has 2011 as the reference year 2011.

With every new PPP-round history is ‘rewritten’, as also constant price series change when reference year is altered. Figure 7 compares Finnish GDP per head to the Swedish on the basis of alternative recent series. If we trust the Total Economy Database (TED) of the Conference Board, used also by the Maddison Project, Finland outweighed Sweden in 2008. The lowest ratio (almost 5 %-points lower) comes from the World Bank (WB) series of current international dollars based on the 2011 ICP round. When such differences occur in a relatively short period in our modern, statistically sophisticated era, we may assume that the scale of the problems widens when we move back in time by centuries.

Prados de la Escosura has pointed out that as economies grow and ‘the composition of production, consumption and relative prices all vary’, the rational of ‘comparing real product per head based upon remote PPPs becomes entirely questionable’ – so questionable that ‘comparisons based upon PPP projections might generate larger errors than comparisons using conventional exchange rates’.\(^{33}\) Schön and Krantz do not go so far but point out that shift from the 1970s’ to the 1990s’ PPPs ‘had considerable effects for a number of European countries, including a sizeable lowering of the Swedish level backwards’. They recommend caution and remind that historical

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\(^{32}\) Rao 2013.

\(^{33}\) Prados de la Escosura 2000, p. 4.
comparisons of real GDP per capita levels ‘expressed in a recent PPP benchmark is an analytical projection and should be understood as one tool for the analysis’.34

Finnish case is a good warning example of the problems related to backcasting from modern PPP-ratios and comparing real GDP per capita levels on the basis of one year’s PPPs. In Figure 8 we approach the problem by examining Finnish price level index (PLI=PPP/exchange rate) in relation to Swedish. The green curve is FIN/SWE price level implied by our series, which we have compared with ICP data from 1985 and 1990 (Maddison’s reference point), Olle Krantz’s calculations for agricultural and manufacturing production (Krantz 2)35 and on the basis of cost-of-living data (Krantz 1), the ratio computed from our food basket, a more detailed food price ratio we have calculated for 1909 and one available for 1943 and, finally, a figure for 1910 based on our own PPP estimate.36 As we see, the PLI implied by our, and Maddison’s, series is well below all other estimates. If both Finnish and Swedish GDP per head series in 1990 international dollars were

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34 Schön & Krantz 2012b, p. 545 (note). They make their point concerning the period ‘prior to industrialization’, but the problem is, of course, not limited to comparison of pre-industrial GDP levels.

35 Krantz 2001. We have used a geometric mean of his Finnish- and Swedish-weights PPPs.

36 We have used Krantz’s PPPs for agriculture and manufacturing, calculated the ratio of housing rents (FIN/SWE=0.560), used the geometric mean of assumed male agricultural workers’ wages ratio (0.896) and housing rents represent the price difference for building and construction (0.709), used for private services the average of male and female agricultural wages’ difference (0.850) and assumed that there is no difference in public services (there’s supporting evidence). We have weighted these ratios with Swedish and Finnish value-added shares for 1909–11 and taken a geometric average of them.
correct, Finnish price level should have been 30% below Swedish in 1860–1913 and 40% below during the interwar years. Our own estimate, perhaps rather over- than downplaying the difference, puts FIN/SWE PLI in 1910 to 0.923. Krantz’s ‘better’ series (Krantz 2) for pre-First-World years are even higher, around parity, as is PLI calculated from our crude food basket. The conclusion seems to be that there was no real price level difference during the gold standard period (Sweden was in gold from 1873 and Finland from 1878 onwards) so that exchange rates reflected quite well Finnish/Swedish purchasing power parities. Thus, Finland/Sweden comparison supports McCloskey’s and Zecher’s claim that PPP-theory of exchange rates works well for the era of gold standard before 1914.\footnote{McCloskey and Zecher 1984.}

Figure 9 shows, why it is now wonder, that we end to dubious figures when comparing Finnish/Swedish real GDP per head measured in 1990 international dollars. According to GDP deflator Finnish price level rose from 1860 to 2014 over 4800-fold but in Sweden by a factor less than 80. There was almost no difference during the years of classical gold standard and not huge difference after the Second World War (1950–2014 GDP deflator 28-folded in Finland and 21-folded in Sweden. The great breakage between neighbouring countries occurred during both World Wars. Finland experienced inflation waves (price level tenfolded both times), whereas nothing similar happened in Sweden. Thus, from 1913 to 1950 price level almost 130-folded in Finland, whereas in Sweden GDP deflator grew only by factor 2.8. Thus it would be a true miracle if series linked to 1990 PPPs would produce correct real GDPs in 1913.
World Wars, thus, cause the main problem in Finnish/Swedish GDP level comparisons in constant international, PPP-adjusted dollars. The Nordic world is obviously less than perfect in this respect. Figure 10 illustrates same thing by showing the development of the real exchange rate (RER) between Finnish Markka (FIM) and Swedish Krona (SEK). The big and asymmetric shocks of the 20th century and the different decisions made in Finland and Sweden during the ruptures of monetary systems caused big shifts in the FIM/SEK real exchange rate. Compared with long-run average changes of RER were minor during the pre-1914 gold standard. During the interwar years FIM was relatively speaking ‘undervalued’, even more after the break of the Second Gold Standard and devaluation of FIM in 1931 (also in relation to SEK, both devalued against Pound). After the Second World War, when the trade of goods and currencies was controlled, FIM was ‘overvalued’ against SEK. Big devaluation of FIM in 1957, connected to the liberation of trade, pushed RER closer the long-run average. The large devaluations of FIM in 1967 and 1992 did the same. Thus, for Finland the choice of 1990 as the reference point is unfortunate, since it happens to be a year when national currency was clearly overvalued compared with long-run level.

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38 Euro converted to Markka from 2001 onwards.
Using different benchmark years results in different Finland/Sweden real GDP per head levels. Linking to the Maddison Project’s series results highest ratio of Finnish GDP per capita being above 90% of the Swedish in the 1770s. Our PPP estimate for 1910 gives us 70% level in the 1770s. It seems that series that are credible for the post-Second-World-War decades are less so for the era before the First World War. And vice years, the forecast of our 1910 PPP results in very low GDP ratio for the last decades. This problem seems to be hard to conciliate without further research especially on the period 1913–1960.

What was the level of Finnish GDP per capita before 1860? The alternatives for 1820 are presented below and compared with the levels of developed European countries in 1990 international dollars. Our estimates (*=5-year average) range from 578 $ (1910 PPPs pegged to Schön’s and Krantz’s series) to 913 $ (1990 PPPs pegged to Edvinson’s series). Finnish GDP was, as we see, in the Western European comparison low or very low.

39 Broadberry et al. 2015, p. 376.
<table>
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<th>Country</th>
<th>1820 GDP (MAP 2013)</th>
<th>1990 int. $</th>
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<tr>
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<td>2 133</td>
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4. Conclusions

The aim of our paper has been to extend Finnish real GDP per capita series back to the 18th century and compare it Swedish GDP per capita. We have approached this task by comparing Finland and Sweden utilizing the newest Swedish GDP series. We have started with a simple indicator of ‘market price scale real wage’. It has proved to be surprisingly compatible with the actual GDP statistics of both Finland and Sweden. Our new series from the 1730s to 1859 can be elaborated checking them against available production statistics, at least from the 1820s to the 1850s. Yet we assume that the rate of economic growth in Finland and Sweden from the middle of the 18th century up to the middle of the can be gauged by using it.

The comparison of GDP per head levels has proven to be more complicated than measuring growth rates. Big and asymmetric shocks, especially around the World Wars, makes the use of the laye-20th-century PPPs very problematic when gauging real GDP per capita levels during the interwar years and before the First World War. Maddison’s and the Maddison Project’s series building on 1990 PPPs and projecting backwards with the help of national volume GDP per capita volume series is problematic especially when there is great variation in the national movements of prices. Multilateral comparisons obviously do not produce perfect estimates for every binary comparison. One way to improve the comparative series would be to construct a comprehensive dataset on PPPs before the First World War.

Better comparative data on Finland and Sweden open interesting question to be studied, since these two countries offer us a natural historical experiment. They were once part of the same realm but were driven apart in the 1808–09 war. Although Finland had within the Russian empire
economically quite autonomous position based on the Swedish legislation that stayed in force, the institutional development in Finland and Sweden diverged during the 19th century. Whether this institutional drift had any effect on economic performance is a question we can discuss on a more solid basis when we have reliable figures measuring the differences of income levels. The data also gives the chance to study the effect of economic crisis, especially ‘end-of-regime’ crises (from the First World War to the current Great Recession).

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