

How Deep Are the Roots of Swedish Egalitarianism? A Multidimensional Approach

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When did Sweden become equal? This question has far-reaching implications for our understanding of Swedish history and for general theories about inequality, institutions, and politics more broadly. In this article, we present the first multidimensional comparative analysis of the development of inequality in Sweden. Our findings reveal that, although the share of income and wealth accruing to the absolute top was very high at the beginning of the twentieth century, Sweden was more equal than many other countries when focusing on the lower parts of the income distribution. Additionally, several indicators suggest that the decline in inequality began in the closing decades of the nineteenth century. These results imply that the development of the Swedish welfare state was both a cause and a consequence of decreasing inequality. We emphasize the importance of widespread literacy and access to education as a key factor in shaping distributional outcomes.

1. Introduction

At the beginning of the 1980s, Sweden was one of the developed countries with the most even distribution of income. At the same time, it had some of the highest taxes and one of the most generous welfare systems. This has led to questions about the role of government and redistribution policies in making Sweden more equal, with the debate centered on whether equality was a result of the welfare state or whether equality was a prerequisite for the welfare state, made possible because Sweden was already a less stratified society.

One way of explaining why Sweden became egalitarian after World War II is to view it as the result of a longer historical trend rooted in political culture. Supporters of this argument often point to the fact that farmers were one of the four estates in parliament before the move to bicameralism in 1866. At the local level, parish assemblies also gave farmers a voice. The strong and independent farmer class is sometimes seen as the historical forerunner to the social democratic movement, which adopted the populist ideas of the farmer class. [Trägårdh \(1997\)](#) asserts that democratization should be seen as a generalization of the egalitarian political culture that already existed in local peasant assemblies. [Rothstein and Uslaner \(2005\)](#) use this supposed historical Swedish egalitarianism to make a broad statement about the role of egalitarian social structures in the rise of welfare states. They claim that Sweden and the rest of Scandinavia have “histories of greater equality” and that “[a]t the beginning of the modern era, the Scandinavian countries had a more equal social structure than the rest

of Europe” (pp. 44 and 57). According to them, this history of equality and social trust enabled the development of large welfare states, as the government could spend more on social security, health care, and education. This is echoed by John Pratt who argues that in the Nordic countries, “social conditions [in the past] provided for little class distinction and high levels of egalitarianism,” and that “these very flat class relationships” created “solidarity and cohesion” (Pratt 2008, p. 124). Esping-Andersen (1992) provides an even more detailed description. He argues that Sweden was a fertile place for the labor movement since there was a high concentration of capital among a small number of wealthy families, while the popular masses of workers and small peasants were only separated by geography. He states, “To a society so homogeneous, a broad sense of solidarity came much more easily than either individualism or corporatism” (Esping-Andersen 1992, p. 41).

Researchers from the Power Resource school, however, focus on the political power of the labor movement in pushing for equal outcomes. Proponents of this view often point to Sweden as an example of how powerful, centralized unions and a strong social democratic party collaborated to implement reforms that led to relatively low economic inequality in the years after World War II (Korpi 1983; Korpi and Palme 1998). From this perspective, the welfare state is the most important factor in achieving equality. Others in the same tradition believe that institutional changes in the first half of the twentieth century led to greater equality. Bengtsson (2019) argues that Sweden’s past featured significant disparities in wealth and political power. After the estate parliament was abolished, Sweden established a proprietary system more extensive than that of the rest of the Western world (see also Piketty 2020). The electorate in Sweden was one of the smallest in Europe, and at the local level, votes were distributed according to income and wealth. Bengtsson contends that the extreme inequality of the 1800s led to a counter-hegemony in the form of popular movements fighting for suffrage reform. This movement laid the groundwork for the Social Democratic Party to become the dominant political force in the 1930s. Once in power, the party increased equality by raising taxes on the rich, limiting the power of private business, and expanding the welfare state.

Gärtner and Prado (2016) argue that there was significant income leveling between the wars (see also Prado and Waara 2018). They also focus on the role of institutions, but instead of emphasizing redistribution, they highlight the labor market and argue that collective action led to smaller wage differences. They claim that this created equality, which fostered social trust and paved the way for the creation of the welfare state.

The question of when and how Sweden became egalitarian is important not only for Swedish history but also for general theories about the relationship between institutions, politics, and equality. Acemoglu and Robinson (2000), for example, use Sweden as one of five examples to show how inclusive institutions lead to more redistribution, which reduced inequality. According to them, social unrest began in Sweden in the 1870s due to the growing gap between rich and poor. To satisfy the people, the elites implemented almost universal suffrage in 1920. As a result, there was a rise in demand for redistributive measures, and social expenditure grew, reducing inequality. Piketty (2020) also discusses Sweden, suggesting that Swedish egalitarianism only appeared in the twentieth century, demonstrating that “inequality is not the result of some essential cultural predisposition” (p. 188). Conversely, DeLong (2007) argues that Swedish-style welfare states are unlikely to succeed in many other places because Sweden has a long history of equality.

Sweden as a case study can also help us understand more general theories of inequality. Piketty (2014) and Scheidel (2018) discuss how capital destruction during the world wars and the simultaneous rise in top marginal tax rates, often to fund the war effort, led to

reduced inequality. [Kuznets \(1955\)](#) and [Frey \(2019\)](#) instead focus on structural changes in the economy that produced similar outcomes in most Western countries. While focusing on similarities between countries can be enlightening, it can also obscure important differences. Although the Swedish path shared much with other countries, as we will see, there were also significant distinctions. Given the importance of the Swedish case for welfare state research, understanding the timing of economic equality in Sweden is crucial for better comprehension of the factors driving economic inequality and redistributive policies.

Despite this, research on inequality in Sweden remains inconclusive. While there have been considerable advances made in recent decades, many gaps remain. Scholars like Roine, Waldenström, Bengtsson, and their co-authors have significantly contributed to our understanding of top incomes and wealth, shedding light on historical inequality. Estimates of top incomes only date back to the early twentieth century, with limited observations from this period. Focusing solely on top incomes neglects other critical aspects of income distribution. The main issue with using top incomes and wealth is that it only focuses on differences between an economic elite and the rest. While this is indeed a very important aspect of inequality, it is not the only or even necessarily the most important one. It can be questioned, for example, how much each additional percentage point accruing to the top percent matters after it has reached a certain level. Furthermore, inequality among “the rest” arguably matters for a sense of community and willingness to contribute to common goods. A deep divide between skilled and unskilled workers might, for example, make skilled workers less likely to be positively disposed to certain types of welfare schemes. Similarly, great gaps between regions might make people in affluent areas less likely to support generous welfare measures if they feel like people in poorer areas are free riding on them. In this article, we adopt a broader approach, examining Sweden’s relative economic inequality over time through various measures. In addition to top shares, we focus on a number of other indicators, which we believe are at least equally as important. More specifically, we focus on returns to skill and education as measured by the pay gap between skilled and unskilled blue-collar workers as well as the gap between unskilled workers and white-collar workers. Then we examine gender differentials, followed by regional differences. We focus on these areas since they are some of the most important cleavages in society.¹

To achieve this, we use existing databases, calculations from newly collected and treated secondary sources, and results from new archival research. A key contribution of this article is its comparative perspective. While Swedish research on inequality has grown, the broader picture has sometimes been missing. In this article, we aim to integrate several factors to provide a more comprehensive view.

Our analysis shows that Sweden, while highly unequal in terms of top income and wealth shares, exhibited greater equality in blue-collar skill premiums and gender wage gaps as early as the late nineteenth century. In terms of regional GDP, Sweden was among the few countries that saw declining regional disparities over the course of industrialization. These results suggest a socio-economic structure characterized by a very rich elite but relatively small economic divides among the broader population. Moreover, other Scandinavian countries followed similar trends in gender wage gaps and blue-collar skill differentials, indicating a shared regional trajectory. To understand the development of inequality, we mostly rely on a

¹ The Gini coefficient provides a broader measure of inequality than top income and wealth shares. However, it is strongly correlated with top income shares, and they follow basically the same trajectory for Sweden over the second half of the twentieth century ([Waldenström 2009](#)). There are also fewer historical time series for the Gini coefficient, which is why we have chosen to exclude it in this article.

framework emphasizing human capital and schooling, inspired by, for example, [Goldin and Katz \(2010\)](#). We argue that widespread distribution of literacy and basic human capital likely played a crucial role in these outcomes, leading to well-integrated labor markets and rapid convergence of regional economic disparities.

Our findings challenge previous views on the timing and causes of equalization in Sweden. While some argue that inequality only began to decline in the 1920s, we show that this process started even earlier. This suggests that economic changes, rather than political actions, were the primary drivers of reduced inequality at this early stage. The labor movement and social democratic reforms gained traction on the back of rising real wages and improved relative positions. Additionally, more compressed incomes at the bottom likely led to a more evenly distributed consumption, allowing poorer segments to achieve a higher living standard compared to countries with higher GDP estimates.

Our article also illustrates the usefulness of a multidimensional and comparative approach to historical inequality research. The commonly used indicators of top income and wealth shares tell only part of the story. A comparison of countries also allows us to better identify common trends across multiple countries and distinguish country- or region-specific factors. This, in turn, provides a crucial basis for understanding the drivers of inequality over time.

The rest of the article has the following structure. We begin by examining Sweden's top income and wealth shares in comparison with those of other Western European and North American economies. From there, we explore a range of related measures—blue-collar skill premiums, white-collar earnings advantages, gender wage gaps, regional differences, and land inequality—to build a more comprehensive picture. In the final section, we draw these threads together, reflecting on their implications and the broader trajectory of Sweden's inequality over time.

2. Top income and wealth

In recent years, examination of the share of income or wealth accruing to the richest in society has grown in popularity as a method for comparing levels of inequality between different countries and across time. A clear advantage of this approach is that evidence goes back further in time than for complete income and wealth distributions, and since a standardized method has been developed, it is also possible to compare countries. It has also been suggested that top shares correlate with overall inequality when both measures are available ([Waldenström 2009](#)). This is not to say that they are without issues. There are significant difficulties associated with constructing historical top income and wealth shares. Researchers are also aware of this and have developed several methods to test the reliability of their findings ([Roine and Waldenström 2015](#)). While there must always be a certain margin of error associated with these estimates, we think that any adjustments are unlikely to change the results so much that our interpretation will be invalid. Recent adjustments of the top income series for the United States, for example, lower the top 1 percentile share with on average 2.2 percentage points and a maximum of 4.5 percentage points ([Geloso et al. 2022](#)). Changes along these magnitudes for the Swedish case would not in any meaningful way change our interpretation of the Swedish development.

The evidence that goes back the furthest in time is the series on wealth. In [figure 1](#), the share of assets held by the top 1 percent in society is shown for a number of now advanced economies, in many cases going back as far as the eighteenth century. For Sweden, a benchmark is available for 1800, followed by a more continuous set of observations starting

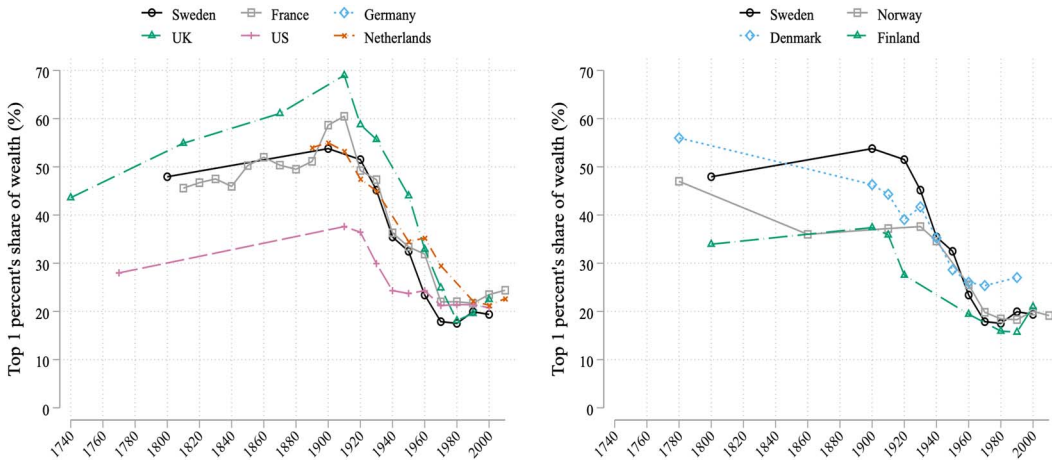


Figure 1. Top 1 percent's share of wealth (%), decadal averages. *Sources:* Data from [Roine and Waldenström \(2015\)](#). They have assembled data from a wide range of sources. For a detailed list of sources used, see their Appendix Table 7.A1. *Note:* Decadal averages. Income-earning units vary across and sometimes within studies (individual, family, or tax unit). For the exact definitions used for each country and year, see [Roine and Waldenström \(2015\)](#), Appendix Table 7.A1. For a discussion of the reliability of the data, see discussion in text here and in [Roine and Waldenström \(2015\)](#).

in 1900. According to these estimates, the top 1 percent wealth share increased slightly over the course of the nineteenth century, from 48 to 58 percent. Starting in 1900, and then with full force from the 1920s, the top wealth share fell continuously reaching a low in the 1970s and 1980s of below 20 percent. In the most recent decades, the top wealth share has been increasing slightly, but changes are very minor in light of the large twentieth century decline.

Interestingly, the data do not suggest that Sweden had a comparatively equal distribution of wealth in the nineteenth century. The top wealth share was similar to that observed in France and the Netherlands, and much greater than in the United States. The pattern for the Nordic countries was also quite mixed, with Sweden and Denmark displaying high wealth inequality, and Norway and Finland less so. It was only after the significant leveling in the twentieth century that Sweden began to stand out against the other non-Nordic countries, and the divergence happened quite late. It would take until the 1960s before Sweden got a more compressed wealth distribution than France and the Netherlands, and until 1970s in the case of the United States. It is also of note that even though the Nordic countries started out with very different levels of wealth inequality in the nineteenth century, by the 1970s shares were very similar across the region.

Another salient pattern is the uniformity in the fall in top wealth shares over the course of the twentieth century. All countries in the comparison experienced a significant reduction; By the 1970s the difference across countries was much smaller than prior to the leveling. Thus, whatever forces that brought down wealth inequality in Sweden seem to have operated in other countries as well.

What does the pattern for income look like? [Figure 2](#) shows the share of income accruing to the top one percent of earners by decade for the same set of countries. For top incomes we

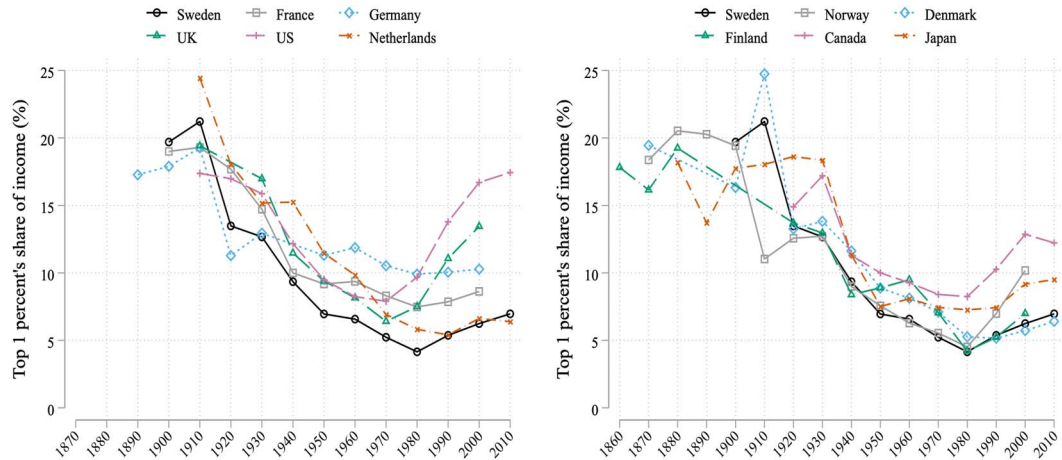


Figure 2. Top 1 percent's share of income (%), decadal averages. *Source:* Data from [Roine and Waldenström \(2015\)](#). They have assembled data from a wide range of sources. For a detailed list of sources used, see Table 7.3 in their text. *Note:* Decadal averages. Tax units, whether capital gains are included or not, and the basis for construction of reference income vary between and sometimes within countries. For a discussion of the reliability of the estimates, see discussion in the text in this article and in [Roine and Waldenström \(2015\)](#).

also have data for Canada and Japan. In this case of top income, the evidence typically does not stretch back as far in time as for wealth. In some instances, it goes back to the 1870s, but in most cases only to the early twentieth century. This is the case, for example, for Sweden.

In many ways, the development of top income shares mirrors that for wealth. In Sweden, the top income share stood at more than 20 percent in the first two decades of the twentieth century, before it began to decline in the 1920s. From this point on, it fell continuously reaching a trough in the 1980s of below 5 percent, before rising slightly in the most recent period. In terms of income, just as for wealth, Sweden does not stand out as comparatively equal in the early twentieth century. Quite to the opposite, among the countries in the comparison, the Netherlands and Denmark in the 1910s are the only countries more unequal than Sweden prior to the start of the leveling in the 1920s. Places such as the United Kingdom and the United States had a lower share of income accruing to the top one percent.

Just as in the case of wealth, it is only with the twentieth century leveling that Sweden begins to stand out. From the 1920s onward, the decline in income inequality went furthest in Sweden and Norway, but Denmark and Finland followed a very similar pattern overall. The shift came slightly earlier for income than for wealth, however. Already by the 1920s, Sweden had a lower top income share than any of the non-Nordic countries in the comparison. Except for Norway, the Nordic countries have also retained their position during the period of rising inequality since the 1980s.

The general pattern for both wealth and income is very similar for most countries, indicating that general long-run forces must have been at play that cannot be explained by country specifics. But there are also important nuances. The timing for changes in inequality levels differs for various countries, and so does the magnitude of the changes. None of the

Nordic countries stand out as being particularly equal in the early twentieth century, but they all drop more than other countries over the course of the leveling.

Looking at these figures, it is easy to understand why, for example, [Bengtsson \(2019\)](#), [Gärtner and Prado \(2016\)](#), and [Acemoglu and Robinson \(2000\)](#) have singled out the 1920s as a breakpoint. There are however some problems with this interpretation. While the creation of top wealth and income estimates has in many ways helped us improve our knowledge of historical inequality, there are some important drawbacks to this approach. The first and most obvious is that it only relates to the part of income inequality driven by top wealth holders and income earners. It does not tell us anything about inequality among the bottom 99, or at best, the bottom 90 percent, of the population. In this sense, it only gives a partial view of societal inequality. The second is that it is not obvious that the most relevant dividing line is between percentiles of the income distribution. Other cleavages also have significant societal impact, such as that between the working class and white-collar workers, between men and women, and between geographical areas. Top wealth and income shares have nothing to say when it comes to these aspects. The third is that there are likely significant measurement issues in the estimates, particularly for the early years. This is especially true for the top income series. These rely on an assessment of total reference income, which in turn relies on historical national accounts, which are produced with significant margins of error.² Especially in the agricultural sector, income is likely to be underestimated in these accounts, and as a consequence, countries with more subsistence agriculture will look more unequal. In addition to the problem stemming from the assessment of total reference income, the income earning unit often also varies across studies. In some cases, it is the individual, other times the family, and in yet others the tax unit. This might also make the estimates less comparable than is often assumed. We will return to the issue of these estimates for the Swedish case at the end of the article.

3. Return to skill among blue-collar workers

The gap in pay between skilled and unskilled workers, sometimes referred to as the “skill premium,” has received quite some attention in the historical literature since it is relatively straightforward to measure ([Williamson 1980](#); [Williamson and Lindert 1980](#); [van Zanden 2009](#), chap. 5). [Van Zanden \(2009\)](#) interprets the skill premium as an outcome of the quality and inclusiveness of institutions for training, such as schooling and apprenticeship. In times of increased demand for certain skills, such as with the technological changes following industrialization, the flexibility of supply also determines to what extent premiums rise. [Goldin and Katz \(2010\)](#) conceptualize the skill premium as the outcome of a race between education and technological change. Technological progress raises the demand for skilled workers, and the expansion of education must keep pace for the return to skill to remain constant. If growth in schooling outpaces the increase in demand, skill premiums will fall. Drawing on this framework and applying it to the nineteenth century, [Federico et al. \(2021\)](#) presents a number of factors that can be seen as important for the evolution of skill differentials. On the supply side, educational expansion and overseas migration were major factors while on the demand side, technical and structural change, was influential.

[Figure 3](#) shows the information on blue-collar skill premiums in the pre-WWI period collected by [Betrán and Pons \(2013\)](#). We have supplemented their data by adding the series for

² [Waldenström \(2021\)](#) has recently critiqued the wealth estimates underlying the top wealth share estimates.

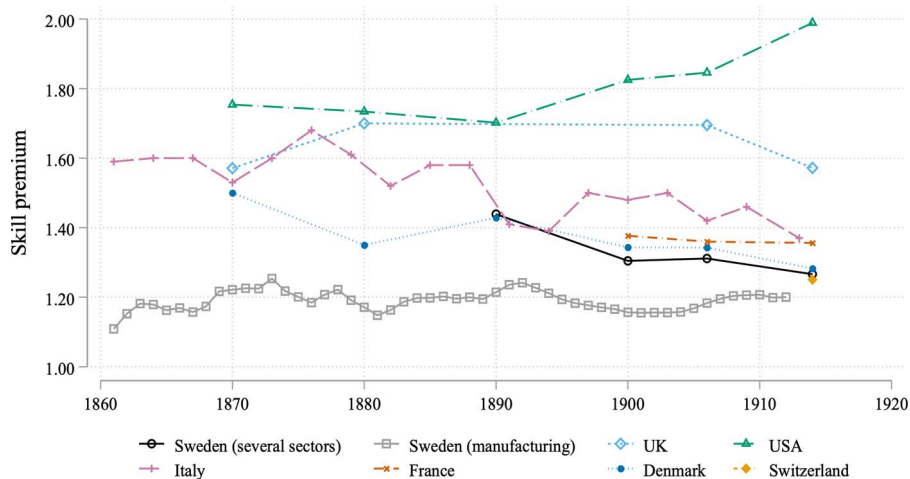


Figure 3. Blue-collar skill premiums, 1860–1913. *Note:* Sweden (several sectors) come from [Betrán and Pons \(2013\)](#) and is a weighted average for the building industry, engineering, and iron and metal works, chemistry, wood and furniture, stone, clay and glass, food and transport. *Source:* Sweden (manufacturing) from [Prado \(2010\)](#) and Italy from [Federico et al. \(2021\)](#). All other data from [Betrán and Pons \(2013\)](#). We are thankful to Leonardo Ridolfi for sharing the data underlying their graph in [Federico et al. \(2021\)](#).

Italy from [Federico et al. \(2021\)](#) and for the Swedish manufacturing sector from [Prado \(2010\)](#). The evidence presented in the figure suggests that Sweden had relatively low skill premiums. The series that comprises several sectors suggest that the premium was around 40 percent in the 1890s, and then fell to about 25 percent by WWI. Together with Denmark, Sweden displays the smallest pay gap among the countries in the comparison. The two countries also followed a very similar trend, with premiums falling over this period of rapid industrialization. The series for the Swedish manufacturing sector suggest an even smaller wage premium and displays remarkable stability over time, despite rapid industrialization. A premium of just around 20 percent might seem low but is in line with detailed evidence from the engineer industry as well as for construction workers (see [Prado 2010](#), p. 184). For Switzerland, the only data point is for 1913, but it suggests that the country had a similar skill premium as Sweden and Denmark.

The other countries display somewhat different patterns. The Italian and French premiums are slightly larger than the one in Sweden and Denmark and display more stability after 1890. Among the European countries in the comparison, the UK displayed by far the largest premium, however. The premium was stable around 70 percent up to the beginning of the twentieth century when it fell slightly to about 60 percent. The United States deviates the most, with skill premiums of 70 percent in the 1890s increasing up to 100 percent by WWI. According to [Panza and Williamson \(2021, fig. 2\)](#), the skill premium in Australia was even greater than in the United States, with skilled workers earning almost three times as much as unskilled workers in the late 1870s, dropping to slightly more than two in the 1880s and down toward 1.5 in the early 1900s. Compared to Latin American countries, Sweden comes out even better. In 1900, Argentina had the lowest skill premium at 2.02 out of six surveyed countries. The other five all had premiums exceeding four ([Astorga 2017, Table A1](#)).

Betrán and Pons (2013) argue that high levels of human capital in the beginning of the process of modern economic growth might explain why Sweden and Denmark did not experience increasing wage inequality at that time. Among the European countries in the comparison, the difference in skill premiums lines up quite well with levels of basic human capital as revealed by comparative evidence on schooling and literacy. The Lee and Lee (2016) dataset on educational attainment show that in the late nineteenth century, Sweden, Denmark, and Switzerland had the highest number of years of primary schooling: 2.5 years on average or more. France and the United Kingdom came after with slightly less than two, while Italy displayed the lowest level just north of one year on average in the 1890s (see Panza and Williamson 2021, for a similar comparison). Sweden also stands out in terms of literacy. Numbers are not available for as many countries, but according to Pamuk and van Zanden (2010), in 1870, the share of literate was 80 percent in Sweden, while the corresponding number was 76 percent in the United Kingdom, 69 percent in France, and just 32 percent in Italy.³ The United States is an outlier, with a high level of enrollments as well as a high skill premium. But the evidence for Latin America and Australia suggests that high skill premiums were a common phenomenon to the New World.

On the demand side, technical change, structural change, and labor mobilization might affect the structure of pay. Federico et al. (2021) point to the low number of Italians with US patents as an indication that technological development was rather tepid, and came mainly through the importation of foreign technologies. Looking at the same data on patents granted to foreign residents in the United States per million of inhabitants, Sweden seems to have been more innovative. While the Swedish patent rate in the United States was lower than for the United Kingdom, Switzerland, and Germany, it was greater than in the Netherlands and France, and way above Italy and Spain. There was also a rapid increase in the rate of Swedish patenting over the period (see Table 2 in Nuvolari and Vasta 2015).

Structural change can also impact the skill premium by shifting employment toward sectors where the demand for skills is greater, such as the engineering industry, and away from sectors where skills are less demanded, such as agriculture. The increase in demand resulting from this process is likely to have been great in Sweden. Over the period from 1860 to WWI, the share of employment in agriculture declined from 70 percent to 45 percent (Krantz and Schön 2007). Simultaneously, the share of workers grew in “modern” industries such as chemical processing and pulp and paper and, in particular, the engineering industry, which expanded immensely. This period saw the establishment of what has been dubbed the Swedish “brain industries” (*Snilleindustrier*), which built on new innovations in mechanical engineering and electrical machinery.

Taken together, both aspects of demand show signs of rapid expansion in Sweden in the years leading up to WWI. The economy was teeming with innovative activity and employment was shifting toward more skill-intensive activities. Despite this, the effect on supply coming from expanding education and emigration was large enough to counteract increasing demand, keeping the skill premium intact or even slightly falling. While demand for skilled workers

³ Crafts (1997), which is one of the publications that Pamuk and van Zanden is based on, has Sweden at 75 percent. It is not clear if the difference is an error on behalf of the latter or if they have made adjustments. There are however other indications that Sweden had high levels of human capital. O'Rourke and Williamson (1995) show Sweden and the Nordic countries among those with the highest literacy rates. Flora (1973) provides figures for illiteracy rates. In 1890, Sweden, Denmark, and Switzerland had the lowest illiteracy rates, all below 4.5 percent. In the United Kingdom and United States, it stood at around 13 percent, while it was 20 percent in France and as much as 55 percent in Italy.

was likely increasing much faster in Sweden than in Italy, both countries saw significant flows of overseas migrants, suggesting that this cannot be the only explanation for the lower skill premium in Sweden. Most likely, the wide diffusion of human capital explains most of the difference. The small impact of emigration on skill differentials is also in line with the conclusions from [Anderson \(2001\)](#).

4. Earnings advantage of white-collar professionals

A second aspect of earnings differentials is the gap in pay between regular workers and those at the top of the human capital distribution: the white-collar professionals. The development of the professionals' earnings advantage has been linked to the same type of education-related factors as the blue-collar skill premium, but in this case, it is not the distribution of basic human capital that plays the pivotal role. Instead, the diffusion and accessibility of higher education, such as secondary and tertiary schooling, is what matters the most.

A difference from the case of blue-collar skill premiums is also that the training to become a white-collar professional requires a much larger monetary investment and time in formal education. The financing of higher education therefore becomes more important in determining access to this type of human capital and, in turn, the premium earned by those possessing it. This theory thus predicts that lower fees and more generous financing for higher education increases educational enrollment and, in turn, reduces earnings premiums ([Jones and Yang 2016](#)). Sociologists also point to another channel by which access to education might reduce the professional earnings advantage net of its effect on skills. Through social closure, elites were previously able to earn significant rents above the market value of their skills because they held the right school-taught cultural dispositions. With the expansion of higher education, they gradually lost that advantage ([Bowles and Gintis 2002](#); [Cecchi and van De Werfhorst 2018](#)).

How have earnings premiums for professionals developed over time and across places? Starting with the evidence for the pre-WWI period, [figure 4](#) shows the difference between the earnings of different groups of white-collar workers compared to unskilled workers circa 1870 and 1910 in Sweden and a few other countries and territories for which we have been able to collect comparable data.

The top professions of professors and engineers are shown in the top panel. Individuals in these occupations earned between seven and twenty times as much as an unskilled worker in the 1870s. The comparative evidence is quite scant, however. For professors, we only have data for Sweden and Australia, and for engineers for those two countries and Britain. A professor earned more than fifteen times more than an unskilled worker both in Sweden and Australia in the 1870s, while the premium for engineers was smaller, about ten times an unskilled worker's wage. The advantage for engineers was slightly smaller in Sweden than in Australia and Britain in 1870, but this was no longer the case in 1910. Interestingly, there seems to have been a similar fall in the wage premium across all three places for both professions and over the period. The premium for professors fell to a multiple of less than ten, while the decline for engineers brought their advantage down to about five.

For the two white-collar occupations further down the ranking, clerks, and teachers, which are shown in the lower panel of [figure 4](#), the earnings difference to unskilled workers was smaller. In the case of clerks about five times the earnings of a farm laborer in 1870, and for teachers, the variation is large but the median across the different territories was close to three. In 1870, the premium for clerks seems to have been relatively large in Sweden compared to

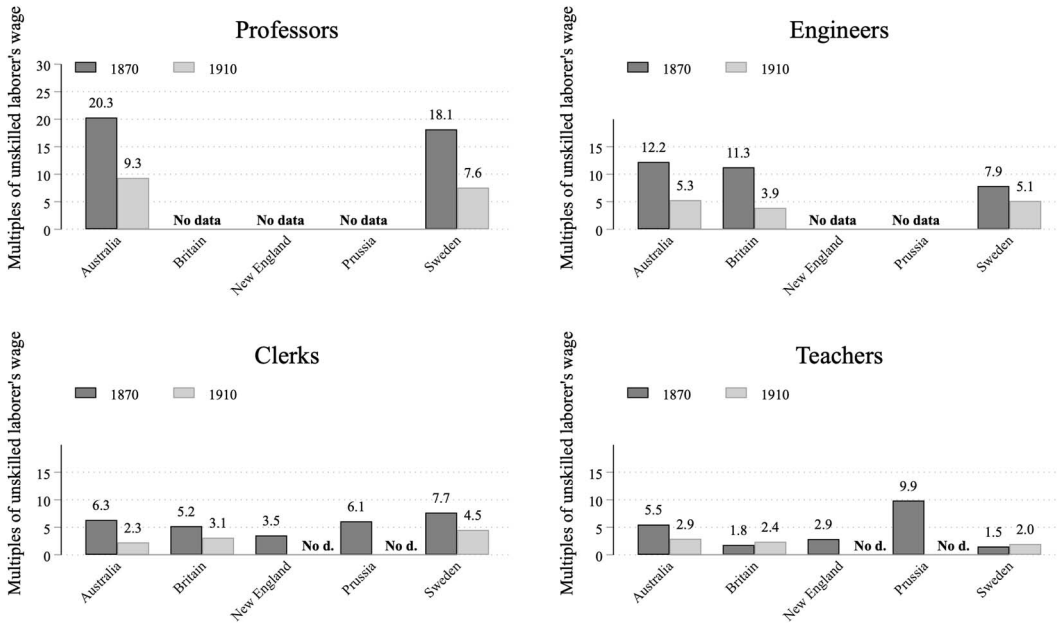


Figure 4. White-collar workers earnings advantage in Sweden compared to other countries, ca. 1870 and 1910. *Note:* Years differ between countries. Australia and New England 1870, Britain 1871, Prussia 1863, Sweden 1880. All wages are yearly wages as presented in the publications. In some cases, yearly wages are estimated from daily or weekly wages for unskilled workers, either by us or the authors of the source publication. *Source:* Australia from Panza and Williamson (2021); Britain from Williamson (1982); New England from Lindert and Williamson (2016); Prussia from Erfurth (2021); Sweden from Bengtsson and Prado (2020), Bagge, Lundberg, and Svenilsson (1935), Socialstyrelsen (1927), Welin (1906), and Granholm (2013).

the other places, while the opposite was true for teachers. Just as in the case for professors and engineers, the earnings advantage of clerks fell between 1870 and 1910 down to about 2.5. For teachers, the change is more varied, but in Sweden, there was a very slight increase over the period, but their earnings advantage remained very small.

For the first half of the twentieth century, we have access to slightly more information on comparative professional earnings. American economist Tibor Scitovsky collected data on earnings for different professions presented as multiples of per capita income of the occupied population from the end of the nineteenth century to the 1950s, with most observations concentrated in the later part of the period. The countries covered are the United States, the United Kingdom, Canada, France, Germany, Canada, Denmark, Norway, and Sweden. He collected information on five occupations: physicians, dentists, lawyers, professors, and high civil servants. Scitovsky only has information on physicians in Sweden up to 1930 and for lawyers only in 1930. We complement his information with some new benchmarks drawn from an ongoing project that is currently collecting a large sample of historical tax records for Sweden (Bengtsson et al. 2021). Using these data, we are able to add information on physicians in Sweden in 1940 and 1950, lawyers in 1920, 1940, and 1950, and professors in

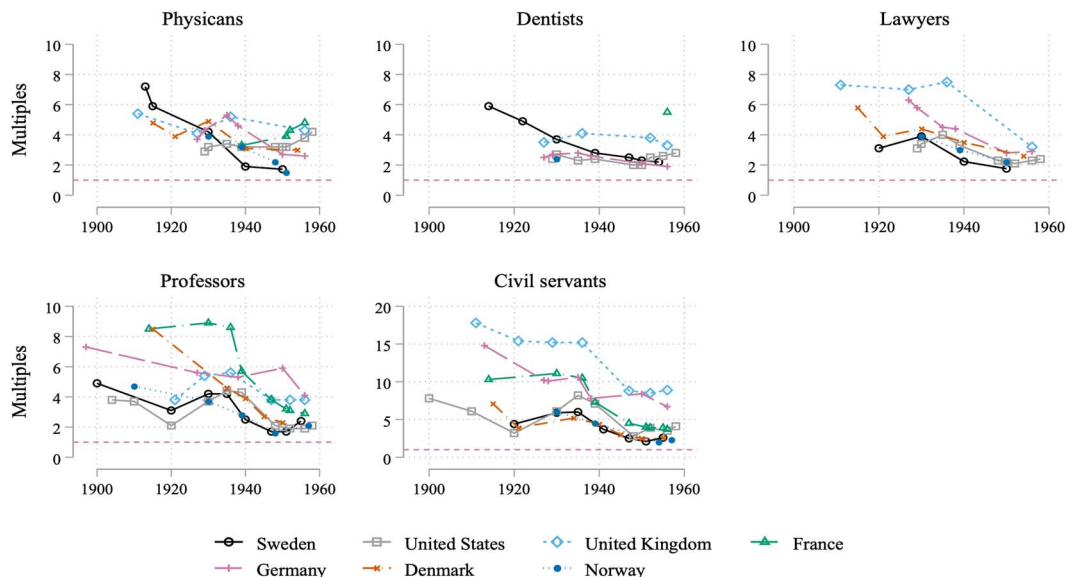


Figure 5. Earnings of professionals as multiples of per capita income of the occupied population. *Source:* Scitovsky (1966) and Bengtsson, Molinder, and Prado (2021). *Note:* We have added benchmarks for Sweden in the case of physicians in 1940 and 1950, lawyers in 1920, 1940, and 1950, and professors in 1900. To estimate per capita income of the occupied population, we use national income divided by total employment from the historical national account estimates by Krantz and Schön (2007). The “civil servants” category in Scitovsky’s data only refer to the highest paid civil servant in each country.

1900.⁴ The exact numbers in the comparison should be taken with a grain of salt, since the quality of the underlying data and what exactly defines a particular professional group may vary from country to country. It should, however, be possible to discern broader trends.

The series are shown in figure 5. A clear trend of a falling earnings advantage can be seen for all professions and across countries. A typical white-collar professional earned a multiple of six in the early twentieth century, a lead that had decreased to around 2.5 by the 1950s.

For the early twentieth century, the evidence for Sweden shows a mixed picture. The medical professions, physicians and dentists, had comparatively high relative earnings, while lawyers and professors held a relatively small advantage. The trend of falling earnings premiums is evident for all occupations, however. For physicians, dentists, and, to a lesser extent, professors, it was a continuous process starting in the beginning of the century. For lawyers and civil servants, the fall in the earnings advantage was concentrated to the 1930s and 1940s. By the 1950s, Sweden was among the countries with the smallest premiums in all occupations.

⁴ The validity of our additional benchmarks can be gauged by comparing Scitovsky’s estimate for professors in 1940 and 1950, when we can estimate income from the tax records for the same group. Scitovsky’s data suggest a multiple of 2.5 in 1940 and 1.7 in 1951, while the tax records suggest an advantage of 3.7 in 1940 and 2.35 in 1950. Thus, our data from the sample of tax records suggest a slightly larger advantage than Scitovsky’s numbers, but the trend of falling relative earnings is very similar.

In the cases where all three of the Scandinavian countries have data, the trends look quite similar, suggesting that similar processes played out across the region. The exception might be professors, which in Denmark started out with much greater relative earnings than in Sweden and Norway. Interestingly, the United States appear to have started out with the smallest earning gaps in the early twentieth century. The leveling did not go as far there, however, and by the 1950s, differences were smaller in Sweden and several of the other countries.

The trend of a falling professional earnings advantage in Sweden over the period from the late nineteenth century to the postwar period is evident in other studies as well. [Ljungberg \(2006\)](#) presents the pay advantage of graduate engineers, technicians, and grammar teachers from 1870 to 2000. He shows a declining trend in the premium starting in the 1880s that would last until the 1990s. [Bengtsson and Prado \(2020\)](#) present information on the earnings advantage of some groups of salaried employees from 1830 to 1940. They similarly find a trend of decreasing earnings ratios beginning in the early 1900s, following an increase during the nineteenth century. [Granholtm \(2013\)](#) shows evidence on relative pay for different public officials from the 1860s to the present. The data depict a rapidly declining advantage from the 1860s to the 1950s and more stability thereafter. Finally, [Bengtsson and Molinder \(2021\)](#) show the earnings advantage of the professional elite in two rich Stockholm areas between 1909 and 1950 taken from tax records. In 1909, these professionals had earnings on average ten times GDP per capita, an advantage that had reduced to five by 1950.

As an indicator of the supply of white-collar workers, [figure 6](#) shows how the share of white-collar workers in the labor force developed over time for five countries. Sweden started from a very low level. In 1870, white-collar workers accounted for only 2 percent of the workforce. This can be compared with the United States, where they made up 11 percent in the same year. By 1900, Sweden was still well behind the United States, the UK, and Germany, with only Italy at a comparable level. Sweden then began to catch up, overtaking the UK in the early 1920s and reaching parity with Germany by 1950. In 1870, the share of white-collar workers in the United States was five times higher than in Sweden; by 1950, this gap had narrowed to less than twice as high. In both Sweden and the United States, the decline in the white-collar earnings advantage occurred against the backdrop of rapidly rising demand for higher-skilled labor. In both countries, educational systems were able to support the massive expansion of education needed to ensure that earnings premiums declined while the demand for skilled labor increased.

The data in the figure also reveal an interesting pattern that complements the data on income and wages. While Swedish top income shares and white-collar wage gaps have often been at similar or even higher levels than those in other countries, the white-collar group in Sweden remained relatively small until the mid-twentieth century. Therefore, the decile with the highest incomes in Sweden must have included a large proportion of blue-collar workers. Although white-collar workers were often comparatively well paid, they represented only a small fraction of the labor force. As their share began to increase, their relative income declined.

In terms of explanations for historical and comparative patterns, Scitovsky himself emphasized access to higher education. In addition to the evidence on professional earnings in the seven countries presented above, he also collected cross-sectional data on the salary of the head meteorologist as multiple of office messenger's pay for a large number of developed and developing countries in 1953. He then plotted this relative earnings data against higher education enrollment per one thousand population in the same countries, revealing a very strong negative correlation between the two.

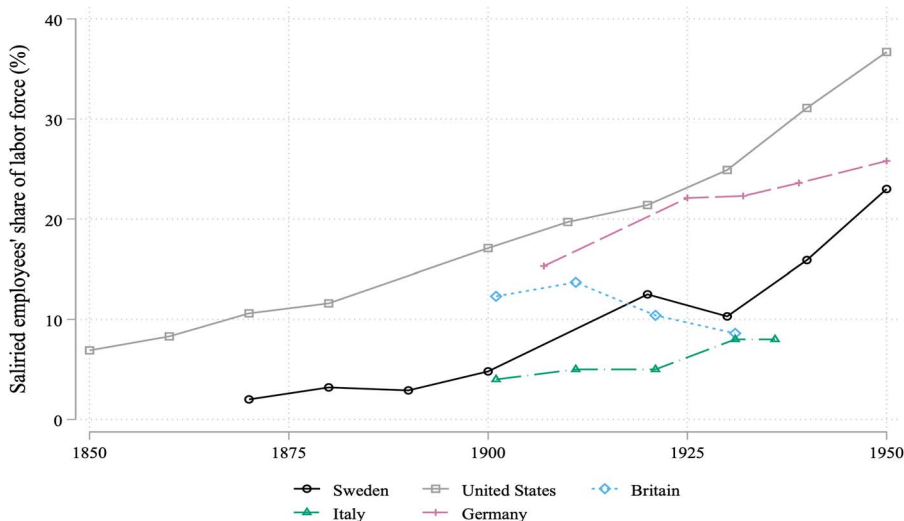


Figure 6. White-collar employee's share of employment. *Source:* Sweden: [Bengtsson et al. \(2021\)](#), United States: [Katz and Margo \(2014\)](#), Britain and Germany: [Gómez León and De Jong \(2019\)](#), Italy: [Gómez-León and Gabbuti \(2021\)](#).

It is well known that the United States historically was by far the world leader in terms of university enrollment, a leadership that lasted up until recently. In the 1950s, almost 15 percent had enrolled in tertiary education. According to the Lee and Lee education dataset, the share of the adult population in Sweden with at least some college education rose during the first half of the twentieth century from almost nothing to about 5 percent in 1950, the highest after the United States among the countries compared in [figure 5](#). Denmark followed a similar pattern to Sweden and ended up in third place by 1950. The fact that both Sweden and Denmark started out with among the lowest levels of tertiary level educational attainment around 1900 also might help to explain why the two countries experienced a shift in comparative levels of professional earnings premiums from the middle of the pack to having in most cases the smallest differentials by the 1950s. In addition to education, the explanations invoked by [Alverado et al. \(2013\)](#) emphasizing the introduction of progressive taxes might also have capped pre-tax top salaries, as we know from the research of [Bengtsson and Molinder \(2021\)](#) that many high-paid professionals made it into the top percentiles of the income distribution.⁵

⁵ [Alverado et al. \(2013, p. 8\)](#) find that there is a strong negative correlation between changes in top income tax rates and pre-tax income concentration. When the United States lowered their top income tax rates, pre-tax income concentration increased. Countries that did not change their tax rates did not see a similar development. They speculate that higher income taxes reduce the bargaining incentive for high-income earners. High top income taxes would therefore affect both pre- and post-tax incomes.

5. Gender wage gaps

A salient phenomenon in economic inequality is the lesser pay for women compared to that of men. But despite the universal existence of a female wage penalty, the extent of the gender pay gap varies significantly across countries and time periods.

In terms of explanations for the size of the gender gap in pay, [Olivetti and Petrongolo \(2016\)](#) list equal pay legislation, technological shifts, and evolving social norms as reasons for wage convergence between men and women over time. In particular, technological change that has raised the value of non-manual and non-routine tasks relative to manual and routine jobs has shifted demand toward female labor. A similar process has also resulted from the transition to a service economy, which has led to the creation of jobs suited to women's skills and preferences. A strand of research has focused on the evolution of social norms around women's work as significant drivers of wage equalization ([Fernández 2013](#); [Fernández, Fogli, and Olivetti 2004](#)). This suggests that gender norms change as more women enter the labor market through a positive feedback loop. The importance of institutions is also illustrated by the greater gender equality in countries that experienced socialism during the twentieth century ([Klasen 2019](#)). Across countries, it is also clear that more progressive attitudes toward gender roles are positively associated with more egalitarian gender outcomes ([Fortin 2005](#)). A recent literature has, however, illustrated the existence of deep historical roots in differences across countries in gender outcomes. One example shows that the descendants of societies that traditionally practiced plow agriculture have less equal gender norms today than those from societies with plow-free cultivation systems. Another study puts emphasis on a specific type of climatic and geographical conditions especially prevalent in north-western Europe, which created opportunity endowments to reduce fertility pressures for women and encouraged later marriages in the pre-industrial era, which as signified by the European Marriage Pattern. The resulting family and household pattern placed women in a more favorable position to strive for gender equality during the transition to later stages of development ([Santos Silva et al. 2017](#)). There is also research showing that societies that historically had nuclear family systems and those shaped by Protestantism display higher gender equality today.

Another factor that might influence the gender pay gap is the overall dispersion in wages. The reasoning being that in places where the wage distribution is more compressed, such as in the Nordic countries today, individuals' characteristics such as skill, experience, and type of firm have a smaller influence on wages, and, as a consequence, bring down the difference between men's and women's pay. [Olivetti and Petrongolo \(2016\)](#) emphasize the impact of structural change, and argue that the shift to a services economy can account for the simultaneous rise of women's relative wages and hours worked. The issue with the explanation is that there are major differences in gender gaps between countries that have similar employment shares in industry.

We have collected available historical data on gender gaps in wages from several secondary sources. We have opted for wage gaps either in manufacturing or, whenever available, for the economy as a whole. For Sweden, we have two sources for the historical gender wage gap. The first is the series for manufacturing starting in 1865 reported by [Prado \(2010\)](#). He combined wage gaps for different subindustries and weighted them according to employment. The second is the economy-wide series collected by [Svensson \(2003\)](#), which starts in 1920. He composed a series from official wage statistics covering industry and services. The OECD also provides data on economy-wide gender gaps for employees since 1970, although some countries only start reporting later.

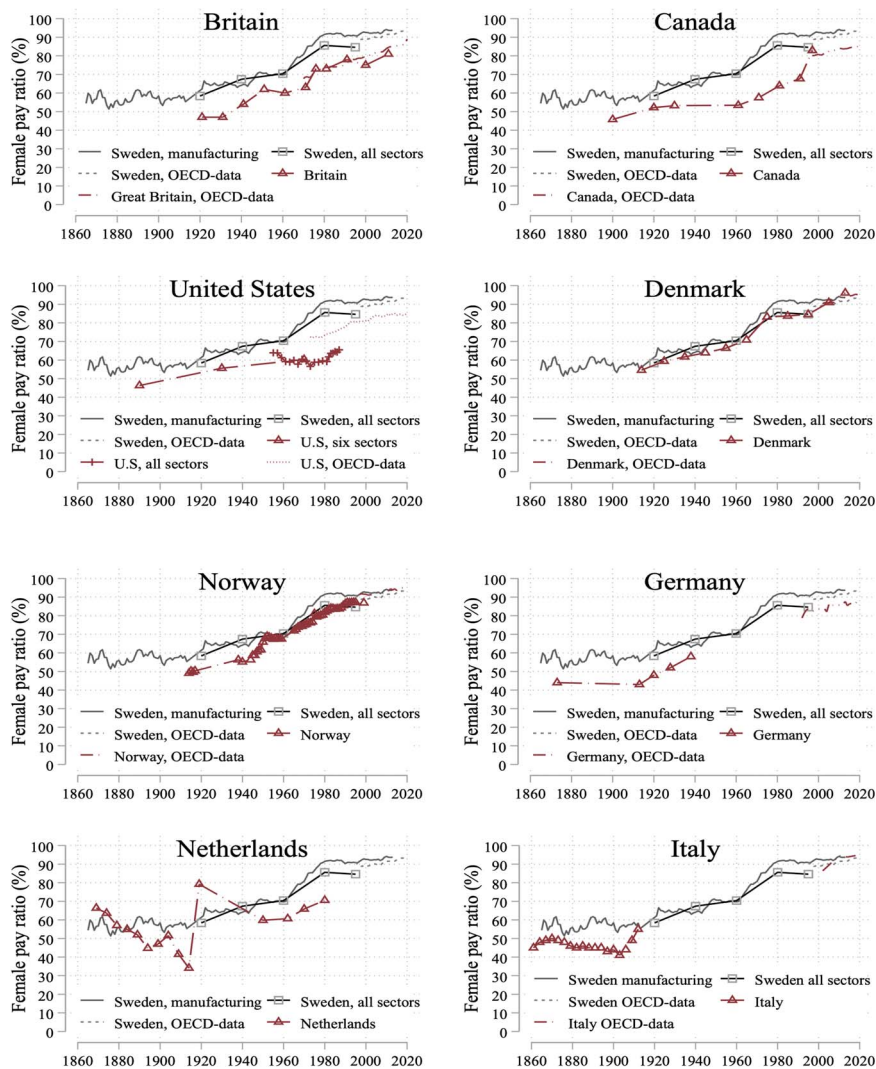


Figure 7. The gender wage ratio in Sweden compared to other countries. *Note:* Swedish industrial wages from Prado (2010) and economy-wide from Svensson (2003); wages for Britain from Bryson et al. (2020), referring to full time manual employees between 1921–1961 and full time employees after that; wages for Canada 1900–1930 from Altman and Lamontagne (1996), between 1961–1997 from Fortin and Huberman (2002), both economy wide; wages for United States between 1861–1970 refer to six sectors and between 1955–1987 economy-wide, both from Goldin (1990); wages for Denmark refer to crafts and industry, from Danmarks Statistik (2015); wages for Norway from Norge. Statistisk sentralbyrå, various years; wages for The Netherlands refer to casual industry labor between 1869–1919, from Boter (2017) and between 1950–1961 hourly wages in industry, after that industry and services, from Schippers and Siegers (1986); wages for Italy from Federico et al. (2021). OECD for all countries except the Netherlands. The data for Italy has kindly been shared by Leonardo Ridolfi.

There are two principal ways to calculate the gender wage gap. The first is the unadjusted pay gap, where average earnings of women are compared to average earnings of men. The second is the adjusted pay gap, which tries to measure the difference between the genders when controlling for characteristics that tend to influence the wage level, such as skill and education. The unadjusted pay gap tends to be larger than the adjusted pay gap, which reveals that a large part of the differences between women and men stems from the fact that female-dominated occupations have lower wages than male dominated.

We have attempted, whenever possible, to use unadjusted, economy-wide, gender gaps. The reason is that we believe this measurement is more suitable for assessing the overall status of women in society. If there is a strong selection into female dominated occupations and they have markedly lower wages than male dominated occupations, the adjusted pay gap might indicate that disparities are small while they in practice are quite substantial. Some could argue that the unadjusted pay gap is “natural” and not a sign of discrimination, and that women are hardwired to pursue certain occupations that have lower productivity. This however neglects the historical fact that what types of jobs that are interpreted as feminine and masculine is not fixed. There are several jobs that have undergone a masculinization or feminization process that is not directly related to shifts in production methods and technology (Sommestad 1994; Wikander 1988).

While we prefer to use the economy-wide unadjusted pay gap, it has not always been possible since there are only a few countries where these are available for longer periods. This means that we have chosen to include wage gaps in manufacturing as a substitute when such data are available. Our estimates are likely to underestimate the pay gap in countries where we only have numbers for manufacturing. Importantly, for Sweden, we have access to both the industry-specific and the economy-wide series from 1920, which provides a cross-check of the validity of the two series.

In addition to Sweden, the countries and territories that we have been able to collect data for are Great Britain, Canada, the United States, Denmark, Norway, Germany, the Netherlands, and Italy. Figure 7 shows the series for each place compared to Sweden.

Starting with the evidence for Sweden, the gender wage gap in manufacturing started out at around 60 percent in the 1860s and then remained stable during the period up to WWI. From this point on, it started to increase. The rise was slow but continuous until the 1960s when a rapid increase ensued that lasted until about 1980 and that brought the gap from about 70 to 90 percent. Since the 1980s, the gap has been stable. The economy-wide series tells a similar story, but stagnates at a lower level in the 1980s. The OECD data, only available from 1990, also depicts stability in the gap during the last couple of decades.

In comparison to the other countries, a few interesting patterns emerge. The gender pay gap in Denmark and to some extent Norway followed a very similar trajectory as that in Sweden. In Denmark, the wage gap in the 1920s and 1930s was basically the same as in Sweden, while it was slightly larger in Norway. Norway caught up during the 1940s, however. In contrast to the English-speaking countries: Britain, Canada, and the United States, the gender pay gap in Sweden and the other two Scandinavian countries was clearly smaller both historically as well as in the more recent decades. For the countries in North-Western Europe the pattern is more mixed. The gap in Germany in the later nineteenth and early twentieth century was clearly greater, while the Netherlands shows large variation over time. The Dutch series begins at almost 70 percent but declines throughout the period prior to WWI, and then sees a quick upsurge during the war but then falls back again in the early postwar period. The only Southern European country for which we have found historical data for this period is Italy. The Italian series shows a gap of just below 50 percent in the late nineteenth century

with a slightly declining trend up to the early twentieth century when the ratio shoots up. Unfortunately, the Italian data end in 1912 so it is not possible to discern whether it was a temporary swing or a more permanent shift.

There is some further scattered evidence for other countries of the industrial gender wage gap for the early twentieth century collected by Ewout Frankema. In Chile (1909), Australia (1912) and New Zealand (1906), women in industry earned some 40 to 46 percent of men whereas the same number in Sweden was above 55 percent. Brazil and Buenos Aires in Argentina however had a similar wage gap as Sweden in 1917 and 1920 respectively. In the late 1930s, Mexico and Colombia also had numbers that were close to Sweden. Buenos Aires is the only of those places with another observation further in time, one for 1940, which suggests that the gender gap had increased during the intervening period (Frankema 2012, Table 2).

While the historical data are far from perfect, taken together, the evidence suggests that the gender pay gap in Sweden, and perhaps in Scandinavia as a whole, was relatively small historically. It thus seems that the gradient in gender pay ratios that we can observe in modern data, and where the Scandinavian countries typically come out on top, has some historical precedence, at least in contrast to the English-speaking areas.

One factor that must be considered for understanding the gender pay gap is differences in female labor force participation across time and across countries. Research has found that in places with a larger gender gap in participation today, such as in southern Europe, working women tend to have characteristics associated with high wages. In places with lower participation gaps, women from the lower end of the potential distribution of wages are also working, leading to a bigger gap in wages than in places where working women are a more strongly selected subset of all women (Olivetti and Petrongolo 2008). Separate from the issue of selection, a higher participation rate might signify a greater supply of female labor, which, everything else equal, would serve to depress wages and lead to a greater wage gap.

How did the trend in wage gaps relate to the trajectory of women's participation in the labor market? Drawing on census data collected by the International Labour Organization (ILO), Olivetti (2014) presents the trajectory of several now-developed economies since 1890. According to these data, in both the United States and Canada, women's labor force participation rose from very low rates in the early twentieth century to about 60 percent by the 1980s. The Netherlands followed a pattern similar to these two countries, but with the rise starting later, while in Germany, participation was historically higher but remained stable. Sweden and Denmark followed a similar trajectory, with growth from the 1960s starting from a historically higher level. Norway and Italy are the only two cases where participation was on a clear downward trajectory prior to the 1960s. The UK was similar to Germany but experienced a greater increase in participation rates since 1980. Taken together, differences in participation rates do not seem to explain differences in relative wages. Sweden and Denmark displayed among the highest participation rates and simultaneously the lowest wage gaps.

The comparison above should be interpreted with great caution, however. Measuring women's labor force participation rates historically is always challenging, as census sources are often riddled with biases. There are, however, a few countries, including Sweden, for which careful assessments have been done to ensure that the figures conform to modern labor force survey definitions. Such evidence is available in the work by van Nederveen Meerkerk (2012) and Schmidt and van Nederveen Meerkerk (2012) for the Netherlands, Hatton and Bailey (2001) for England and Wales, and Molinder (2022) for Sweden. A comparison of these studies in the early 1900s suggests that participation was highest in Sweden, at about 55 percent, compared to around 30 percent in England and Wales, and 25 percent in the

Netherlands. This evidence once again indicates that Sweden had a relatively small wage gap despite a comparatively high level of participation.

Another potentially important factor for female pay gaps is women's education. However, differences in rates of female educational attainment are unlikely to account for the pattern of pay gaps. Drawing on comparative data collected by [Lee and Lee \(2016\)](#), both Sweden and the United States perform very well in terms of women's average years of education and the share of women with basic schooling. However, while Sweden displays relatively small wage gaps, they were much greater in the United States.

When interpreting the evidence, it is also important to acknowledge that while there are significant differences between countries observed at the same point in time, the main story that the data convey is clearly that of more or less consistent progress over the long run in all countries in the comparison. The gap of 15 percentage points between Sweden and Germany in the late nineteenth century is smaller than the difference of 30 percentage points between Sweden in the 1860s and Sweden today.

6. Regional differences

The difference in incomes across regions of a country is another salient cleavage in both industrial society and today. In a famous study, Jeffrey Williamson posited a Kuznets-like pattern of regional inequality over the process of economic development; In the initial stages of industrialization regional dispersion in incomes tend to increase until development reaches a point where inequality starts instead to decrease. Williamson argued that this pattern resulted from the fact that industrial expansion was concentrated in specific locations during the initial stages of development, while the remaining regions remained predominantly agricultural. Over time, industrialization spreads more widely, and regional disparities decrease as a consequence. According to Williamson, market integration through the flow of capital and labor contributes to the process ([Williamson 1965](#); [Barrios and Strobl 2009](#)).

In [figure 8](#), we have collected the available evidence on the dispersion of regional GDP per capita for countries with data that go back to at least the early twentieth century (see [Enflo and Rosés 2015](#), for a similar comparison). These data are not completely comparable as estimates differ to some extent in their methodology. The figure, however, provides an outline of the broad trends. As can be seen in the figure, Sweden started out in the early twentieth century with levels of regional inequality similar to other Western and Southern European countries. In the late 1800s, the Gini of regional GDP per capita in Sweden was on parity with that in Italy and Belgium, and higher than in Spain and Britain. However, over the course of the late nineteenth and early twentieth century regional inequality kept decreasing in Sweden, such that by the 1950s, Sweden had the lowest dispersion in regional GDP per capita of all the countries in the comparison. There were two main episodes of leveling. The first consisted of the early industrialization period from the 1860s to the outbreak of WWI. The second took place in the decades after WW2. Regional inequality reached its low-point in the 1980s, after which point it has increased slightly but remains low compared to the comparison countries.

What is remarkable is that Sweden's regional inequality trended downward in the second half of the nineteenth century and into the twentieth century while it was increasing in most other places. The only other country that experienced falling inequality over the same period was Belgium. While theory links rising inequality to the unequal distribution of industrialization and the creation of national markets, it is interesting to observe that the same process in the Swedish case was not associated with rising disparities, but rather, the opposite.

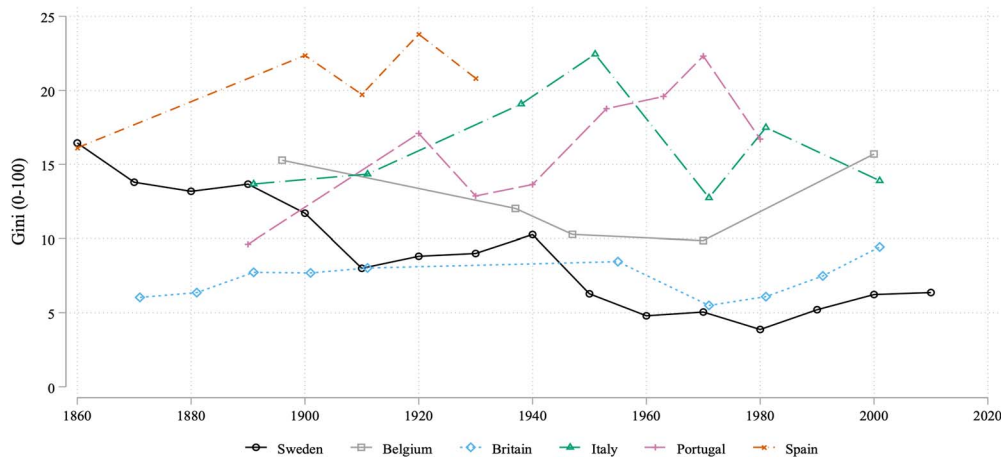


Figure 8. Dispersion of regional GDP per capita in Sweden compared to other countries. *Note:* Own calculations based on regional GDP per capita series. Sweden: [Enflo et al. \(2014\)](#); Britain: [Crafts \(2005\)](#); Belgium: [Buyst \(2010\)](#); Italy: [Felice \(2011\)](#); Portugal: [Badia-Miró, Guilera, and Lains \(2012\)](#); Spain: [Martínez-Galarraga, Rosés, and Tirado \(2015\)](#). See [Enflo and Rosés \(2015, fig. 3\)](#) for a similar comparison.

The pattern is also not the result of differential levels of national economic development across countries, as Sweden shows lower regional dispersion for all levels of GDP per capita ([Enflo and Rosés 2015](#)).

In recent years, there has also been an upsurge in studies of regional wages that confirm the results for Sweden on regional GDP per capita. [Collin, Lundh, and Prado \(2019\)](#) examine the evolution of regional wage differentials for manufacturing workers across the twenty-four historical Swedish counties between 1860 and 2009. They show that the labor market became increasingly integrated over time, as differences in wages declined and the regions with the lowest wages at the outset experienced the most rapid increase. The same is the case in the series for wages of day-workers in agriculture across the same 24 counties over the 1757 to 1980 period presented in [Prado et al. \(2021\)](#), and for construction workers between 1831 and 1900 analyzed by [Ericsson and Molinder \(2020\)](#) (see also [Collin 2016](#)).

What could explain the rapid rate of regional convergence in Sweden? One prominent factor is geographical mobility. [Enflo, Henning, and Schön \(2014\)](#) show that internal migration was very responsive to wage differentials and shifted supply away from low wage regions, acting as a catalyst for wage growth in those places.⁶ In a similar vein, [Söderberg \(1985\)](#) examined the responsiveness of internal migration to regional dispersion in wages and showed—in a comparison with France, Britain, and Prussia—that Sweden displayed the highest receptiveness. These results indicate that responsiveness to changed market conditions could help explain the pattern of rapid regional convergence.

What could then explain this high responsiveness of the Swedish population to the changes that came with industrialization? An interesting potential explanation comes from the work of Michael Heffernan. He looked at the difference in geographical mobility between literate and

⁶ See also [Enflo and Rosés \(2015\)](#) and [Collin et al. \(2019\)](#) for a similar explanation for the strong rate of real wage convergence.

non-literate conscripts in a region of France during the latter half of the nineteenth century and found that the literate group had significantly higher migration rates (Heffernan 1992). If literacy (and human capital more broadly) is important for mobility, then the overall level of human capital in the population might be relevant for how well people are able to act on the opportunities that came with economic development. As we have surveyed earlier in this article, Sweden had an early advantage in basic human capital, signified both by high rates of literacy and primary schooling. These high rates of basic human capital might have made Sweden particularly well equipped to deal with the opportunities that came with economic growth, and this could be a reason why regional convergence was so rapid.

7. Discussion and conclusions

In this article, we have provided the first encompassing comparative investigation of inequality in Sweden in the nineteenth and early twentieth century. In fact, it is as far as we know the first systematic review of comparative historical inequality for any country. By extending the range of inequality indicators, we have been able to offer a new interpretation of the evolution of inequality in Sweden.

As described in the introduction, ideas about historical levels of inequality in Sweden have varied significantly. Authors like Rothstein and Uslaner (2005) have pointed to an initially more egalitarian social structure as the reason Sweden and the other Scandinavian countries developed extensive welfare states, but without any data to back up their claim. Bengtsson (2019) to the contrary, pointing to data on top income shares and wealth inequality, argues that Sweden in the late nineteenth century was among the most unequal countries in the western world. Our examination of top income and wealth shares also confirmed that Sweden was among the most unequal according to this metric. However, top distribution measures do not reveal anything about the distribution among the vast majority of the population and do not allow any examination of specific economic cleavages between different groups.

Along some dimensions, such as blue-collar skill premiums and the gender wage gap, it appears that equality was greater in Sweden already in the late nineteenth century when our earliest data series starts. The results for each indicator can be found in Table 1. Our results thus conform quite well with Esping-Andersen's notion of a Swedish socio-economic structure characterized by a very rich elite but with much smaller economic cleavages among the large majority of the population, even though his notion that the "popular masses were divided by very little except geographic distance" (Esping-Andersen 1992, p. 40) might be slightly exaggerated.

It is also of note that in cases where comparable data exist, it seems that the other Scandinavian countries followed a trajectory similar to Sweden. In terms of gender wage gaps and skill differentials among blue-collar workers, they were similarly small in Denmark and Norway. The same is true for the evolution of white-collar income premiums, where the Scandinavian countries seem to have followed in the reversal from large to relatively small differences. Explanations for the trajectory of economic inequality in Sweden should therefore also conform to the experience of its Scandinavian neighbors. It is also important to emphasize that in terms of top income shares, white-collar income premiums, and gender wage gaps, all countries in comparison experienced significant leveling over the period. As Frey (2019) argues, the technological development associated with the second industrial revolution seems to have been conducive to wage growth and decreased inequalities. These technologies were however widely adopted across the western world and do not seem to

Table 1. *Summary of results.*

Indicator	Results
Top wealth shares	Rising concentration levels in the nineteenth century, declining in the twentieth until 1980 followed by small increase. Sweden went from high levels compared to Western countries to one of the lowest.
Top income shares	Very high concentration levels at the beginning of the twentieth century with rapid decline from the 1910s until mid-century. Sweden went from one of the highest to one of the lowest levels.
Blue-collar skill premiums	Skill premium relatively stable between 1860 and 1910s. Sweden lowest or among the lowest throughout.
White-collar skill premiums	Skill premiums high in the 1870s and falling. Sweden's position differed depending on profession. Started out relatively high for some occupations but low for others. Among the lowest for most occupations by the 1940s
Gender wage gap	Gender wage gaps decreased for all countries from the late nineteenth and early twentieth century. Together with the other Nordic countries, the Swedish gap was the smallest throughout the period.
Regional inequality	Unlike other indicators, regional GDP dispersion did not follow similar trends across countries. For Sweden, there was a downward trend from the 1860s during industrialization while other countries saw increases. From the 1960s, convergence in Sweden halted and then reversed, similar to some countries whereas others had opposing trend.

explain the differences across countries. Instead, the wide distribution of literacy and basic human capital probably goes a long way in explaining why wage differentials among blue-collar workers of different skill were quite small in Sweden. This factor might also explain that labor markets were so well integrated. Workers were able to react to price signals and were willing to migrate to places with greater prospects, which in turn explains why regional differences in GDP per capita and wages converged so rapidly.

Our new evidence also highlights a different timing of the start of equalization. While [Bengtsson \(2019\)](#) and [Gärtner and Prado \(2016\)](#) claim that inequality only started to decline in the 1920s, we show that this process began several decades earlier. This casts the development of inequality and institutions in a different light compared with many previous explanations. It does not square very well with [Acemoglu and Robinson's \(2000\)](#) interpretation that rising inequality led to extension of the franchise, which in turn led to lower inequality through redistribution since the near universal suffrage was not introduced until the 1920s, and the leveling process had started before that. Other factors, such as the labor movement, collective bargaining, and social spending, which all have been emphasized in earlier research, were still important. The way in which they mattered though is cast in a different light by our findings. Rather than politics being the prime mover, changes in the economy came first. When the labor movement gained strength, they did this on the back of rising real wages and an improved relative position. This aligns with the findings of [Karadja and Prawitz \(2019\)](#), who argue that emigration to America in the late nineteenth century increased the political influence of the labor movement and led to higher welfare expenditures

in municipalities. They also find that wage increases were most pronounced in counties with the highest emigration rates. While their study emphasizes a slightly different mechanism, their findings support the broader narrative presented here: workers were clear beneficiaries of the structural changes in the first era of globalization and leveraged their improved position to advance their political interests. Another case in point is women's relative wages. Even though there was a pronounced gender gap in Sweden, this was lower than in many other comparable countries. Women's wages started increasing in spite of political decisions.

Our results also have further implications. Since incomes seem to have been more compressed at the bottom, this means that consumption could also be more evenly spread. That would have allowed the poorer segments to enjoy a living standard that in many ways was comparable to, or even higher than, countries with higher estimated GDP.

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Conflicts of interest

None declared.

Data availability

The data underlying the figures in the article are available as online supplementary material and in the data repository Ericsson, Johan, and Molinder, Jakob. How Deep Are the Roots of Swedish Egalitarianism? A Multidimensional Approach. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2025-03-28. <https://doi.org/10.3886/E224522V1>.

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