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## **Marginal Taxation of Labor Income in Sweden from 1862 to 2010**

Gunnar Du Rietz, Dan Johansson and Mikael  
Stenkula

# Marginal Taxation of Labor Income in Sweden from 1862 to 2010\*

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September 18, 2013

## *Abstract:*

This paper presents annual Swedish time series data on the top marginal tax wedge and marginal tax wedges on labor for a low, average and high income earner for the period 1862 to 2010. We identify four distinct periods separated by major tax reforms. The tax system can be depicted as proportional, with low tax wedges until World War II. Next follows a period featuring increasing tax wedges beginning in connection with World War II. During the third period, starting with the 1971 tax reform and continuing throughout the 1980s, the efforts to redistribute income culminated and tax wedges peaked. The high income earner started to pay the top marginal tax wedge which could be 90 percent. The main explanations for this development are temporary crises leading to permanent tax increases, expansion of the public sector and distributional ambitions, bracket-creep and the introduction of social security contributions paid by the employers. The 1990–1991 tax reform represents the beginning of a new and still continuing period with decreasing marginal tax wedges.

*JEL-codes:* H21, H31, N44

*Keywords:* Labor taxation, Marginal tax rate, Marginal tax wedge, Tax reforms.

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# 1 Introduction

Institutions—the rules of the game—are considered critical for economic growth.<sup>1</sup> Detailed knowledge about the structure and evolution of central institutions are therefore needed to understand a country's economic performance. For this, long-term perspectives are usually required, since institutions may change slowly and since it may take long time—sometimes generations—before institutional changes fully impact economic behavior.

The tax system is one of society's most fundamental institutions, as taxation has profound effects on many economic decisions, such as labor supply, savings and investments. The taxation of factors of production—especially labor and capital—has attracted particular interest since taxation is a major determinant of their quantity, quality and usage over time. This paper studies income taxes on labor (we will treat capital taxation in a separate article).<sup>2</sup> We will analyze how the tax levels on labor income have developed over time, if any turning points can be detected and if certain time periods with distinct characteristics can be distinguished in Swedish tax history.

Much research on labor taxation concerns the effects of marginal taxation as it influences, among other things, labor supply in hours, effort at work, efficiency at work, educational efforts, and timing of consumption.<sup>3</sup> Therefore, we would also expect changes in marginal tax rates to influence the growth rate of taxable income, real gross domestic product (GDP) and other macroeconomic aggregates.

Even though the effects of the tax system have been studied extensively, the results are often complex and ambiguous. Empirically, problems repeatedly arise because the effects of taxation should be assessed over long time spans; however, data are in general only available for relatively short periods. Hence, there is a need for research to produce long homogenous time series on taxation, which can further our understanding of the structure of the tax system and its role in industrialization and creation of wealth.

Rather than examining the effect from one narrow form of taxation, like the marginal income tax on labor, a wider measure—such as the marginal tax wedge on labor—is often

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<sup>1</sup> North and Thomas (1973), Rosenberg and Birdzell (1986), Mokyr (1990), Berggren (2003), Rodrik et al. (2004) and Acemoglu et al. (2005).

<sup>2</sup> This is part of a project that includes a comprehensive effort to characterize the Swedish tax system from 1862 to 2010.

<sup>3</sup> A distinction is often made between intensive and extensive marginal decisions. The intensive marginal decision, which affects the number of work hours and effort put in by those already employed, are mainly influenced by the marginal tax rates. The extensive marginal decision, which affects the incentive to participate in the labor market, are mainly influenced by the average tax rates.

preferable.<sup>4</sup> The marginal tax wedge on labor incorporates marginal income taxes, marginal social security contributions and marginal payroll taxes. Sometimes consumption taxes are included as well, and social security contributions can also be adjusted to include only the fiscal part. This measure better captures the effect on individual decision-making and it is also the main determinant of the excess burden of taxation, i.e., the distortionary costs in the economy that taxes create.<sup>5</sup>

The purpose of this paper is to calculate the long-term evolution of the marginal tax wedges on labor income for Sweden. We believe that Sweden is of interest as a policy experiment. To finance the rise of the welfare state, the Swedish tax-to-GDP ratio increased from one of the lowest in the Western countries at the beginning of the 20<sup>th</sup> century to the highest in the world in the mid-1960s.<sup>6</sup> Sweden has kept the highest tax-to-GDP ratio until recently, having been surpassed by Denmark.<sup>7</sup> Considered as the “archetype” of the Welfare state, Sweden has attracted particular notice from researchers and policy makers and sparked an unsettled debate about the possibility of combining high taxes and economic growth.<sup>8</sup> As a neutral country during both World Wars, Sweden also avoided massive destruction making long run analysis appropriate, as the long-term outcome pattern for many other European countries severely may be affected by these events. Sweden also has excellent tax records making an analysis possible to accomplish.

As the marginal tax wedges often change with income, it is not possible to derive one measure of the marginal tax wedge valid for all incomes. In this paper, we will therefore compute the top marginal tax wedge as well as the marginal tax wedge for a high, average and low income earner. Parallel to these measures, we compute the income when the top marginal tax wedge starts to apply.

The analysis begins in 1862 when Sweden implemented a major new state (central government) tax system. The decades around the 1850s are historically important, as the Swedish economy was extensively deregulated, industrialization began and growth levels

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<sup>4</sup> This is because individual choices are affected by several forms of taxations. The marginal income tax rate captures the effect from one, the income tax on labor, while the marginal tax wedge incorporates the effect from other taxes as well. The incentive effect from these taxes, for instance, the social security contributions paid by employers can be large and it has, therefore been argued that a tax measure taking account of the combined effect from different taxes better seizes the effect on individual decision making from taxation. See, for instance, Agell et al. (1998) or Sørensen (2004) for a thorough discussion.

<sup>5</sup> The excess burden is, furthermore, not a linear function of the marginal tax wedge but an increasing convex function, i.e., the burden increases disproportionately faster than the marginal tax wedge, which implies large distortion costs at high tax levels, see Hansson and Norrman (1996), Hansson (2000) or Jaimovich and Rebelo (2012).

<sup>6</sup> Rodriguez (1981).

<sup>7</sup> See, for instance, <http://stats.oecd.org/Index.aspx?DataSetCode=REV>.

<sup>8</sup> Okun (1975), Esping-Andersen (1990), Lindbeck (1997), Madrick (2009).

took off.<sup>9</sup> Hence, we will exploit official statistics and tax laws to describe almost 150 years of tax rates.

Marginal tax rates on labor income, especially top marginal tax rates, for several countries (including Sweden) have been examined in a number of studies.<sup>10</sup> Country-specific analyses covering marginal tax rates have been done for the US<sup>11</sup>, the UK<sup>12</sup> and Germany<sup>13</sup>, for example. Yet none of these studies go as far back as 1862 and they have not calculated the marginal tax *wedge* on labor. Neither has the income at which the top marginal tax wedge starts to apply been calculated. Hence, no one has generated this kind of dataset for Sweden before, and we are unaware of any international studies covering such a long time span. We hope that our work will stimulate international long-term research on marginal tax wedges. Together with tax data from other economies, our data can be used to conduct long-term comparative analyses between countries.

The paper is organized as follows. In the next section, the marginal tax wedge of labor is defined. Section 3 describes the different parts of the marginal tax wedge. Section 4 portrays the evolution of marginal tax wedges of labor. Section 5 concludes. Appendix A presents the sources underlying the calculations and alternative computations concerning marital and household status are presented in Appendix B. In Appendix C our results about tax rates and tax wedges are reported. An extensive data material including all tax tables for the examined period making it possible to calculate the marginal tax wedges for any income for the whole period can be seen in appendix D to J.<sup>14</sup>

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<sup>9</sup> The tax system is however less well documented during the 19<sup>th</sup> century. Tax tables reporting income brackets and tax rates have, for example, not been compiled and are not easily available. Part of our study has been devoted to going through all the issues of *Svensk författningssamling* (Swedish Code of Statutes, SFS for short) in *Riksdagsbiblioteket* to include all tax tables for the earlier period of our examination.

<sup>10</sup> See, e.g. Roine et al. (2009) and Rydqvist et al. (2009). Historical studies on the Swedish tax system include Eberstein (1929, 1937), Genberg (1942), Elvander (1972), Hedlund-Nyström (1972), Jakobsson and Normann (1972), Rodriguez (1980), Rodriguez (1981), Gårestad (1987), Dahlgren and Stadin (1990), Du Rietz (1994), Söderberg (1996) and Löwnertz (2003). These studies incorporate extensive information about the Swedish tax system and part of the results in our paper are derived from these sources. Longer time series about the marginal tax wedge have previously only been compiled by Du Rietz. The most recent update, covering the period 1952–2003, is published in Johansson (2004, Table A1, pp. 93–94).

<sup>11</sup> Barro and Sahasakul (1986), Poterba (2004) and Saez (2004).

<sup>12</sup> Orhniel and Foldes (1975).

<sup>13</sup> Corneo (2005).

<sup>14</sup> Appendix C reports annual data on wages, marginal tax rates and marginal tax wedges for the three investigated income groups. It also shows the top marginal tax rates, the top marginal tax wedge, the wage when the top marginal tax rate starts to apply and the relative top tax income expressed as the number of wages of the average income earner required to pay the top marginal tax. Appendix D reports annual data on local income tax rates, consumption tax rates, the state income tax rates and extra taxes, such as the defense tax. Appendix E reports the basic local and state income tax allowances. Appendices F, G and H reports social security contributions paid by employees, Appendix I, the earned income tax credit and Appendix J social security contributions paid by employers.

## 2. The marginal tax wedge on labor income

### 2.1 Definition

Taxes on labor income drive a wedge between the price of labor paid by firms, and the net return on labor received by employees. This difference is formally called the tax wedge on labor income (or tax wedge for short). The tax wedge may influence the incentive to supply and demand labor, the magnitude of taxable income as well as the wage formation process. There is no consensus on how to define the tax wedge. To further cross-country and longitudinal comparisons, we follow the standard of OECD (2011) and calculate the *marginal* tax wedge,  $t_w$ , as:

$$t_w = 1 - \frac{(1-t_1)(1-t_2)}{(1+t_3)}, \quad (1)$$

where  $t_1$  is the marginal income tax,  $t_2$  is the marginal social security contributions (SSCs) paid by the employees and  $t_3$  is the marginal SSCs, including the payroll taxes, which are added to the wage and paid by the employers. The marginal tax wedge measures the difference between the total labor costs paid by the employers and the net wage received by the employees, *as a result of a marginal increase in the labor income*. The wedge is expressed as a percentage of the change in labor compensation, including the SSCs.

Alternative definitions of the tax wedge add consumption taxes or adjust for the estimated benefit part of the SSCs. The reason for OECD to exclude consumption taxes is mainly methodological; data is occasionally missing, or not detailed enough, and there is no common way to make the estimations comparable between countries when including them.<sup>15</sup> For a long-term single country study concerning Sweden, it is, however, possible to include consumption taxes in a consistent manner for a comparison over time. Hence, we have in the main text calculated the tax wedge both including (Section 4.1) and excluding (Section 4.4) consumption taxes. Including consumption taxes, the definition of the marginal tax wedge is:

$$t_w = 1 - \frac{(1-t_1)(1-t_2)(1-t_4)}{(1+t_3)}, \quad (2)$$

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<sup>15</sup> See OECD (2009) for a further discussion about consumption taxes. The treatment of consumption taxes is also disputed theoretically (de Haan et al. 2004). Some proponents, as Heady (2004), argue that consumption and income taxes will broadly have the same effect on the labor market and that it is the sum of these taxes that matters (a uniform sales tax will have the same effect as a proportional income tax on a worker who does not save), while others argue that consumption taxes should not be included in the wedge as these taxes affect both workers and non-workers alike (see the discussion in Daveri and Tabellini 2000, Immervol 2004, Heady 2004 and Bassanini and Romain 2006).

where  $t_1$  is the marginal income tax,  $t_2$  is the marginal SSCs paid by the employees,  $t_3$  is the marginal SSCs which are added to the wage and paid by the employers and  $t_4$  is marginal consumption taxes.

The inclusion or exclusion of consumption taxes will not alter our general conclusions. The long-term evolution of the tax wedges likewise remains the same if we also adjust the SSC for the estimated benefit part; see Appendix B.

## 2.2 Taxpayer characteristics

OECD started to report wage data on an average production worker (APW) in 1972, defined as the average gross wage earning of adult, full time, manual workers in industry sector D in the International Standard Industrial Classification of all Economic Activities, Revision 3 (ISIC Rev. 3). The series on wage data were complemented in 1979 with calculations on average tax rates and average tax wedges for two family types (single person and one-earner married couple) earning 100 percent of the APW. The analysis was expanded in 1997 to incorporate 12 tax measures (including marginal tax measures) for eight different types of taxpayers, characterized by different *family status* (single/married, 0–2 children), *economic status* (one-/two-earner household), and *wage levels* (67 percent, 100 percent and 167 percent of the APW). The OECD excludes *non-wage incomes*, like capital income or business income, and only consider standard *tax reliefs* (such as basic allowances; *grundavdrag*). Non-wage incomes are generally small for employees and the OECD wants to focus on tax treatment of wages. Taxpayer's *wealth* is not considered either since wealth does not impact taxation of labor income in any OECD country for the time period the OECD covers.<sup>16</sup>

In 2005, the OECD switched to using an average worker (AW) as a base for the wage, defined as the average gross wage earning of adult, full time manual and non-manual workers covering industry sectors C–K in ISIC Rev. 3, or its equivalent.<sup>17</sup>

In accordance with the OECD, we base our analysis on wage levels reported by the OECD and define a high, average and low income earner as a taxpayer earning 167, 100 and 67 percent of the APW, respectively. We will base our analysis on wage levels reported by the OECD and define a high, average and low income earner as a taxpayer earning 167, 100 and 67 percent of the APW, respectively. As OECD changed their definition in 2005, we will use

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<sup>16</sup> See, for example, OECD (2011) for an extensive discussion about OECD's *Taxing Wages* approach.

<sup>17</sup> Industry sectors C–K include: Mining and quarrying (C), Manufacturing (D), Electricity, gas and water supply (E), Construction (F), Wholesale and retail trade; repair of motor vehicles, motorcycles, and personal and household goods (G), Hotels and restaurants (H), Transport, storage and communications (I), Financial intermediation (J) and Real estate, renting and business activities (K). According to the OECD (2006), this change only produced minor effects on the tax measures.



wage data on average production worker from the Confederation of Swedish Enterprise (*Svenskt Näringsliv*) between 2005 and 2010.<sup>18</sup> This data do conform to the wage data on the APW provided by the OECD. We have calculated the tax wedge given the new definition of OECD as well (not presented in this paper) and our results remain. To estimate the income level for the average income earner before 1972, we used the average wage for a worker within the manufacturing and handicrafts sector in the dataset on labor income compiled by Edvinsson.<sup>19</sup> Edvinsson's wage data do not deviate significantly from the wage data provided by the OECD and the linking of the two series does not impact our results.

As will be discussed below, the general evolution of the tax wedges is not much affected by taxpayers' characteristics. First, because many of them only affect taxation of labor income for limited periods of the time span covered by our analysis. Second, because different deductions and allowances are too small in general to impact the marginal tax wedge. Third, because the general structure of the tax system makes tax wedges rather insensitive to different characteristics. For presentational purposes, we will show the tax wedges for single persons with no children and no wealth. In line with the OECD, we exclude non-wage income and only consider standard tax reliefs, such as basic allowances.

### 2.3 Wage level

There are full time employees falling outside the interval 0.67–1.67 times the APW. Nevertheless, practically all of them are covered by our computations. As the low income earner (earning 0.67 times the APW) will almost always be in the lowest tax bracket until World War II, taxpayers earning less than 0.67 times the APW will face the same marginal tax wedge as the low income earner. When it differs, the difference is negligible. Hence, the evolution of the tax wedge for taxpayers earning less than 0.67 times the APW is basically the same as for the low income earner for this period. After World War II, the Swedish wage structure became compressed<sup>20</sup> and few full-time workers earned less than 0.67 APW.

At the other end of the income distribution are wage earners that report wages above the upper limit of the interval. There has been a concern that they are of strategic importance for

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<sup>18</sup> See Confederation of Swedish Enterprise (2012).

<sup>19</sup> See Edvinsson (2005). Edvinsson has compiled long time homogenous wage data series based on previous sources covering shorter and different time periods, for instance, Jungenfelt (1966). Edvinsson's dataset includes SSCs and we have adjusted for this to obtain the wage level. The dataset from OECD does not include SSCs. Prado (2010) calculates hourly earnings for manufacturing workers 1860–2007.

<sup>20</sup> Bentzel (1952), Prado (2010) and Bergh (2013).

economic development.<sup>21</sup> How does the tax wedge evolve for individuals earning two, three, five or 10 times the average worker? As described below, the tax system was, in practice, proportional until World War II and unless the income was substantially higher, the tax wedge will be about the same as for our examined income groups. Even if the wage was 15 times the APW, for example, the marginal tax wedge in 1938 would still only be less than five percentage points higher.<sup>22</sup>

The tax system became progressive in practice in connection with World War II, and the tax wedge for most employees earning more than the high income earner started to lie between that of the high income earner and the top marginal tax wedge. The gap between the top tax wedge and the tax wedge on the high income earner narrows nearer the end of the 1980s, when it closes. To illustrate this consider, for example, that it required 400 times the income of the APW to pay the top marginal tax wedge in 1938, 36 times in 1950, 13 times in 1960, 7 times in 1970 and 2.5 times in 1980. From the end of the 1980s until the end of the 1990s, the marginal tax wedge for employees earning more than the high income and the marginal tax wedge on the high income earner coincided with the top marginal tax. The top marginal tax wedge exceeds the wedge of the high income earner with about 4 percentage points during the 2000s. This means that all, or close to all, full time wage earners had a marginal tax wedge lying within the interval represented by the low and high income earner throughout the examined period.

#### 2.4 Family and economic status

In Sweden, joint taxation of families was used until 1971. Married couples had more generous basic allowance than singles between 1920 and 1970, and lower tax rates than singles for a given taxable income between 1953 and 1970. Our analysis reveals that the more favorable treatment of married couples does not have any discernible effect on tax wedges before World War II. The marginal tax wedge will be somewhat lower for one-earner married couples than for singles after World War II until the abolishment in 1971. Besides that, the tax wedge for married one-earner couples and singles basically shows the same evolution. If both spouses were working, the favorable treatment is reduced and can even be reversed, i.e. the marginal

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<sup>21</sup> For instance, it has been argued that high taxes on highly specialized individuals affect the growth of high-tech firms, the commercialization of research and the localization of knowledge intensive production and headquarters, see Henrekson and Rosenberg (2000), Braunerhjelm (2004) and Birkinshaw et al. (2006).

<sup>22</sup> The tax system became progressive with the 1903 tax reform. It subsequently became more progressive with the tax reform in 1911 and 1920, and in particular with the temporary taxes introduced during the World Wars and the Depression. However, the vast majority of tax payers faced about the same marginal tax rate, firstly due to very limited progressivity during the period 1903–1919 and, secondly due to a very wide first tax bracket during 1920–1938.

tax wedge for a two-earner married couple could be higher than for singles. The long-term evolution of the tax wedge basically remains the same independent of family conditions. In Appendix B, we show the evolution for a married one- or two-earner household.

Child allowance was introduced in 1920 and applied up until 1952 on the local tax, and up until 1948 on the state tax. The local tax allowance had no direct effect on the marginal tax as the local tax was proportional. The direct effect of the tax allowance for the state tax is zero or negligible as it is too small to influence our results (at most about 1 percentage point for the high income earner with two children).

## 2.5 Non-wage incomes and tax reliefs

Business income earned by sole proprietors and partnership companies has—apart from certain options to retain income in the firm—been taxed together with labor income in Sweden throughout the whole examined period, while capital incomes have been taxed jointly with labor income between 1903 and 1991. Full time employees, in general, report low or no income from business operations, and capital incomes are highly skewed.<sup>23</sup> Capital incomes are usually negative for “ordinary” income earners, since interest on mortgages is deductible from other capital income, and when capital incomes are positive they are usually small. Interest costs may be large, especially for younger taxpayers who recently began a career, started a family and bought a home.

Besides the possibility to deduct interest costs, there exist other non-standard tax reliefs such as the possibility to deduct costs necessary for acquisition of income. These reliefs were low in general and often limited by law. Du Rietz (1994) has calculated the tax wedge between 1952 and 1993 taking estimated interest costs and other non-standard tax reliefs, such as costs necessary for acquisition of income into consideration with updated figures spanning through 2003 in Johansson (2004). Comparing the marginal tax wedge from that study with our results, the differences are minor. The largest difference is about 5 percentage points for the average income earner between 1977 and 1982.<sup>24</sup> Hence, these tax reliefs are of minor importance for the general evolution of the marginal tax wedge.

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<sup>23</sup> Roine and Waldenström (2008).

<sup>24</sup> The OECD has made robustness tests on average tax rates including non-standard tax reliefs. For Sweden, the estimated difference is about five percentage points at most, see for instance OECD (2010, pp. 490f).

## 2.6 Wealth

Combined wealth and income taxation (meaning that a part of wealth was included in taxable income) was used in Sweden between 1911 and 1947 (a separate wealth tax was introduced in 1934 as well). Up until 1938, 1/60th of wealth was due to state taxable income and 1/100th thereafter. However, to increase the marginal tax wedge more than marginally, extensive wealth was required. It would, for example, require that an average income earner held wealth corresponding to more than 200 times her/his yearly labor income to affect the tax wedge in year 1930, and the effect would increase the wedge by only about one percentage point.<sup>25</sup>

## 2.7 General tax structure

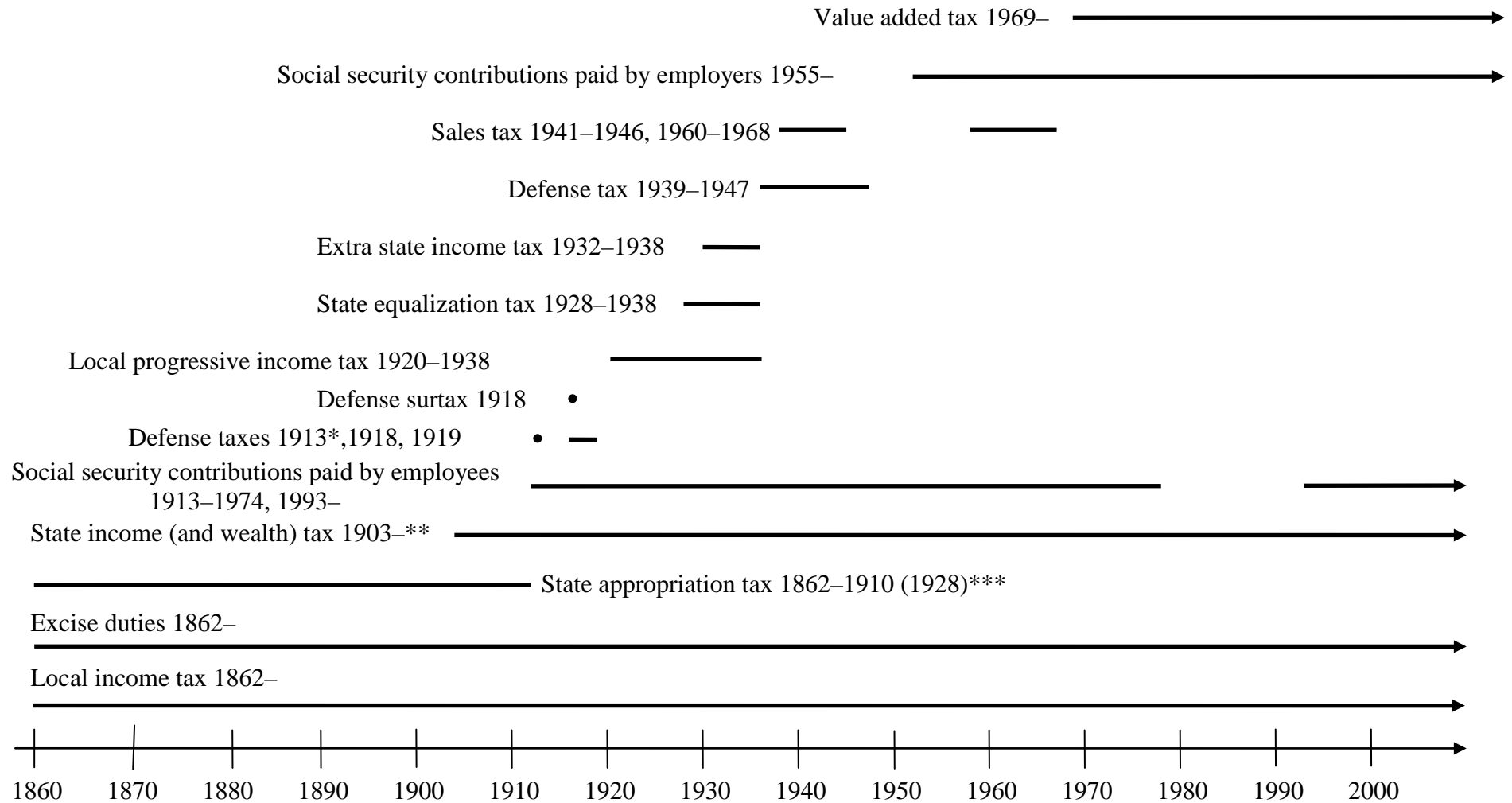
Generally speaking, the structure of the tax system was such that considering other non-labor income, non-standard tax reliefs and wealth, would not alter the evolution of the tax wedges materially. The tax system was proportional until the tax reform in 1903 and changes in the taxable income will not change the marginal tax wedge. Between 1903 and 1919, the tax system was slightly progressive, tax levels were low and any small change in taxable income would only marginally change the marginal tax wedge without altering the general evolution. Between 1920 and 1938, progressivity was higher but the tax brackets were very wide and most taxpayers were situated in the lowest tax bracket. To alter the marginal tax wedge more than marginally, the taxable income must change considerably. Hence, even though deductions or increased income may imply that the income earner fall into a new tax bracket between 1903 and 1939, the difference in the tax rates will be low and the effect on the marginal tax wedge negligible.

After World War II, the tax system was more progressive and tax brackets more narrow. However, even if deductions reduced the taxable income and made the income earners fall into a lower tax bracket, the difference in tax rates was low and the effect on the marginal tax wedge small.

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<sup>25</sup> The defense taxes also included 1/60 and 1/100 of wealth in income with the exception of the 1913 defense tax which included 1/10. Few people had wealth. In 1947, the last year when wealth was added to taxable income, about 320,000 persons had wealth above SEK 20,000, most of them insignificant amounts. Less than 1,000 of them had wealth above SEK 1,000,000 (Statistical Yearbook of Sweden 1949, Table 260). For a more thorough description about the wealth taxes, see Du Rietz and Henrekson (2013).

Figure 1. Summary of taxes affecting the marginal tax wedge of labor, 1862–



\* The defense tax of 1913 was paid in 1915, 1916 and 1917. \*\* Part of the taxpayers' wealth was included in the taxable income between 1911 and 1947. \*\*\* The state appropriation tax was transformed to a local tax in the 1911 tax reform, and the appropriation system worked as a parallel local tax system between 1911 and 1928.

### 3. The development of components of the marginal tax wedge

This section will briefly present the development of the state and local income taxes, as well as the SSCs paid by employers and employees. The presentation of the state income taxes is more extensive as it includes several major changes. In Sweden, income taxes have been paid to both the municipalities (local government) and the state (central government) throughout the period under review. Our computation of the state marginal income tax rates begins with a major reform of the so-called state appropriation tax system that was implemented in 1862. Temporary taxes have been introduced in times of distress, for instance for rearming the military during the World Wars. Social security contributions were introduced in the 20<sup>th</sup> century. Figure 1 summarizes the taxes that affect the marginal tax wedge of labor.

#### 3.1 Central government taxation, the state income tax<sup>26</sup>

Major state tax reforms were implemented in 1862, 1903, 1911, 1920, 1939, 1948, 1971, 1983–1985 and 1990–1991.<sup>27</sup> Initially, the tax system had a pure fiscal function, i.e. taxes were collected in order to finance public expenditures; the state budget should be in balance. During the 1930s, the function of the tax system was expanded to also dampen cyclical fluctuations and stabilize the economy by under- or over-financing the budget. At the end of the 1940s a more pronounced function of redistribution was included as an important aspect of the tax systems.

Parallel to the ordinary state tax system, temporary taxes were in place during and between the World Wars, as mentioned above. When the ordinary state tax system was reformed, the temporary tax increases were often included in the new ordinary tax system schedule and the temporary tax increases were in this way made permanent. This is more or less true for the tax reforms in 1920, 1939 and 1948. As described above, part of wealth was also included in the taxable income between 1911 and 1947.

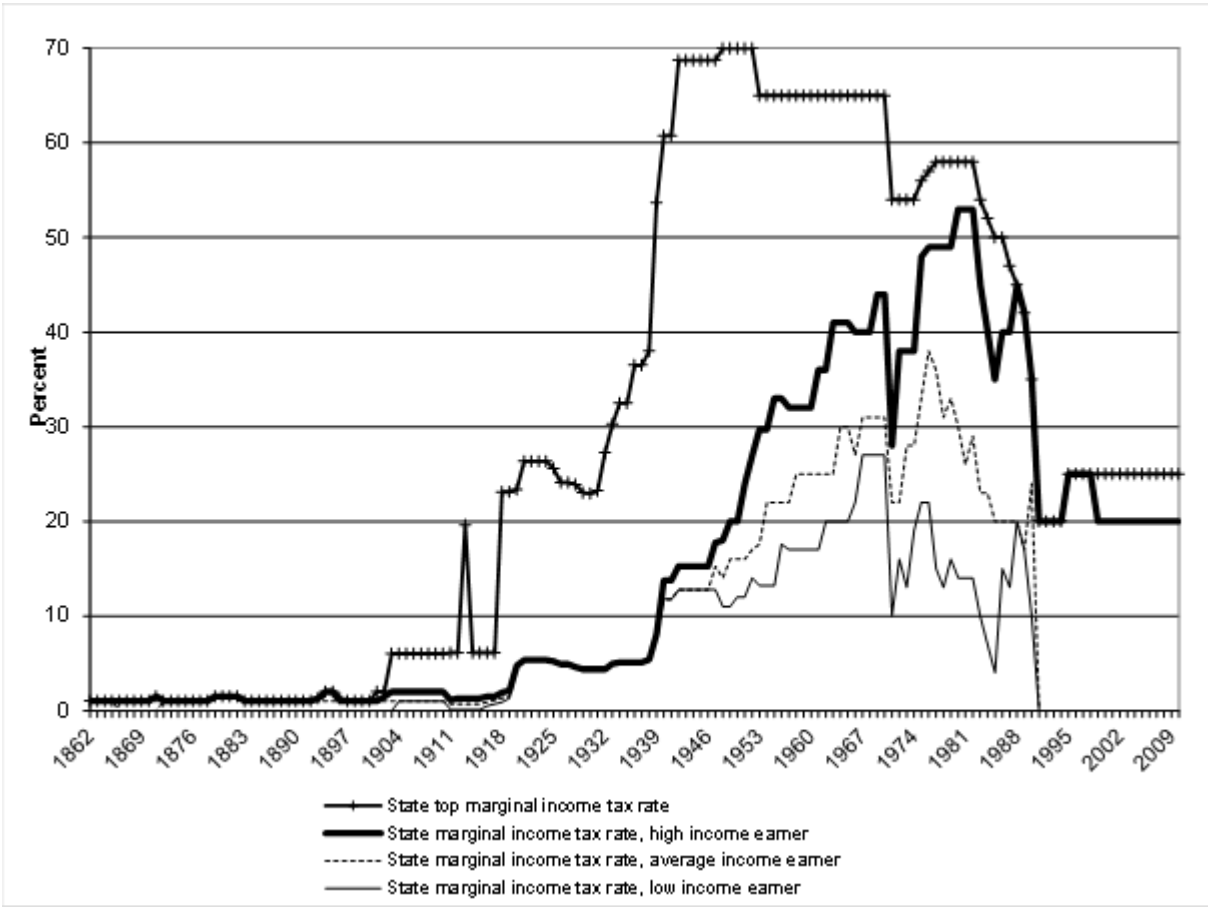
The presentation below is divided into nine subsections following major state tax reforms. Figure 2 shows the state marginal income tax rates paid by our examined groups as well as the top rate.

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<sup>26</sup> If not otherwise stated, this section is based on Eberstein (1929, 1937), Genberg (1942), Gårestad (1987), Rodriguez (1980) and Söderberg (1996). We will use the term marginal income tax rate referring to the state marginal income tax rates in this section.

<sup>27</sup> Normally, new tax rules have been implemented the year after approval, e.g., the tax system that was implemented in 1862 was approved in 1861. In the literature the year associated with the introduction of a tax reform can either refer to the year the tax rules were approved or implemented. We will in this paper use the year when the tax system was implemented.

Figure 2. State marginal income tax rates, 1862–2010



Note: High, average and low income earner refers to 167, 100 and 67 percent of the wage of an average production worker. The spike in the state top marginal income tax rate in 1913 refers to a temporary defense tax that was decided in 1914 but paid in, 1915, 1916 and 1917. In 1918 and 1919, new temporary defense taxes were implemented. The dip in 1971 is explained by adjustment of the state tax due to the abolishment of the deduction of local taxes paid.

Source: Own calculations based on sources in Appendix A.

*The tax system 1862–1902*

During the 19<sup>th</sup> century, Sweden had a state tax system based on so-called appropriations. The system of appropriation dates centuries back in time. The system was rather heterogeneous, taking its roots in the economic and social order present in the agricultural society. A major reform was implemented in 1862, which simplified the system reducing income tax groups from eight to two (appropriation on real estate income and appropriation on labor or capital income). Parallel to these income taxes, there were also some basic taxes (*grundskatter*), such as armament fees and personal protection fees, which can be characterized as lump-sum taxes. These taxes were mainly phased out during the 1890s.

According to the appropriation system, the tax level on labor or capital income was normally set to 1 percent. Occasionally, additional appropriation taxes were levied if the

ordinary appropriation taxes yielded insufficient tax revenues (Gårestad 1987, p. 204). The tax level could then increase to 2 percent of income.

#### *The tax system 1903–1910*

A completely new state income tax system, considered to be the predecessor of today's "modern" tax system, was implemented in 1903. Among other things, it became mandatory for all taxpayers to provide an income tax return. This tax system was slightly progressive. The old appropriation tax system was not abolished and two parallel systems existed, side by side, until a new state tax reform was implemented in 1911.<sup>28</sup> The new tax system was accepted without major conflicts, partly because the proposed progressivity was very low and partly because public opinion strongly supported a new income tax that could be used to rearm the military. The reform's main objective was to increase funding of public expenditures.

Although the tax system was progressive, its progressivity was moderate. The marginal income tax rates varied from 1 to 5 percent. Taxpayers had to start paying the lowest tax rate, 1 percent, for income above SEK 1,000, which made most taxpayers not paying the new income tax. The highest marginal income tax rate had to be paid for income above SEK 80,000, which is analogous to the wage of more than 100 average production workers in 1903. There was also an average tax cap that limited total state tax to at most 4 percent of the taxable income. The old appropriation system was still used parallel to the new system.

#### *The tax system 1911–1919*

In 1911, the tax brackets were slightly revised. The tax free income was reduced from SEK 1,000 to SEK 800, but at this income the tax rate was only 0.4 percent. The top marginal income tax rate was increased to 6 percent with an average tax cap of 5 percent of taxable income. One sixtieth of the taxpayers' wealth was now also added to taxable income in a way to form a combined income and wealth tax system. At this point, the old appropriation system was abolished as a state income tax and transformed to a local tax. The tax was paid to the state who distributed it to the local government (Eberstein 1929, p. 131).<sup>29</sup>

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<sup>28</sup> The political voting system was differentiated and based on the appropriation paid. Abolishing the appropriation system would force a change in the voting law; many politicians feared this could open up for changes in the voting system, which was highly debated at the turn of the century. Equal voting rights for all males was introduced in 1909. For a thorough discussion about how the voting system affected the tax system in Western Europe, see Aidt and Jensen (2009).

<sup>29</sup> The appropriation system worked as a parallel local tax system between 1911 and 1928, but at a symbolic tax level of 0.1 percent. Despite the reformed voting rules, it was difficult to abolish the appropriation system as the



As a result of World War I, temporary progressive defense taxes (*värnskatter*) were introduced to finance needed military expenditures. The tax rates could be relatively high (up to 17 percent on the margin) but affected only people with high income.<sup>30</sup>

### *The tax system 1920–1938*

After World War I, a new state tax was implemented that was supposed to replace the ordinary tax system and the temporary defense taxes. This tax system was thought to be more flexible and stable than the earlier systems. Technically, the structure of the tax system—the tax brackets and the imposed progressivity—was fixed, but the specific tax rates were flexible and were determined by politicians on an annual basis. The idea was that politicians should be able to easily change the state tax rates, in accordance with supposed financial needs. Hence, there was no need to introduce and establish a new tax system if a change in tax revenues was deemed necessary by the politicians. Another invention within this tax system was the introduction of basic state (and local) income tax allowances. The local taxes paid were now also deductible.

The system was progressive, with marginal income tax rates running from about 4.5–5.5 percent to 22–28 percent.<sup>31</sup> As before, there was also a tax cap, which restricted the average tax to about 17.5–21.5 of taxable income. In practice the first tax bracket was very wide (the upper limit corresponds to more than three times the wage of an average production worker in 1920) and included the majority of all taxpayers.<sup>32</sup> As a result, even though the new income tax system comprised 13 different tax brackets with rising marginal income tax rates, it could nevertheless be regarded as proportional in practice.

Several additional temporary state income taxes were introduced parallel to this new tax system. In 1928, the local tax system was rearranged (see Section 3.2) and part of the local tax was transformed into a separate additional state income tax, called the equalization tax (*utjämningskatt*). Tax revenues from this tax were used to compensate municipalities with a low tax base or with unfavorable expense structures arising from demographic reasons, for

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local tax system was also based on it (the voting system for local government was still also based on taxes paid, but to a lesser degree, until 1919). The appropriation system therefore had to be in place until the major reform of the local tax system in 1928.

<sup>30</sup> In 1913, e.g., one had to earn about five times the wage of an average production worker to start paying this tax. The defense tax of 1913 was decided in 1914 (hence it was a retroactive tax) and considered so heavy that payment was split over three years 1915, 1916 and 1917 (Genberg 1942, p. 6).

<sup>31</sup> As the tax rates were flexible it is not possible to give a fixed tax rate. The tax rates refer to the tax rates used in practice during this time.

<sup>32</sup> In 1920, about 98 percent of all persons with a taxable income had a taxable income implying that they paid the lowest marginal state tax rate or no state tax at all, see Statistical Yearbook of Sweden (1923, Table 210).

example. The tax was slightly progressive, but the tax rates were modest (initially about 1.5 percent at most).

Due to the Depression at the beginning of the 1930s, another temporary tax, the extra income tax (*extra inkomstskatt*), was introduced in 1932 to compensate for deteriorated tax bases and increased public expenditures. The extra income tax was slightly progressive but only affected taxpayers with taxable income above SEK 6,000 (implying that one had to earn about three and a half times the wage of an average production worker or more to be eligible to pay this tax) and had a top marginal income tax rate of 4 percent. Due to increased need of tax revenue, the equalization tax rates and extra income tax rates were doubled in 1934 and 1936, respectively. A separate wealth tax was also introduced in 1934, although wealth was already partly taxed in the regular income tax system.

In practice, however, most people paid neither the state equalization tax nor the extra income tax. Yet the tax rates in the ordinary tax system were also increased, affecting all taxpayers during the Depression. Revenues from the state income tax were now partly seen as an important way to finance expenditures in the social area.

The tax system was, hence, still mainly proportional. However, the top marginal income tax levied on taxable income above SEK 1,000,000 (corresponding to almost 500 wages of an average production worker in 1938) was significantly higher than for the majority of the population.

#### *The tax system 1939–1947*

Just before World War II, the ordinary tax system was sharpened at the same time as the state equalization tax and the extra income tax were abolished. That is, the temporary tax increase caused by these taxes was made permanent in the ordinary income tax system. The average tax cap was also removed from the tax system. The part of wealth that was added on and taxed as income was reduced, while the separate wealth tax was extended.

Technically, the system consisted of one flexible tax rate (the bottom tax / *bottensskatt*), which was decided yearly by politicians, and one fixed tax rate (the surtax / *tillägsskatt*). That is to say, the new system was partly constructed in the same way as the old one it replaced. The bottom tax was only slightly progressive, but the surtax was heavily progressive. The surtax was, on the other hand, only levied on high income (corresponding to more than three times the wage of an average production worker in 1939). All in all, these changes resulted in increased progressivity in the tax system.

Although the equalization tax and extra income tax were abolished to simplify the tax system, another new supposedly temporary defense tax (*värnskatt*), was introduced in 1939. This was a highly progressive income tax that had to be paid by most taxpayers. It was also sharpened in 1940 and in 1942. Similar to the reasoning behind the defense tax during World War I, it was supposed to be used to strengthen Swedish military capacity. It is also clear that the government had an increasing interest in raising taxes for social and distributional purposes (Rodriguez 1981, pp. 32–33). Due to rising military tensions throughout the world at that time, little debate or criticism of the 1939 tax reform arose. It was almost a unanimous political decision.

In practice, the new tax system implemented in 1939 and the defense tax combined with high inflation and high wage increases caused a sharp increase in the marginal income tax rate for many taxpayers.

#### *The tax system 1948–1970*

After World War II, the tax system was changed once again in the 1948 tax reform. The progressive defense tax was abolished at the same time as the tax level and progressivity in the ordinary income tax system was increased. The highest *state* marginal income tax rate was now 70 percent and was paid by taxpayers with income corresponding to the wage of about 40 average production workers in 1948. This tax rate was almost twice as high as in the ordinary tax system that was replaced, but about the same including the temporary defense tax. The higher tax level that had been a result of World War II was thus made permanent for many taxpayers. As military expenses decreased, tax revenues could be used for other public expenditures. The separate wealth tax was also raised, although the inclusion of part of the taxpayer's wealth in taxable income was abolished.<sup>33</sup>

This tax reform can be seen as the foundation of the Swedish system with a high and progressive tax schedule and a high level of public expenditures. Beyond financing expenditures tax revenues were an instrument to meet distributional objectives (Lodin 2011, chapter 2). As a result, the fiscal policy debate in parliament was unusually intense before this new tax system was passed (Elvander 1972, Rodriguez 1981).

The income tax schedule was slightly adjusted several times during the 1950s and the 1960s (1952, 1953, 1957, 1962 and 1966). In nominal terms, these adjustments were minor

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<sup>33</sup> From 1947, tax collection at the source (*källskattsystemet*) was introduced, which made employers responsible for withholding taxes before paying out wages and salaries. Earlier, the employees themselves had to pay their income taxes one or two years after the receipt of their wages and salaries.

tax reductions. The top marginal income tax rate was, for instance, lowered to 65 percent in 1953.<sup>34</sup> However, these adjustments were all insufficient to prevent tax increases in real terms when price and wage inflation shifted taxpayers up into tax brackets with higher tax rates. In practice, marginal income tax rates continued to rise during this period.

### *The tax system 1971–1982*

In 1971, a new tax system was introduced to address at least two unintended consequences that evolved in the existing tax system. Firstly, due to the fact that the local tax was deductible, the increase in local tax rates meant that state taxable income was reduced. This diminished state revenues at the same time as it favored high-income earners with high marginal income tax rates. Secondly, a tax system with a high progressivity and joint taxation of families made it unfavorable for second income-earners (mostly the wife) to work outside the household.<sup>35</sup>

The tax reform of 1971 implied that the local tax was no longer deductible. State income tax rates were decreased but the total marginal income tax rate could be substantially higher when the local tax had to be paid in full, but also lower for taxpayers with low incomes. For distributional purposes, marginal income tax rates and progressivity was further sharpened in this reform.<sup>36</sup> Compulsory individual taxation of spouses was also introduced.

On-going and increasing inflation in combination with the nominal progressive tax system made it necessary to adjust tax rates on a regular basis to keep the real tax level constant and to avoid an inflationary process. These tax rate cuts were focused on low income earners who faced lower marginal income tax rates. However, to avoid that the decreased marginal income tax rates in the lowest tax bracket resulted in lower total tax for high income earners, marginal income tax rates for average and high income earners were increased.<sup>37</sup> This resulted in an

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<sup>34</sup> The income when this new top marginal applied was however substantially decreased (40 percent in nominal terms).

<sup>35</sup> However, separate income tax schedules for married and single taxpayers, with somewhat lower rates for married income earners, were established as early as 1953. In 1966, voluntary individual taxation was also introduced (Söderberg 1996). See Appendix B for some calculations regarding joint taxation.

<sup>36</sup> Lindbeck (1997, p. 1275), concludes: “The efforts to redistribute income via very high marginal tax rates increased gradually culminating in the 1971 tax reform.”

<sup>37</sup> Real net wage increases, demanded by workers and trade unions, required high nominal wage increases due to the high marginal tax rates. However, high nominal wage increases could push up wages into higher tax brackets with even higher marginal tax rates for many taxpayers. This increased the nominal wage demand even further. Inflation increased from 4.1 percent on average during the 1960s to 9.2 percent on average during the 1970s. Lodin (2011, pp. 43–44), claims that the income taxation was trapped in a “vicious cycle of self-generating reforms” with constant need for tax reforms increasing the progressivity of the system, and that an industrial worker would need a yearly wage increase of about 20 percent to avoid a real wage decrease during this period.

increased progressivity of the tax system.<sup>38</sup> To finance these nominal tax cuts, the SSCs were increased between 1973 and 1977 as the tax increase for high income earners did not suffice to finance the reform.<sup>39</sup> In 1978, tax brackets were tied to the consumer price index and in 1980 an explicit marginal tax cap was introduced to avoid excessive marginal income tax rates. Initially, the tax cap restricted the total marginal income tax rate to at most 80 and 85 percent in the two highest tax brackets.

### *The tax system 1983–1990*

The top marginal income tax rate increases in Sweden came to an end when the marginal tax cap was introduced in 1980. With high marginal income tax rates and favorable deduction possibilities, taxpayers had strong incentives to avoid taxes by incurring deductible costs and debts, in particular interest costs on housing. As interest payments on housing were fully deductible at the same time as inflation was high and interest rates on housing were subsidized because of regulations, the real cost of housing could be substantially reduced, even negative, i.e., “you got paid to buy a house”. In 1981, a coalition of parties in the parliament—excluding the right-wing party (*Moderaterna*) and the communist party (*Vänsterpartiet kommunisterna*)—jointly decided to change the tax system and to gradually reduce the marginal income tax rates, to reduce the distortions they caused.

Between 1983 and 1985, the marginal income tax rates decreased between 5 and 15 percentage points for the same nominal income at the same time as deduction possibilities were reduced.<sup>40</sup> The policy made it considerably more expensive for taxpayers with high marginal income tax rates to borrow money and pay mortgage interests. The tax reform 1983–1985 can be characterized as a tax-switchover from labor income tax to SSCs and consumption taxes.<sup>41</sup> The marginal income tax started to rise again for many income earners after the reform.

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<sup>38</sup> Jakobsson and Normann (1972), Lodin (2011), Söderberg (1996).

<sup>39</sup> This policy of financing decreases in income taxes by increasing the SSCs has been called “Haga policy” after negotiations conducted in the Haga mansion between the government, the opposition parties and labor market organizations during the 1970s. The opposition parties were against the idea of financing the inflation adjustment of the tax rates. As it was no tax decrease in real terms there was nothing that should be compensated; a compensation made the tax increase, caused by high inflation, permanent by increasing other taxes. It decreased the marginal tax rate in nominal terms, but it did not decrease the average tax rate in the economy or the marginal tax rate in real terms.

<sup>40</sup> This tax reform is known as the tax reform of the “wonderful night” (*den underbara nattens skattereform*).

<sup>41</sup> Note that our calculations do not include effects of deduction possibilities. As long as the deduction implied that the taxpayer’s taxable income was still in the same tax bracket, only the average and not the marginal tax rate was altered by this change. As mentioned earlier, calculations including effects of estimated deductions of interest costs, journey costs and other deductible costs covering the years between 1952 and 2003 can be seen in

Parallel to these changes, the marginal tax cap in the highest tax bracket was decreased to 84 percent in 1983, 82 percent in 1984 and 80 percent in 1985. The marginal income tax rates were also slightly reduced between 1987 and 1989 and the number of tax brackets was sharply reduced. By 1987 the marginal tax cap no longer served any purpose and was abolished.

### *The tax system 1990–2010*

At the end of the 1980s, the government summoned three committees to thoroughly analyze the Swedish tax system. Leading politicians and labor market actors urged for a major tax reform, as had been implemented in many other Western countries.<sup>42</sup> As a result, a major tax reform was implemented in two steps in 1990 and 1991, called the “tax reform of the century” (*århundradets skattereform*). The tax reform substantially reduced marginal income tax rates and further diminished tax effects of deducting interest costs. The reform, which was aimed to be revenue-neutral, was financed by broader tax basis for the corporate income tax (reduced deduction possibilities) and for the VAT, increased taxation of employee benefits and full taxation of capital gains.<sup>43</sup>

The tax schedule consisted of one state income tax rate, 20 percent. At this point, most taxpayers only paid labor income tax to the municipality. Due to the depression of the 1990s, the tax rate was increased to 25 percent and then split up into two new tax brackets with tax rates of 20 and 25 percent. In 2007–2009, a tax credit for taxes paid on earned income was implemented. A minor tax credit for low and average income earners was in place between 1999 and 2002.

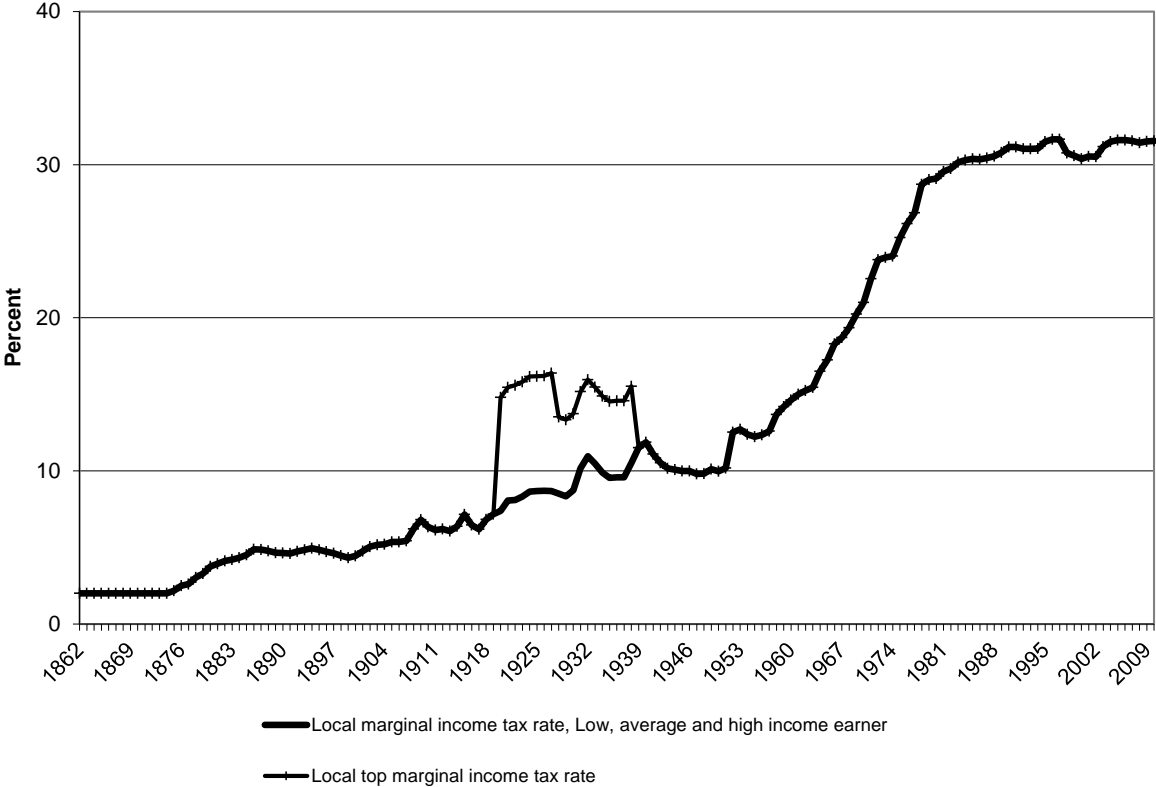
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Du Rietz (1994) and Johansson (2004). Including the deduction possibilities, the marginal tax rate may be somewhat lower (at most 5 percentage points) before the tax reform

<sup>42</sup> For example, Kjell-Olof Feldt, minister of finance and Stig Malm, the leader of the Swedish Trade Union Federation (*Landsorganisationen*, LO), said in 1988 that the Swedish tax system had become “rotten and perverse” (Feldt 1991).

<sup>43</sup> See Agell et al. (1995, 1998) for a detailed examination of the tax reform.

Figure 3. Local marginal income tax rates, 1862–2010



Note: High, average and low income earner refers to 167, 100 and 67 percent of the wage of an average income earner.

Source: Own calculations based on sources in Appendix A.

### 3.2 Local government taxation, the local income tax

A major reform of the local tax system was implemented in 1863, which, in the same way as the state system, simplified the system and included a proportional income tax. Earlier, the system had been highly complex, with great differences between cities. Still, a few small lump-sum taxes and in kind taxes were in place, but they were gradually abolished during the late 19<sup>th</sup> and early 20<sup>th</sup> century, and transformed into money taxes based on taxable income. During the 19<sup>th</sup> century, the marginal local tax rate was low and gradually increasing from about 2 to 5 percent.

At the beginning of the 20<sup>th</sup> century, the local tax system was debated intensely by politicians. The tax rate continued to slowly increase during the beginning of the 20<sup>th</sup> century to about 6 to 7 percent in 1920. With the state tax reform in 1920, a temporary local tax reform was introduced (*kommunalskatteprovisorium*) and, e.g., basic allowances were introduced for the local income tax (as had been done in the state income tax system). As

mentioned above, the local tax was now also deductible and reduced state taxable income and, hence, the required tax payments to central government.

An extra local progressive tax was also introduced parallel to the ordinary local income tax, but based on state taxable income. The top marginal income tax rate was 8 percent, but it had an average tax cap of 6 percent. The high tax rates were only applicable on very high incomes. Initially, one had to earn about twice the average production worker to start paying this tax, and then the marginal income tax rate was only 0.5 percent. To pay the 8 percent the wage had to be about 70 times the wage of an average production worker.

In 1928, a major local tax reform was implemented that mainly affected the technical and legal part of the local tax. This reform still constitutes the foundation of the local tax system.<sup>44</sup> The local progressive tax was, however, rearranged, and part of it was transformed to an additional state income tax, the equalization tax described above. The remaining tax was abolished in 1938, just before the outbreak of World War II. This tax had a top marginal income tax rate of 5 percent and an average tax cap of 4.5 percent. In 1930, the ordinary local tax rate had increased to about 10 percent and it fluctuated around this level until the end of World War II.

After World War II, the ordinary local tax rate began to increase sharply: in 1950, the tax rate was still at about 10 percent, but it reached 15 percent in 1960, and 20 percent in 1970, i.e., it doubled in twenty years. The increase could be traced to increased responsibilities decided by politicians, often at the national level, which required greater expenditures, in combination with growing urbanization and its associated costs, which were also financed by the municipalities. As the local tax was deductible, the effect of the sharply increasing local taxes was reduced. The basic local income tax allowance was heavily increased in 1958 as well, which also served to reduce the effect from increasing tax rates. As from the tax reform in 1971, the deduction of the local tax was removed, as explained above. The local tax continued, however, to increase during the 1970s, approaching almost 30 percent in 1980 and these tax increases now had full effect. After 1980, the tax rate has slowly increased or remained unchanged.

Figure 3 shows the local marginal income tax rates paid by our examined groups as well as the top rate. As can be seen from the figure, the local tax increased slowly before World

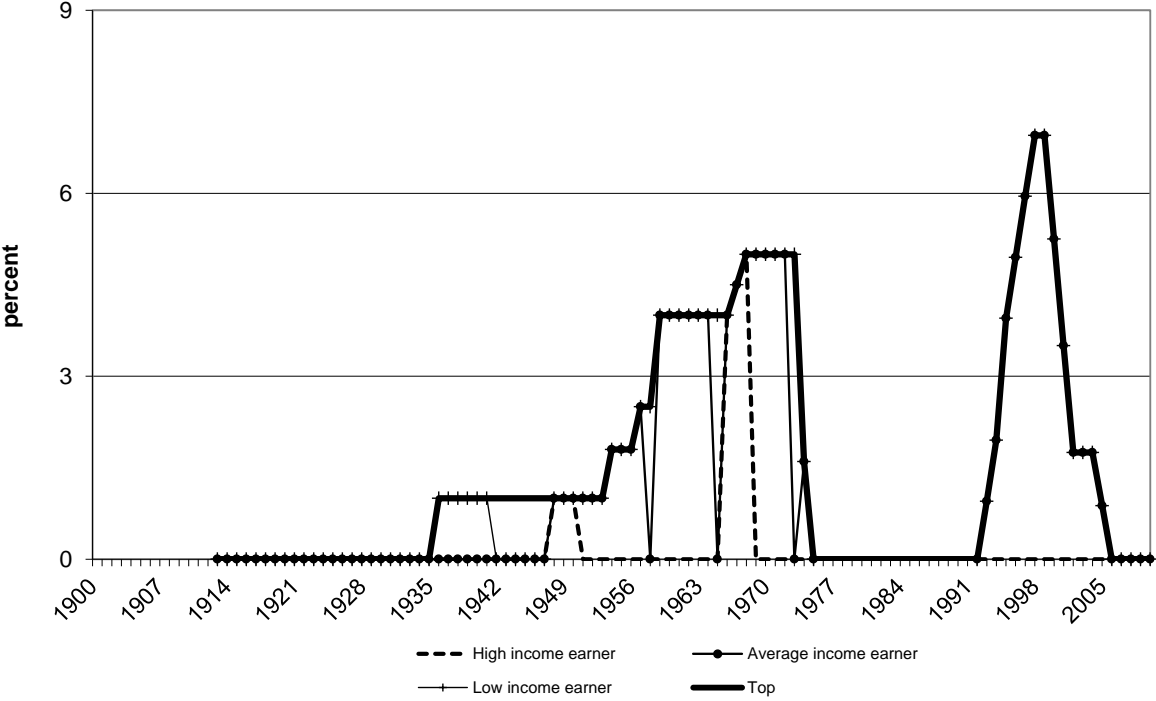
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<sup>44</sup> Tax Statistical Yearbook (2009).



War II, ignoring the temporary local progressive tax.<sup>45</sup> After the War, it increased faster and almost tripled until the 1980s. Since then, it has increased slowly.

Figure 4. The marginal SSCs paid by employees, 1913–2010



Note: The required contributions were often fixed within certain pre-determined income brackets. The marginal effect within the brackets were, hence, zero. Alternative measures to approximate the marginal effect for income increases between the tax brackets would increase the marginal SSCs by at most 1 percent.

Source: Own calculations based on sources in Appendix A.

### 3.3 The social security contributions paid by employees

Social security contributions consist of many parts, several of which have been introduced and abolished during the period under study. The evolution is depicted in Figure 4. In 1913, employees began paying the first SSC, the national basic pension contribution (*folkpensionsavgift*). Up until 1935, the contribution was rather small and specified as a fixed amount within certain tax brackets. As from 1936, it was 1 percent of taxable income (up to a cap). The rate increased slowly to 5 percent in 1973, after which it was transformed to a SSC paid by employers. In 1955, a health insurance fee (*sjukförsäkringsavgift*) was introduced, which was partly financed by a second SSC paid by employees. In the same way as the national basic pension contribution, the health insurance contribution paid by the employee

<sup>45</sup> Including the temporary local progressive tax, the top tax rate increased profoundly between the World Wars. As can be seen from the figure, the examined income groups were not affected by this tax.

was rather small and specified as a fixed amount within certain tax brackets. This contribution also had an upper income cap, above which no contribution had to be paid and the marginal effect was zero. In 1974, the national basic pension contribution was converted to a contribution paid by the employer and the health insurance contribution was abolished. Hence, no more SSC paid by employee was paid from 1975.

In 1993, SSCs paid by employees were, however, reintroduced, now called general SSCs (*allmänna egenavgifter*). They increased from 0.95 percent, when they were introduced, to 7.0 percent in 2000 (up to an income cap, which is changed annually). At the beginning, they consisted of three parts: a universal health insurance, a universal unemployment insurance and a universal pension insurance. As from 1998, they only consist of a universal pension insurance (Tax Statistical Yearbook of Sweden 1998, p. 48). As from 2000, the contributions were compensated by a tax deduction. As from 2006, the contributions are fully compensated and do not impact the marginal tax or marginal tax wedge (Tax Statistical Yearbook of Sweden 2006, p. 72).<sup>46</sup>

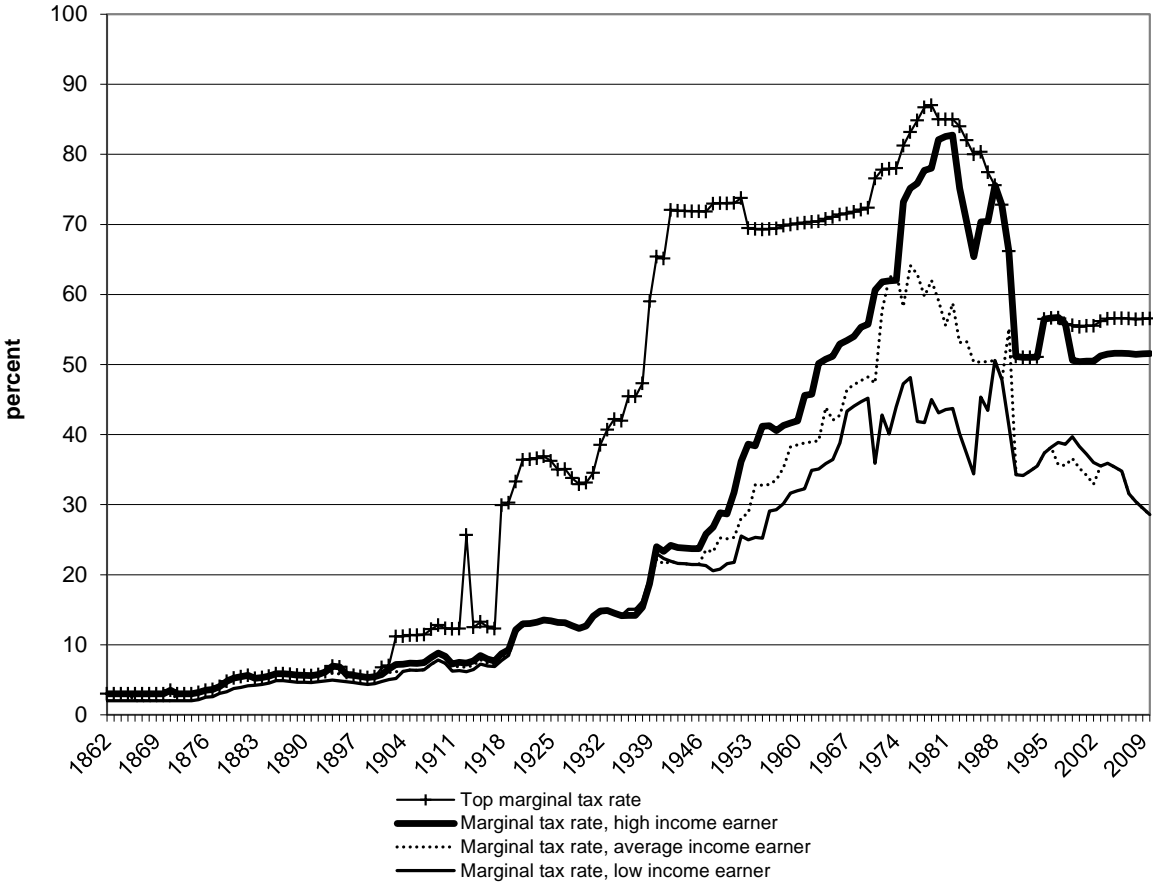
### 3.4 The marginal tax rate

The marginal tax rate, i.e., the combined effect of the state and local income tax rates as well as the SSCs paid by employees, can be seen in Figure 5. It largely follows the same evolution as the state marginal income tax rate. At the end of the 1980s, the formal top marginal tax rate and the actual marginal tax rate paid by high income earners coincided. In 1980, the marginal tax cap was introduced. The state tax reforms in 1983–1985 and 1990–1991 decreased the top marginal tax from at most 85 to about 55 percent in 2010. At the end of the period examined, the marginal tax rate was about 30 percent for the low and average income earner and about 50 percent for the high income earner.

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<sup>46</sup> There is still a marginal effect on small incomes, far below the incomes of full time employees (Tax Statistical Yearbook of Sweden 2006, p. 72.)

Figure 5. Marginal tax rates, 1862–2010



Note: High, average and low income earner refers to 167, 100 and 67 percent of the wage of an average production worker. The marginal tax rate is the sum of the state and local marginal income tax rates as well as SSCs paid by employees, considering that the local income taxes were deductible from the state income tax base between 1920 and 1970.

Source: Own calculations based on sources in Appendix A.

### 3.5 Social security contributions paid by employer

As with the social security contributions paid by employees, the SSCs paid by employers consist of many parts, which have been introduced and abolished during the period under study. The contributions differed substantially between incomes before 1982.

In 1955, together with the introduction of the second SSC paid by employees, the first SSC paid by employers (a health insurance fee) was implemented.<sup>47</sup> This SSC paid by the employers was 1.14 percent of the wage. In 1960, two new SSCs paid by employers were introduced, the national supplementary pension contribution (*ATP-avgift*) at a rate of 3

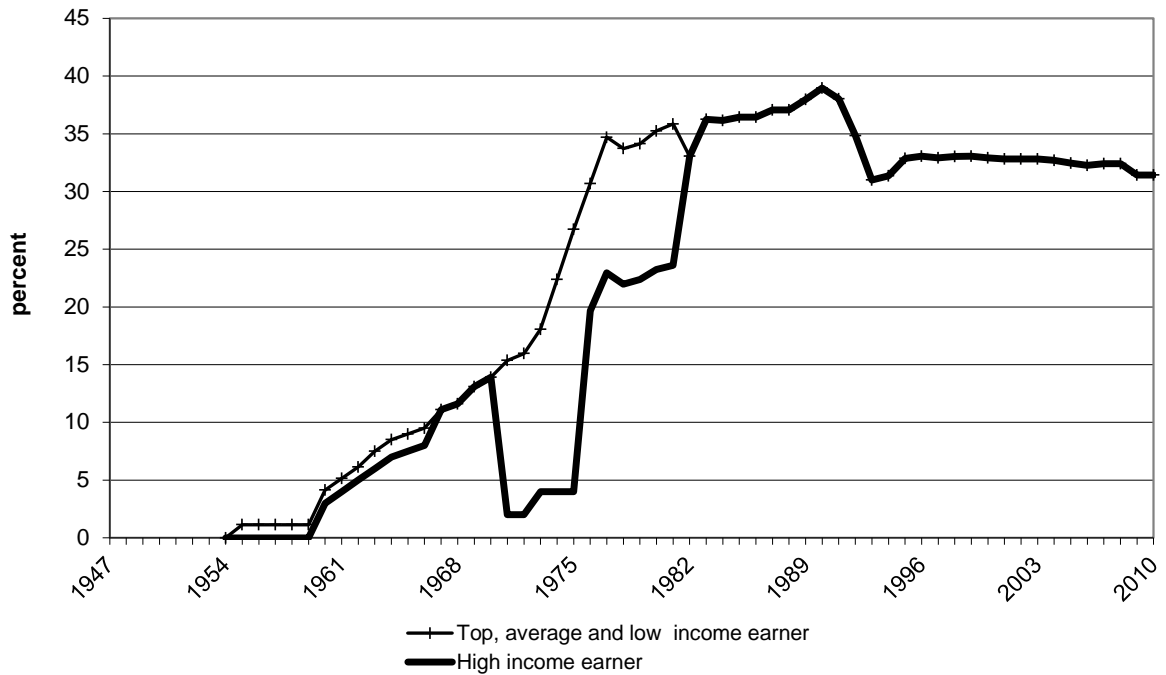
<sup>47</sup> Hence, in 1955 a health insurance fee paid by both the employers and the employees was introduced.

percent and an industrial injury insurance contribution (*arbetssskadeavgift*) at a rate of 0.4 percent. The rate paid to the contributions was increased during the 1960s and in 1969 an unspecified payroll tax (*allmän arbetsgivaravgift*) was introduced as well, at an initial rate of 1 percent but increasing to 4 percent in 1973.

Due to the so-called Haga policy discussed above, the SSCs paid by the employers continued to increase during the 1970s and, as stated above, the national basic pension contribution was converted to a contribution paid by the employers in 1974. As with the SSC paid by employees, all these contributions had an income cap. The caps in the SSCs paid by the employers were removed in two steps in 1976 and 1982, which mainly affected workers with high incomes. In 1982, when all caps had been removed, the rate of the SSCs had increased to 33 percent and was the same for all workers independent of income. In the 1990s, the SSCs paid by the employers started to slowly decrease, though new contributions were introduced during the end of the 1990s (the parental insurance contribution, *föräldraförsäkringsavgift*, and the survivors' pension contribution, *efterlevandepensionsavgift*).

The top marginal SSCs paid by employers as well as the marginal SSCs paid by employers for the three income groups can be seen in Figure 6. The top marginal SSCs and the SSC for the low and average income earners coincide. The SSCs started to increase sharply during 1960s and 1970s and then decreased slightly during the crisis in the beginning of the 1990s. During the 1970s, the marginal SSCs were much lower for the high income earner due to income caps and the high income earner only paid some of the SSCs on marginal income increases. The marginal SSCs increased however sharply in 1976 and 1982 due to the removal of the income caps.

Figure 6. The marginal SSCs paid by employers, 1955–2010



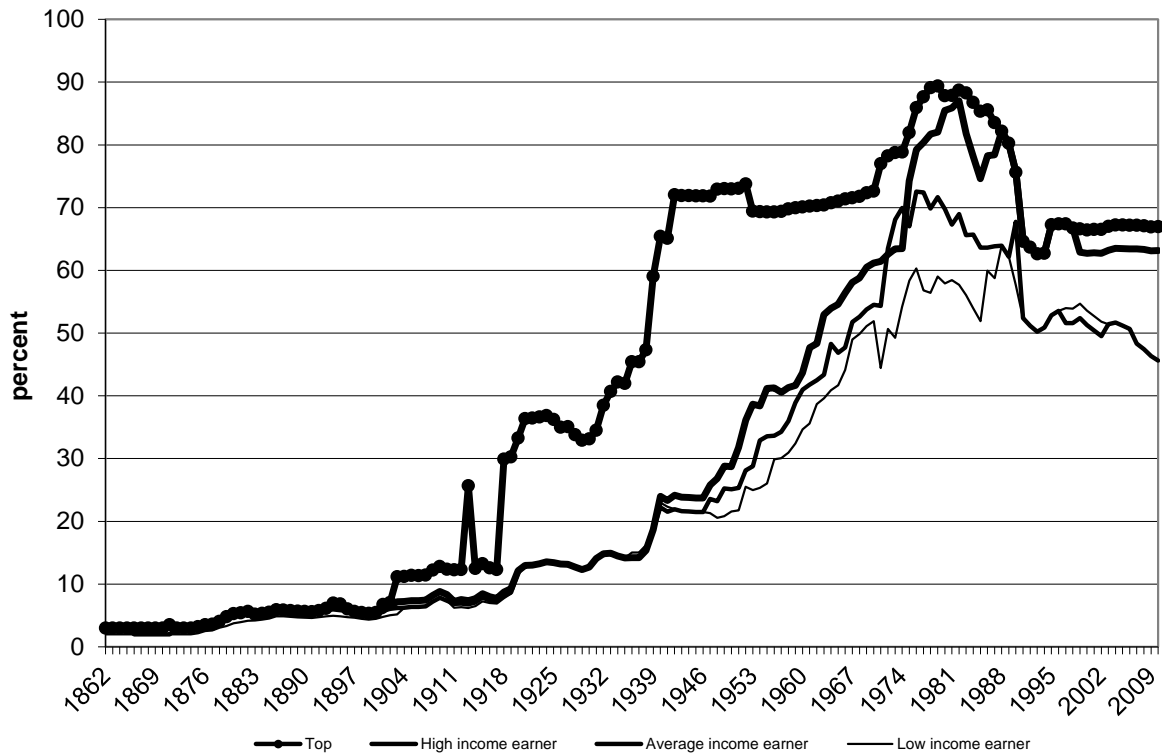
*Note:* High, average and low income earner refers to 167, 100 and 67 percent of the wage of an average income earner.

*Source:* Own calculations based on sources in Appendix A.

#### 4. The marginal tax wedge on labor

This section presents the development of the marginal tax wedge of labor, i.e., the combined marginal effect of all taxes described above. As previously mentioned, we present the marginal effect for three income levels. We also present the top marginal tax wedge as well as the income level when the top marginal tax wedge starts to apply. Figure 7 depicts the marginal tax wedge for the three groups and the top marginal tax wedge between 1862 and 2010 (excluding consumption taxes). Figure 8a and 8b depict the top marginal tax wedge and the income level when the top marginal tax wedge starts to apply. Figure 9 depicts the marginal tax wedge including consumption taxes.

Figure 7. The marginal tax wedges on labor income, 1862–2010



*Note:* High, average and low income earner refers to 167, 100 and 67 percent of the wage of an average income earner.

The tax wedge of the average income earner is higher than the high income earner in the beginning of the 1970s due to a much lower marginal SSCs paid by the high income earner. The tax wedge of the low income earner is higher than the average income earner in the end of the 1990s due to a decreasing basic allowance which affects the tax rate for the low income earner.

*Source:* Own calculations based on sources in Appendix A.

#### 4.1 The marginal tax wedge for a low, average and high income earner

As can be seen from Figure 7, the marginal tax wedges for the examined income groups were about 3 percent in 1862 for all three income groups. At the turn of the century, they had increased to about 5 percent. The main reason for this was increasing local taxes. Still, the marginal tax wedges were low compared to later levels.

Until the tax reform in 1920, the marginal tax wedges continued to be stable, or increasing just slightly, for the three income groups. Although the state income tax schedule was progressive, the marginal tax wedges were about the same. The defense taxes during World War I did not affect our three income groups.

At the beginning of the 1920s, the marginal tax wedges began to increase due to the new state tax system and increasing local taxes and the wedges were hovering at about 12 percent. Still, there were no big differences in the wedges between the income groups. During the Depression, the introduction of temporary taxes and the increase in ordinary tax rates led to an

increase in the marginal tax wedges. The marginal tax wedges did not decline after the Depression and the wedges were about 15 percent for the three income groups in 1938, just before the new tax reform implemented in 1939.

Due to military tensions and the outbreak of World War II, new temporary defense taxes were introduced that, together with the tax reform of 1939, made the marginal tax wedges increase further. At this time, the wedges of the three income groups started to diverge slightly. At the end of the war, the marginal tax wedge was between 20 and 25 percent. The driving force behind the increase in the marginal tax wedges was the changes in the state income tax system. The combined effect of the new tax system in 1939 and the defense tax was large for the state marginal income tax rate. Compared to ten years before, the state marginal income tax rate had almost tripled for low income earner and more than tripled for the high income earner in 1947. Besides higher formal tax rates, the progressive nominal tax schedule in combination with high inflation and high wage increases automatically increased marginal income tax rates during World War II.

The increase of the wedges was made permanent after World War II when the defense taxes were abolished and a new tax system was introduced. The marginal tax wedge had roughly doubled over 20 years. After World War II, the marginal tax wedge continued to increase. In 1960, the marginal tax wedge was about 35 percent for the low income earner, slightly or well above 40 percent for the average and high income earner. The driving force behind this sharp increase was, again, price and wage inflation in combination with the highly progressive tax schedule introduced in 1948, which pushed taxpayers into higher tax brackets with higher marginal income tax rates. This phenomenon of inflation pushing taxpayers' incomes into higher tax brackets is often called "bracket creep" and is a well-established effect within the tax literature. This inflation-driven tax increase mechanism meant that politicians did not have to pass new tax laws to increase tax rates and tax revenues

In the 1960s, this development continued, but now the increases in the marginal tax wedges were also a result of increasing SSCs. In 1970, the marginal tax wedge was about 50, 55 and 60 percent for the three income groups analyzed. The marginal tax wedge had more than doubled over 20 years, again.

In 1971, a new tax reform, in which the efforts to redistribute income culminated, was implemented. The progressivity of the tax system was strengthened. Later, the so-called Haga policy of the 1970s was an attempt to dampen marginal income tax rate increases. However, even if the statutory state marginal income tax rates were reduced, especially for low and medium income levels, the local income tax rates and, in particular, the SSCs continued to

increase. The local tax was, further, no longer deductible. Parallel to this development, inflation accelerated during the 1970s, increasing bracket creep. As a result, the marginal tax wedge continued to increase for the high income earner but it could fluctuate both up and down for the low and average income earner. Around 1980s, the wedges were about 60, 70 and 85 percent for the three income levels analyzed. The marginal tax wedges had tripled in 40 years.

The 1983–85 tax reform reduced the marginal tax wedge for all three income groups by about 5–10 percentage points, whereas it fluctuates both up and down during the rest of the 1980s. The 1990–1991 tax reform decreased the marginal tax wedges by about 10–15 percentage points. At the end of the period examined, the marginal tax wedge was about 46 percent for the low and average income earner and about 63 percent for the high income earner.

#### 4.2. Top marginal tax wedge

Besides looking at the marginal tax wedge at three income levels, the evolution of the top marginal tax wedge over time also commands interest.

To reduce extreme tax rates, tax caps have occasionally been introduced, as described earlier. Average tax caps were in place between 1903 and 1938 on the state income tax, and between 1920 and 1938 on the local progressive tax. These tax caps reduced the marginal tax rates on very high incomes. This implied that the top marginal tax rate did not apply to the highest income levels. An explicit marginal tax rate cap was in place between 1980 and 1987 for the marginal tax rate (including both the state and the local taxes). This cap directly reduced the top marginal tax rate and tax wedge.

As can be seen from Figure 7, the top marginal tax wedge was low during the 19<sup>th</sup> century and the beginning of the 20<sup>th</sup> century compared to later levels. During World War I, the top wedge started to rise sharply. The tax reform after the war in combination with the introduction of a local progressive tax implied that the top marginal tax wedge increased from about 10 to 35 percent in 20 years. About half of the effect can be attributed to the state marginal tax rate.

During the 1920s, the top marginal tax wedge decreased slightly when the economy was booming. During the 1930s and the Depression, new taxes were imposed and ordinary tax rates were increased. As a result, the top marginal tax wedge increased again to almost 50 percent.



The top marginal tax wedge continued to increase after the Depression to more than 70 percent during World War II. The increase was mainly due to supposedly temporary tax increases to strengthen the military capacity. This level was, however, maintained after the war and throughout the coming decades. The top marginal tax wedge increased slowly due to increasing local taxes and slowly increasing SSCs. The top marginal tax wedge was, however, slightly reduced in 1953 when the top marginal state tax rate was decreased. In the 1970s, the top marginal tax wedge increased more sharply again due to increased income taxes and increased SSCs paid by the employers. The top marginal tax wedge was almost 90 percent at the end of the 1970s which is the highest level during the whole examined time period.

The top marginal tax wedge was slightly reduced due to the marginal tax cap and the tax reform in the first half of the 1980s. However, it was not until the major tax reform at the beginning of the 1990s that the top marginal tax wedge substantially decreased to about 65 percent. Since the reform, the top marginal tax wedge has slightly increased. In 2010, the top marginal tax wedge was at the same level as in the beginning of World War II.

The top marginal tax wedge has often been substantially higher than the marginal tax wedge for the high income earner. The figures start to deviate at the beginning of the 20<sup>th</sup> century with the new tax system. Still, the top marginal tax wedge was moderate at that time compared to later levels. The marginal tax wedge paid by the high income earner deviated sharply from the top marginal tax wedge between the wars. At the end of the 1930s, the top marginal tax wedge was almost 50 percent while the marginal tax wedge associated with the high income earner was less than half that value.

After World War II, high inflation and bracket creep pushed our income earners closer to the top marginal tax rate. Around 1980, the tax wedge of the high income earned peaked close to 90 percent. At the end of the 1980s, the formal top marginal tax wedge and the actual marginal tax wedge of the high income earner coincided at about 80 percent, and they continued to roughly coincide throughout the rest of the examined period.

The evolution clearly shows how temporary tax increases, from the World Wars and depressions, are made permanent after the crises. The top marginal tax wedge increased stepwise until the beginning of the 1980s, and then decreased.<sup>48</sup> The early development gives support to an idea that the acceptable burden of taxation increases in crises and the acceptance of the higher tax level remains after the crises, giving rise to a stepwise increasing function of

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<sup>48</sup> This step-wise pattern is more pronounced during the first half of the examined period. After World War II, the development may be described as a slow increase during the 1950s and the 1960s and a higher increase during the 1970s.

tax rates.<sup>49</sup> The sharply decreased marginal tax rates after the tax reform at the beginning of the 1990s represents a break from this pattern.

#### 4.3. The relative top tax income

The analysis can be further extended by considering the income at which the top marginal tax wedge starts to apply. To make this income comparable over time, some form of relative income level should be calculated. Here, we will compute the relative top tax income, defined as the wage where the top marginal tax wedge starts to apply divided by the wage of an average production worker. The results can be seen in Figures 8a–8b.

Before 1903, the tax system was proportional and we do not report any figures before this year. When the progressive tax system was introduced in 1903, the relative top tax income was about 100 times the wage of an average production worker. The top marginal tax was slightly more than ten percent at that time.

Ignoring the defense taxes during World War I, which increased the relative top tax income profoundly, the relative top tax income decreased slowly until the tax reform in 1920. With the tax reform in 1920, the top marginal wedge had increased to about 35 percent and this wedge applied initially for incomes above almost 400 times the average production worker. The nominal income at which one had to start paying top marginal tax rates was unchanged between the World Wars, but due to changing wages (including wage decreases), the relative top tax income normally fluctuated between 450 and 550 wages.

The 1939 tax reform and the defense tax increased the top marginal tax wedge to almost 60 percent at the same time as the relative top tax income decreased to less than 100 times the wage of an average production worker. This is the largest decrease during the whole period. The relative top tax income continued to decrease under World War II and until the new tax reform in 1948 it was almost halved due to increasing wages. The top marginal tax wedge had, however, continued to increase to about 70 percent due to sharpened defense taxes. The tax reform did not imply any major changes. The temporary increase of the marginal tax wedges were made permanent and the income when it starts to apply were about the same.

Although the top marginal tax wedge was not changed much until the 1970s, the relative top tax income decreased profoundly due, mainly, to nominal wage increases. In 1970, it had

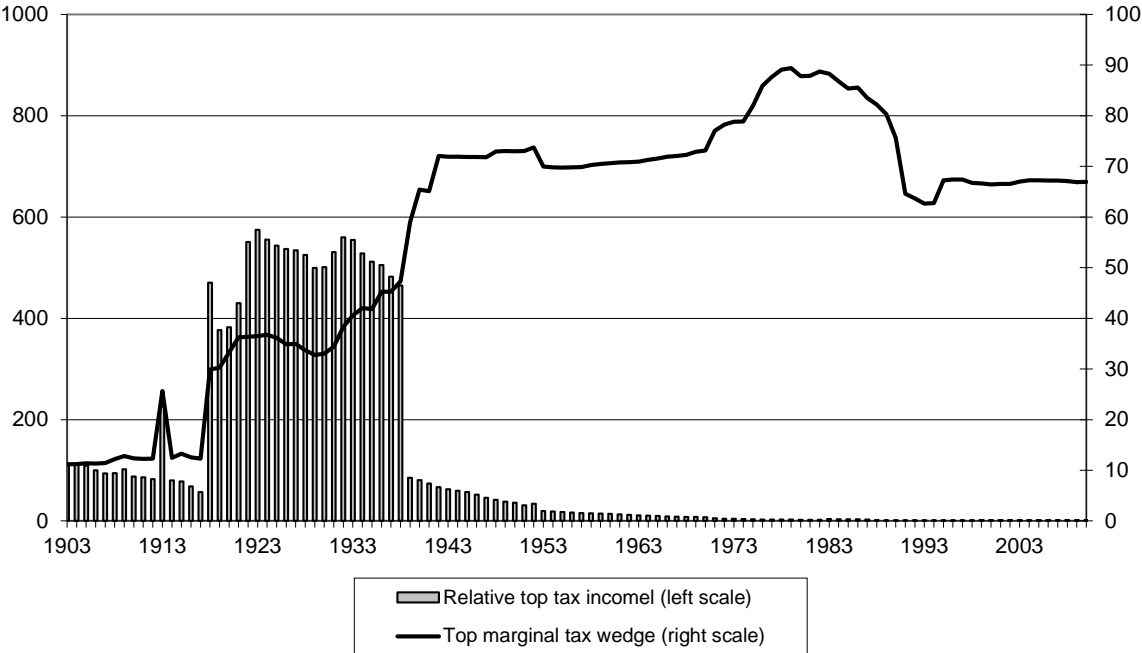
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<sup>49</sup> The idea was originally put forward by Peacock and Wiseman (1961). Higgs (1987), shows that economic crises and wars may explain (part of) the increase of federal expenditures in US during the 20th century. Rodriguez (1980) also argues that the Swedish evolution supports this idea. The hypothesis is, however, difficult to formally test and empirical support analyzing the evolution of public spending during for instance World War II is inconclusive, see Henrekson (1993).

decreased to 7 times the average production worker from about 40 in 1948.<sup>50</sup> This development continued during the 1970s, at the same time as the top marginal income tax wedge started to increase again. In 1979, the year before the marginal tax cap was introduced, the top marginal income tax wedge was almost 90 percent and the relative top tax income was 2.6 times the wage of an average production worker. From the end of the 1980s and onwards the relative top tax income has been below 2 implying that the high income earner has been paying the top marginal tax wedge since then.

Hence, during the examined period the relative top tax income has decreased from at most nearly 600 times the average production worker in the 1920s, to less than 2 in the end of the 1990s. Analyzing the top marginal tax wedge only gives half of the story as it does not say anything about the income level where it starts to apply. It is true that the top marginal income tax rate did not change much during the 1950s and 1960s, but the relative top tax income decreased significantly pushing more people up into the highest tax bracket.

Figure 8a. Top marginal tax wedges and the relative top tax income, 1903–2010

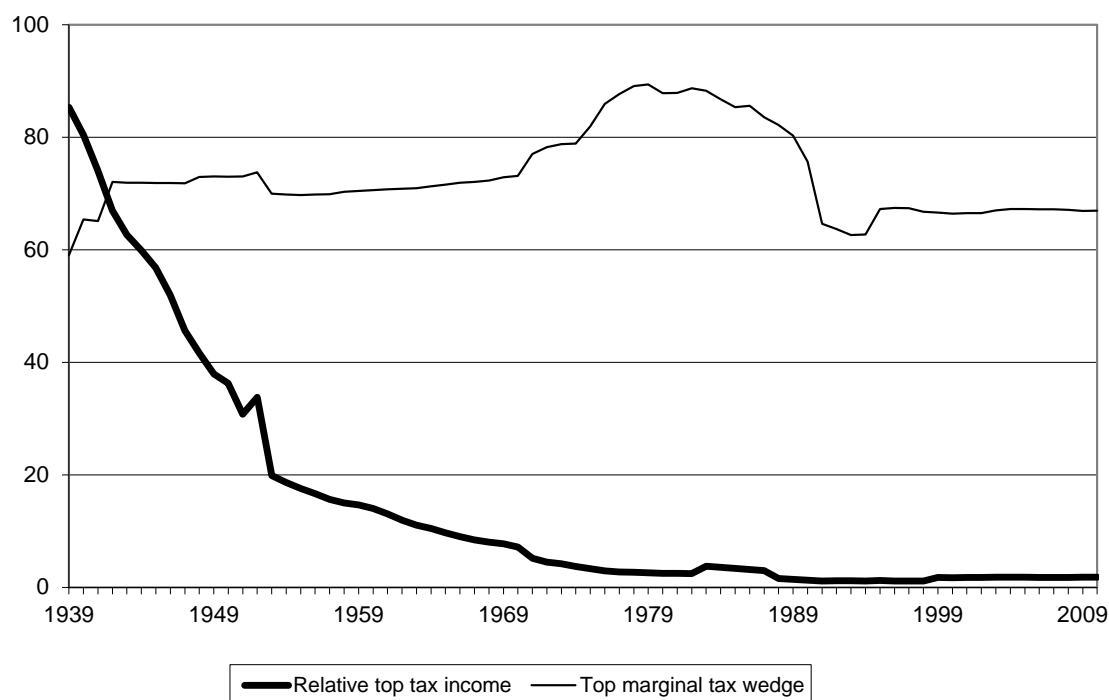


Note: Right scale refers to the marginal tax wedge (%) and left scale refers to the relative top tax income level expressed as the number of average production worker wages at which the top marginal tax wedge starts to apply.

Source: Own calculations based on sources in Appendix A.

<sup>50</sup> The slightly decreased top marginal income tax in 1953 was, as mentioned above, associated with a sharp decrease in the nominal income when the tax was applied. In terms of average production wages, it declined from 34 to 20 this year.

Figure 8b. Top marginal tax wedge and the relative top tax income, 1939–2010



*Note:* The scale refers both to the marginal tax wedge (%) and to the relative top tax income level expressed as the number of average production worker wages at which the top marginal tax wedge starts to apply.

*Source:* Own calculations based on sources in Appendix A.

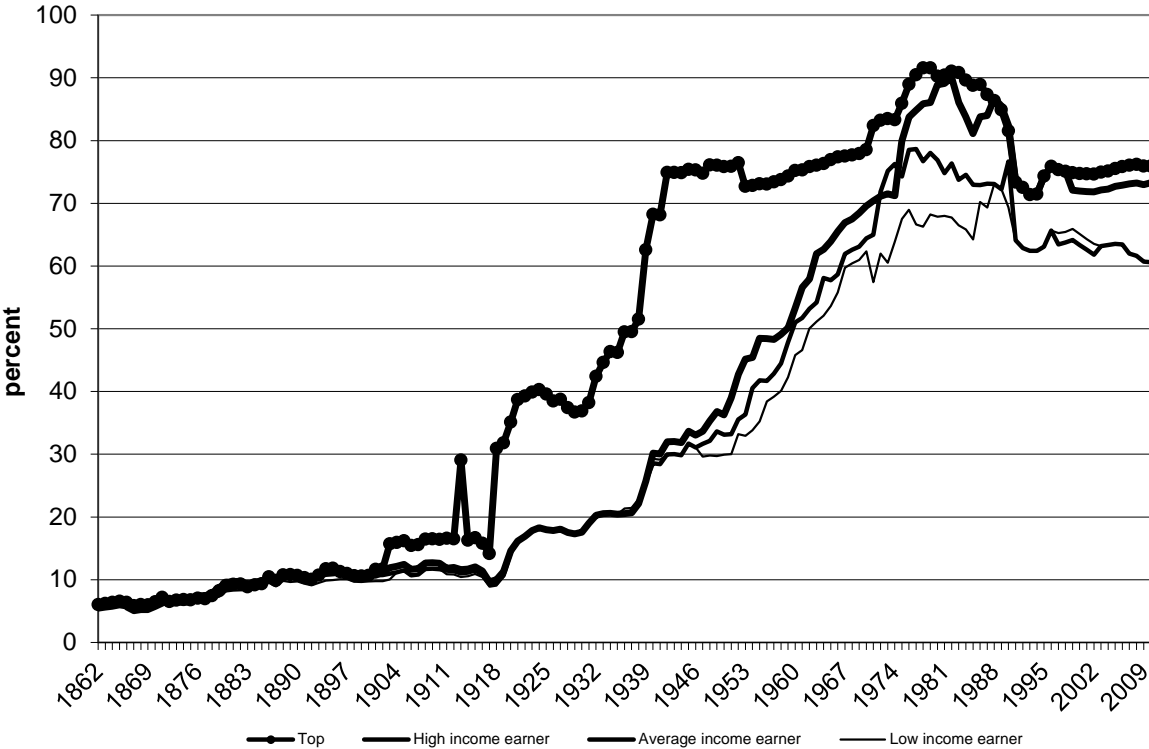
#### 4.4 The marginal tax wedges including consumption taxes

In Section 4.1 we excluded consumption taxes when we calculated the marginal tax wedge, hence in this section we will show the evolution of the marginal tax wedge when consumption taxes are taken into account. We have computed consumption taxes as the sum of value added taxes, sales taxes, all selective purchase taxes and excise duties (including energy and environmental taxes) and divided it by total private consumption.

Including consumption taxes, the tax wedge for the average income earner will increase by five to ten percentage points through the beginning of the 1990s, and between ten and 15 percentage points at the end of the period (see Figure 9). The difference is somewhat higher for the low income earner and somewhat lower for the high income earner and for the top marginal tax wedge. The evolution of the wedge is the same whether the consumption taxes are included or not.<sup>51</sup>

<sup>51</sup> See Stenkula (2013) for further details about consumption taxes.

Figure 9. The marginal tax wedges on labor income including consumption taxes, 1862–2010



*Note:* High, average and low income earner refers to 167, 100 and 67 percent of the wage of an average income earner.

The tax wedge of the average income earner is higher than the high income earner in the beginning of the 1970s due to a much lower marginal SSCs paid by the high income earner. The tax wedge of the low income earner is higher than the average income earner in the end of the 1990s due to a decreasing basic allowance which affects the tax rate for the low income earner.

*Source:* Own calculations based on sources in Appendix A.

#### 4.5 Discussion

The analysis shows that there are distinct periods with certain features, which are distinguishable from other periods, and separated by turning points caused by major tax reforms representing a break with previous periods. The evolution could broadly be divided into four separate periods.

The first period stretches from the start of our examined time period in 1862 until World War II. The marginal tax wedges were low and slowly increasing. The tax system was proportional until the tax reform in 1903 but can be considered proportional up until World War II as the tax brackets were wide and almost all tax payers paid the lowest income tax rate during this period.

The second period, after World War II until the tax reform in 1971, is characterized by a high top marginal tax wedge along with increasing tax wedges, which became substantial, for “ordinary” taxpayers. The tax system had a distinct progressive feature and held an explicit distributional purpose starting with the tax reform implemented in 1948. Although no more substantial increases of the top marginal tax wedge were realized until the tax reform implemented in 1971, the income where the top marginal tax wedge started to apply decreased sharply. It exceeded 400 times the wage of an average production worker just before World War II and had dropped to seven by 1970.

The third period begins with the 1971 tax reform, in which efforts to redistribute income culminated<sup>52</sup>, and lasts until the major tax reform in 1990–1991. It is distinguished by the highest tax wedges during the examined period. They peaked around 1980 when the top marginal tax wedge and the marginal tax wedge for the high income earner could be 90 percent. SSCs paid by employers were sharply increased. More and more taxpayers paid the top marginal tax wedge as the relative top tax continued to drop and it became sufficient to earn less than twice the wage of the average production worker to pay the top marginal tax wedge.

The major tax reform in 1990–1991 decreased the marginal tax wedges to levels prevailing before the third period. It represents the beginning of a new and still continuing period with decreasing tax wedges.

## **5. Conclusions**

The effect of marginal taxes on economic behavior and economic development has attracted great interest from researchers and policy makers as marginal taxes influence, e.g., supply of hours, effort at work, taxable income, occupational choice, career aspirations and educational effort. A wider measure—such as the marginal tax wedge—often better captures the combined effect from different taxes on individual choices than a measure studying the effect from one narrow form of taxation—such as the marginal tax rate—and is therefore often preferable. The analysis may also benefit from a longer time perspective as tax systems may change slowly and it may take long time—sometimes generations—before all effects are conceivable.

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<sup>52</sup> See Elvander (1972), Lindbeck (1997) or Lodin (2011).

The purpose of our study is to derive homogenous series of marginal tax wedges on labor income in Sweden. We have compiled information on the tax system and computed tax wedges for close to 150 years of tax history, from 1862 to 2010. We are interested in whether the evolution of tax wedges discerns periods with different characteristics and whether turning points in Swedish tax history are detectable.

We follow the OECD and calculate marginal tax wedges for a low, average and high income earner. We also have computed the top marginal tax wedge of labor as well as the income at which the top marginal tax wedge starts to apply. These data are unique as no one has calculated this for Sweden before. We are unaware of such long time series for any other country.

The analysis shows that marginal tax wedges were low and about the same for a low, average and high income worker until the 1939 tax reform, although progressivity was introduced already in the 1903 tax reform. The top marginal tax wedge increased considerably during World War I and increased further during the Depression in the 1930s. The wedges were raised profoundly by temporary defense taxes during World War II, which were made permanent by the 1948 tax reform. The marginal tax wedges for the three income groups continued to increase thereafter, mainly due to increased local government taxes, the introduction and increase of SSCs paid by employers and due to bracket creep, i.e., as a result of inflation which in combination with a progressive tax schedule pushes taxpayers into tax brackets with higher marginal tax rates. The income when the top marginal tax wedge started to apply decreased sharply during this time. It required close to 500 times the wage of an average income earner to pay the top marginal tax in 1938, about 7 in 1970 and 1.6 by the end of the 1980s. The wedges peaked around 1980. At this time, the high income earner started to pay the top marginal tax wedge, which could be as high as 90 percent. The major tax reform in 1990–1991 lowered the tax wedges to levels pertaining before the 1971 tax reform.

The evolution can be divided into four distinct periods. During the first period, from 1862 until World War II, the tax system can be depicted as proportional with low and slowly increasing tax wedges. The second period, stretching from the tax reform in 1948 until the tax reform in 1971, is characterized by steadily increasing tax wedges and a more progressive tax system. The tax reform in 1971 constitutes the start of the third period during which the efforts to redistribute income culminated and the tax wedges were peaking. The 1990–1991 tax reform represents the beginning of the final and still continuing period with decreasing marginal tax wedges.

Sweden has in general good tax records. It is therefore possible to complement our analysis and examine the entire Swedish tax system for the investigated period by applying a similar historical approach as we have used for labor taxes in this article. The data that we have produced could be useful for researchers and policy makers to evaluate economic policy in a long run perspective. Our use of the method applied by the OECD will also make international comparisons easier. It is our hope that our study will inspire researchers in other countries to carry out corresponding research. In that case, the analysis can be extended to cross country comparisons.

Interestingly, the periods we identify largely coincide with the categorization of the Swedish economic system into four “models” made by the Swedish economist Assar Lindbeck: the market-oriented period (*den marknadsdominerade perioden*) 1870–1939, the period of welfare capitalism (*välfärdskapitalismen*) 1945–1970, the interventionist period (*den interventionistiska perioden*) 1970–1990 and the period of partial liberalisation (*den partiella liberaliseringsperioden*) starting around the beginning of the 1990s.<sup>53</sup> It is conceivable that the same ideologies, economic theories, changes in the surrounding world *et cetera* underlying tax reforms and tax policy affect other policy areas as well. Our time series can be used in future research to study the conjecture that tax policy coincide with the evolution of other policies, such as labor market policy and monetary policy, and whether these policy areas together make up the features of the “Swedish model” under different time periods. A further step is then to relate taxation and other economic policy areas to economic outcome, such as employment and economic growth.

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<sup>53</sup> Lindbeck (2012, pp. 342–359).



## Appendix A. Sources

Information about the marginal income tax rates during the appropriation system are collected from SFS 1861: 34, SFS 1871: 30, SFS 1879: 25, SFS 1880: 46, SFS 1881: 29, SFS 1883: 51, SFS 1892: 44, SFS 1892: 111, SFS 1893: 34, SFS 1894: 76, SFS 1895: 62, SFS 1897: 111, SFS 1901: 31, SFS 1901: 34, SFS 1902: 50, SFS 1910: 116, SFS 1920: 759, Eberstein (1929, pp. 119–135), Eberstein (1937, pp. 694–695), Genberg (1942, pp. 4–5), 18, Gårestad (1987, pp. 38–40).

Data on the marginal income tax rates from the 1903 tax reform and onwards is collected from SFS 1902: 84, SFS 1910: 115, SFS 1917: 513, SFS 1918: 512–513, Genberg (1942), Söderberg (1996) and OECD stats extracts, Taxing wages.<sup>54</sup>

Statistics on local taxes is incomplete before 1875.<sup>55</sup> We impute a tax rate of 2 percent between 1862 and 1874, which is slightly below the estimated tax level in 1875. For the years 1875 through 1914, Gårestad (1987, pp. 212–213, Table 4) has compiled information about the total amount of various income taxes paid to the local government. For this period, we estimate the tax rate as total income taxes paid to the municipalities (excluding local lump-sum taxes), divided by total labor income earned by the taxpayers as reported by Edvinsson (2005, pp. 385–388). For the period 1915 through 1920, we base our estimate on Rodriguez (1981, pp. 107–108) and Edvinsson (2005, pp. 385–388). This approximated tax rate increases from about 2.2 to 6.5 percent. As from 1921, the marginal local tax rate is found using the available statutory tax rates reported by Söderberg (1996, pp. 63–64) and Statistics Sweden (2010, pp. 31–32). As the tax rates differ between cities, the average local tax rate has been used. Up until 1952, a tax earmarked for the national church was mandatory and included in the local tax.<sup>56</sup> As from 1953, this tax is not levied on taxpayers who have left the national church. As from 2000, the national church is separated from the government and the fee to the national church is no longer regarded as a tax.<sup>57</sup> In our time series we follow the OECD and exclude the national church tax as from year 2000.<sup>58</sup>

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<sup>54</sup> See <http://stats.oecd.org/Index.aspx?DataSetCode=AWCOMP>  
[http://stats.oecd.org/Index.aspx?DataSetCode=AWCOMP\\_OLD](http://stats.oecd.org/Index.aspx?DataSetCode=AWCOMP_OLD)  
[http://stats.oecd.org/Index.aspx?DataSetCode=AWHIST\\_OLD](http://stats.oecd.org/Index.aspx?DataSetCode=AWHIST_OLD)

<sup>55</sup> Gårestad (1987, pp. 197, 213–215).

<sup>56</sup> Tithe had to be paid to the church earlier in history. In reforms carried out in 1527 by the king Gustav Wasa, part of the tithe was abolished, part was converted to a central state tax and the remaining part was, later on, transformed to a local tax, see Eberstein (1937, pp. 822–832).

<sup>57</sup> Tax Statistical Yearbook of Sweden (2000, p. 56).

<sup>58</sup> The formal tax rate differed somewhat between parishes. In 1953, the national church tax was about 0.80 percent on average. In 2010, there is a compulsory fee for funeral service of, on average, 0.22 percent. The

The income tax system also includes tax reliefs in the form of allowances and tax credits, where allowances are applied to pre-tax income to obtain the taxable income. Basic local and state income tax allowances were introduced in 1920.<sup>59</sup> The basic tax allowances differed somewhat between cities until 1960 depending on the price level in each city. We refer to an average city when calculating the basic tax allowance. Information is gathered from Genberg (1942), Söderberg (1996), Taxpayers' Association (1997) and Tax Statistical Yearbook of Sweden (1998–2009). The local tax was also deductible from the state taxable income between 1920 and 1970. The basic state and local income tax allowances may affect the marginal income tax rate both positively or negatively, as these occasionally depend upon and change with income level. Information about tax credits for the period 1999–2002 and for the period 2007–2010 is gathered from Tax Statistical Yearbook (2002, p. 50) and Ministry of Finance 2007–2010, respectively.

Information about social security contributions paid by employees is collected from Elmér (1960), Söderberg (1996) and Tax Statistical Yearbook of Sweden (1998–2009) and information about social security contributions paid by employer from Söderberg (1996, pp. 117–119) and from Tax Statistical Yearbook of Sweden (2009, p. 84, Table 4.33).

Information about consumption taxes is collected from Statistical Yearbook of Sweden (1914–2010) and National Institute of Economic Research (2009, p. 88, Table 5.04), while information about private consumption is retrieved from Edvinsson (2005, pp. 322–326), Statistical Yearbook of Sweden (2006–2010) and from National Institute of Economic Research (2009, p. 18).

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voluntary fee to the church is 0.99 percent on average, see Tax Statistical Yearbook of Sweden (2009, p. 78, 189).

<sup>59</sup> Söderberg (1996, p. 2).

## Appendix B. Extensions

In this paper, we have followed the approach by OECD and included income taxes and social security contributions (SSCs) in the marginal tax wedges. We have also calculated the marginal tax wedge with and without consumption taxes. In line with OECD, the SSCs have been treated as a pure tax. In this appendix we show the evolution of the marginal tax wedge when the benefit part of social security contributions are taken into account and how this differs with our earlier calculations. In addition, we report the effect of marriage and joint taxation.

OECD treats all SSCs as a tax. Heady (2004) claims that all SSCs should be treated as taxes as they are compulsory and unrequited payments to the governments. Although there might be some link between contribution and benefit, country comparison should treat SSCs as a tax as the country choice between general taxes and earmarked compulsory contribution should not alter the comparison. McKee et al. (1986) further argue that the *perceived* relationship between incremental contributions and incremental benefits likely is weak if the contributions are compulsory. It is, moreover, difficult to estimate the benefit part of the SSCs. Most researchers also ignore the benefit parts and treat social security contributions as a pure tax. Disney et al. (2004) and Disney (2006) argue, however, that it is important to adjust the SSC for the benefit part as a description and analysis of the tax system without these adjustments will be skewed and give an incorrect picture of actual taxes. Comparison over time within a country could hence include an adjustment for the benefit part.

As described in Section 3.4, SSCs paid by the employers were introduced in 1955. We apply the estimates used by, e.g., SOU (1989, pp. 61–63), that three quarters of the marginal SSCs paid by the employers initially is tax. As from 1987, the wage of the high income earner exceeds the benefit caps, hence the marginal tax effect is 100 percent. As from 2000, 60 percent of the employer contributions are regarded as tax for the low and average income earner. The decreased tax share is a result of pension contributions becoming more actuarial, i.e., the connection between contribution paid and benefits received were higher (Tax Statistical Yearbook 1998, p. 46).

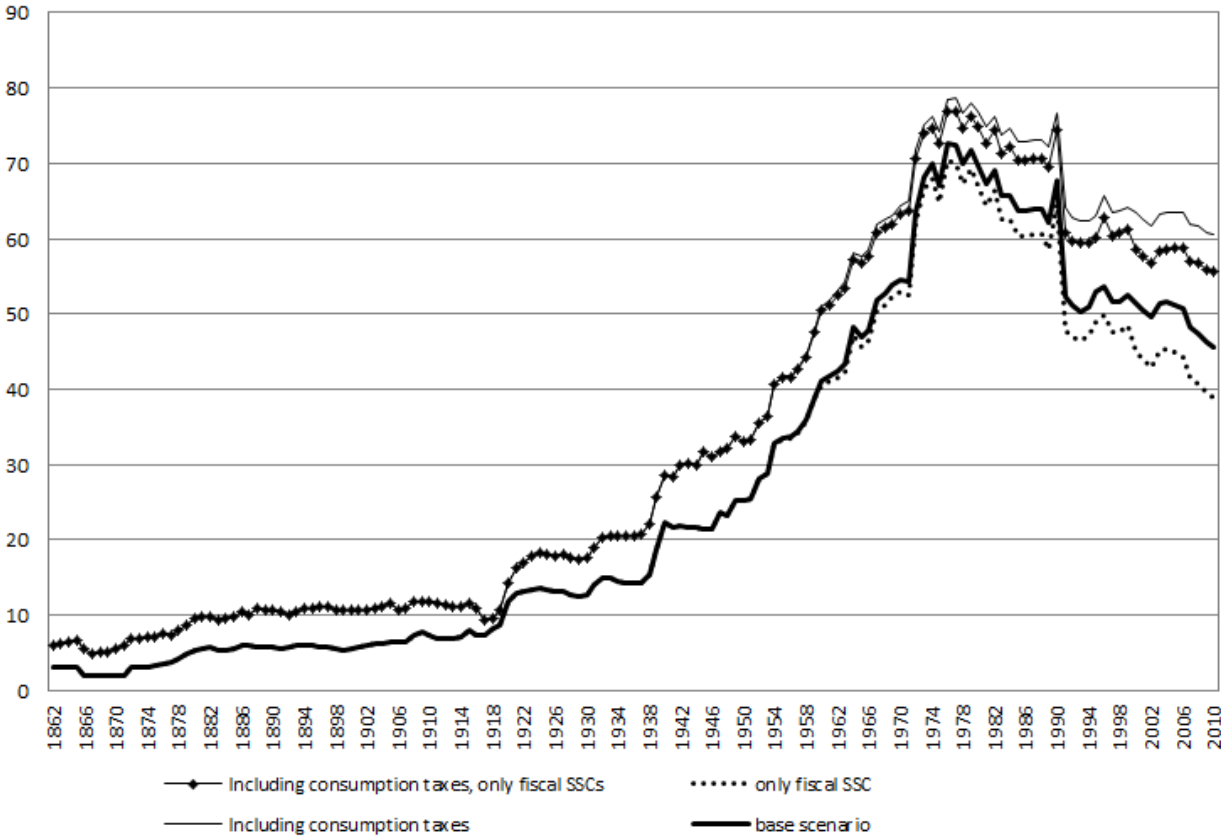
The first SSC paid by employee, the national basic pension contribution, introduced in 1913 corresponded fully to a benefit up until 1935. The benefit share was gradually reduced from 1936 and as from 1948 up to 1973, when it was abolished, the national basic pension contribution was a tax (Elmér 1960, p. 222). The second SSC paid by employee, the health insurance contribution, introduced in 1955 is evaluated to have a benefit share of 50 percent

in 1974 (the same year as it was abolished), as it had some connection between contribution and benefit. For the other years, it had no benefit share. In 1993, SSCs paid by employees were reintroduced, now called general SSCs. They can be seen as pure taxes.

Adjusted for the estimated benefit part, there is no discernible effect on the tax wedge until the 1970s. The marginal tax wedge decreases with at most about seven percentage points at the end of the examined period for the average income earner (see Figure B1). Excluding or including the benefit part does not impact the general evolution of the tax wedge. The effect is about the same for the low income earner, while the effect on the high income earner is negligible.

The marginal tax wedge increases with at most about ten percentage points for the average income earner when both consumption taxes and the benefit part of the SSCs are taken into account. The effect on the low and high income earners is similar. The long-term evolution for the three income groups remains basically the same, however.

Figure B1. Marginal tax wedge, given different assumptions, average income earner

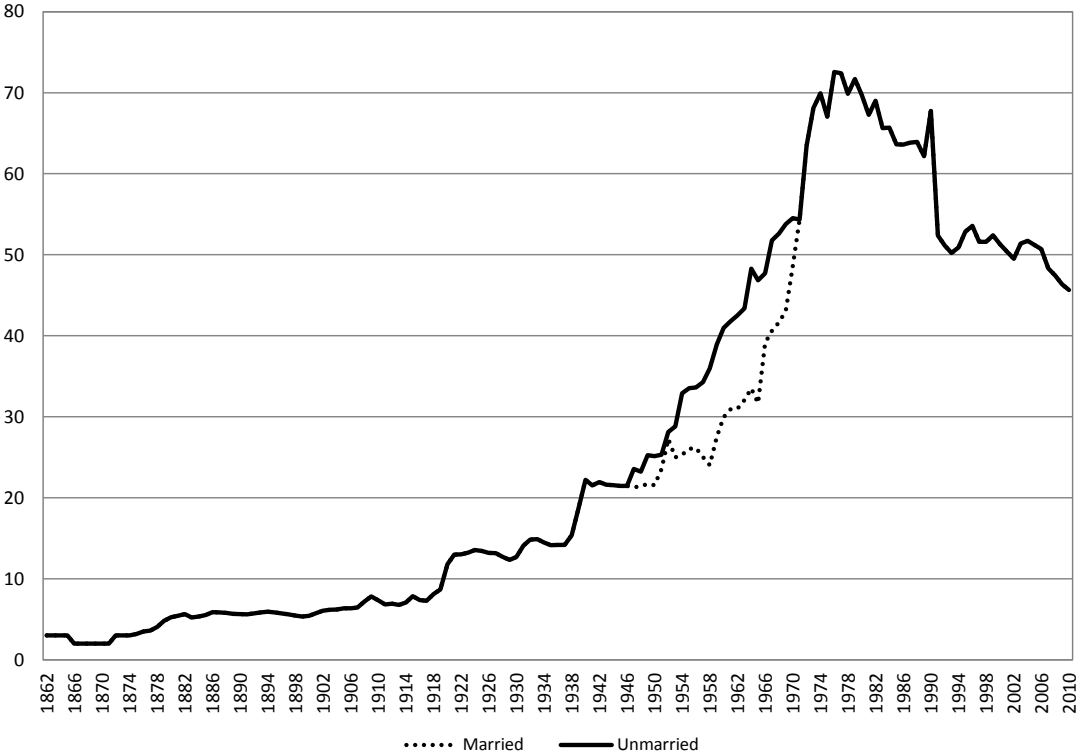


Source: Own calculations based on sources in Appendix A.

The marginal tax rate and marginal tax wedge calculated so far has been based on a single person with no children. However, the tax rates for married couples have been more favorable, partly because they had more generous basic allowances (between 1920 and 1970) and partly because they had lower tax rates (between 1953 and 1970) for a given taxable income.

To check the robustness of our results, we have calculated the marginal tax wedge, given that the taxpayer is married (but assumed that all other assumptions are unchanged). The results can be seen in Figure B2. There is no distinguishable effect before World War II. The marginal tax wedge will be lower after World War II and the increase of the tax wedge will initially be somewhat slower during the 1950s. Occasionally it increases faster during the 1960s and coincides with the tax wedge for unmarried as from 1971. The long-term evolution for the three income groups remains basically the same.

Figure B2. Marginal tax wedge, married and unmarried, average income earner

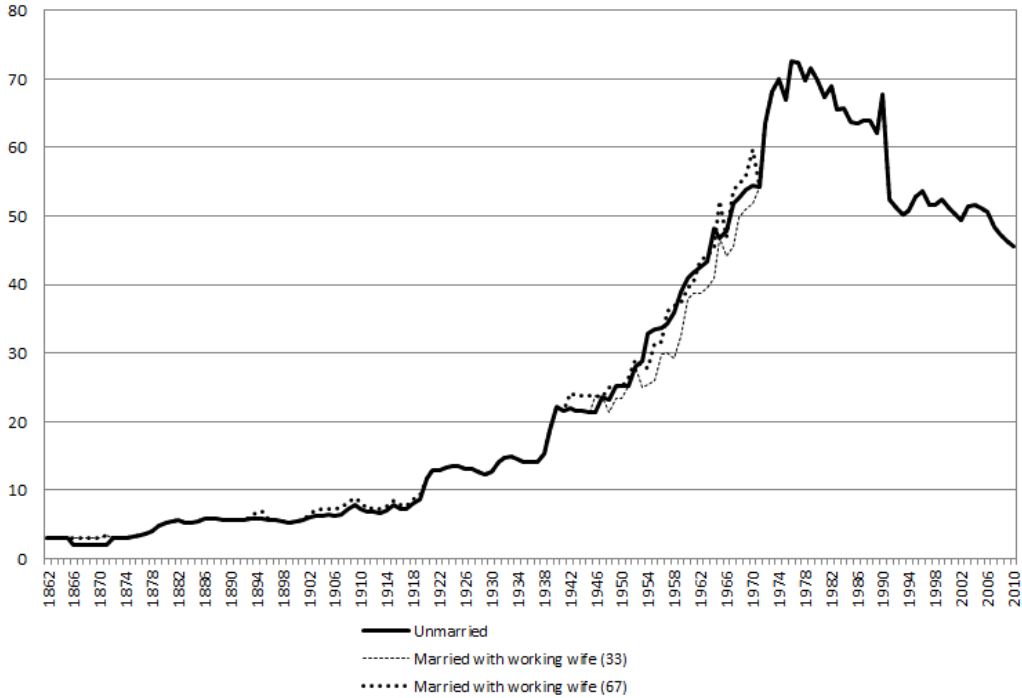


Note: Married refers to a couple where one spouse works on the regular labor market with a wage equal to the wage of the APW, while the other spouse has no regular income.

Source: Own calculations based on sources in Appendix A.

The calculation in Figure B2 refers to a household with one income earner. In Figure B3, we have, in line with OECD, calculated the marginal tax wedge for a married couple assuming that one spouse is working full time and the other part time, earning 33 or 67 percent of wage of an average production worker (APW).<sup>60</sup> The difference between the unmarried and two-earner married couple is minor. A couple with a spouse earning 67 percent of the wage of the APW might occasionally even have a higher marginal tax wedge than an unmarried tax payer. Even if the principal earner was facing a higher marginal tax rate after the tax reform in 1971 when joint taxation of family income was abolished, the spouse received a decreased tax wedge (not shown in any figure).<sup>61</sup> This change made it more profitable for women to work and led to an increasing share of women participating in the labor market.<sup>62</sup>

Figure B3. Marginal tax wedge, married with working spouse and unmarried, average income earner



Note: 33 refers to a couple where the principal earner’s income is 100 percent of the wage of an APW and the other spouse’s is 33 percent of the wage of an APW. 67 refers to a couple where the principal earner’s income is 100 percent of the wage of the APW and the other spouse’s is 67 percent of the wage of the APW. The figure shows the principal earner’s marginal tax wedge from 1971.

Source: Own calculations based on sources in Appendix A.

<sup>60</sup> If both spouses were working, there were also an additional small extra allowance between 1921 and 1984.

<sup>61</sup> To mitigate the effect from separate taxation for families with only one income earner, a small tax reduction was implemented in 1971. This reduction was in place until 1991.

<sup>62</sup> See, for instance, Stanfors (2003) or Svensson (1996) for a discussion on female labor participation and wages.

## Appendix C. Results

Table C1. Marginal tax rates and marginal tax wedges, low, average and high income earner, 1862–2010

Year	Low income earner			Average income earner			High income earner		
	Wage SEK	Marginal tax rate	Marginal tax wedge	Wage SEK	Marginal tax rate	Marginal tax wedge	Wage SEK	Marginal tax rate	Marginal tax wedge
1862	273	2.0	2.0	408	3.0	3.0	681	3.0	3.0
1863	286	2.0	2.0	427	3.0	3.0	713	3.0	3.0
1864	283	2.0	2.0	423	3.0	3.0	706	3.0	3.0
1865	278	2.0	2.0	416	3.0	3.0	694	3.0	3.0
1866	261	2.0	2.0	389	2.0	2.0	650	3.0	3.0
1867	248	2.0	2.0	371	2.0	2.0	619	3.0	3.0
1868	238	2.0	2.0	356	2.0	2.0	594	3.0	3.0
1869	246	2.0	2.0	367	2.0	2.0	613	3.0	3.0
1870	246	2.0	2.0	367	2.0	2.0	613	3.0	3.0
1871	250	2.0	2.0	373	2.0	2.0	623	3.5	3.5
1872	276	2.0	2.0	412	3.0	3.0	688	3.0	3.0
1873	304	2.0	2.0	454	3.0	3.0	757	3.0	3.0
1874	324	2.0	2.0	483	3.0	3.0	807	3.0	3.0
1875	327	2.2	2.2	488	3.2	3.2	814	3.2	3.2
1876	323	2.5	2.5	482	3.5	3.5	805	3.5	3.5
1877	332	2.6	2.6	495	3.6	3.6	827	3.6	3.6
1878	300	3.0	3.0	447	4.0	4.0	747	4.0	4.0
1879	288	3.3	3.3	431	4.8	4.8	719	4.8	4.8
1880	310	3.8	3.8	463	5.3	5.3	773	5.3	5.3
1881	320	3.9	3.9	477	5.4	5.4	797	5.4	5.4
1882	328	4.1	4.1	490	5.6	5.6	819	5.6	5.6
1883	329	4.2	4.2	491	5.2	5.2	819	5.2	5.2
1884	338	4.3	4.3	505	5.3	5.3	844	5.3	5.3
1885	335	4.5	4.5	499	5.5	5.5	834	5.5	5.5
1886	325	4.9	4.9	484	5.9	5.9	809	5.9	5.9
1887	330	4.9	4.9	493	5.9	5.9	823	5.9	5.9
1888	343	4.8	4.8	512	5.8	5.8	856	5.8	5.8
1889	364	4.7	4.7	544	5.7	5.7	908	5.7	5.7
1890	376	4.6	4.6	561	5.6	5.6	936	5.6	5.6
1891	379	4.6	4.6	565	5.6	5.6	944	5.6	5.6
1892	375	4.7	4.7	560	5.7	5.7	936	5.7	5.7
1893	379	4.8	4.8	565	5.8	5.8	944	6.1	6.1
1894	384	4.9	4.9	573	5.9	5.9	957	6.9	6.9
1895	391	4.8	4.8	583	5.8	5.8	974	6.8	6.8
1896	399	4.7	4.7	596	5.7	5.7	996	5.7	5.7
1897	416	4.6	4.6	621	5.6	5.6	1036	5.6	5.6
1898	443	4.5	4.5	662	5.5	5.5	1105	5.5	5.5
1899	464	4.3	4.3	693	5.3	5.3	1157	5.3	5.3
1900	480	4.4	4.4	717	5.4	5.4	1198	5.4	5.4
1901	476	4.8	4.8	710	5.8	5.8	1186	5.8	5.8
1902	482	5.0	5.0	720	6.0	6.0	1202	6.5	6.5
1903	496	5.2	5.2	740	6.2	6.2	1236	7.2	7.2
1904	511	6.2	6.2	762	6.2	6.2	1273	7.2	7.2

1905	518	6.4	6.4	773	6.4	6.4	1291	7.4	7.4
1906	566	6.4	6.4	844	6.4	6.4	1410	7.4	7.4
1907	604	6.4	6.4	901	6.4	6.4	1505	7.4	7.4
1908	605	7.2	7.2	902	7.2	7.2	1507	8.2	8.2
1909	565	7.8	7.8	843	7.8	7.8	1408	8.8	8.8
1910	653	7.3	7.3	975	7.3	7.3	1628	8.3	8.3
1911	661	6.2	6.2	986	6.8	6.8	1647	7.2	7.2
1912	692	6.3	6.3	1033	6.9	6.9	1726	7.5	7.5
1913	711	6.2	6.2	1062	6.8	6.8	1773	7.4	7.4
1914	717	6.5	6.5	1071	7.1	7.1	1788	7.7	7.7
1915	741	7.3	7.3	1105	7.9	7.9	1846	8.5	8.5
1916	837	7.0	7.0	1249	7.4	7.4	2086	8.0	8.0
1917	1006	6.9	6.9	1502	7.3	7.3	2508	7.7	7.7
1918	1376	7.7	7.7	2054	8.1	8.1	3429	8.7	8.7
1919	1724	8.5	8.5	2574	8.7	8.7	4298	9.3	9.3
1920	2015	11.7	11.7	3008	11.8	11.8	5023	11.8	11.8
1921	1816	12.9	12.9	2711	13.0	13.0	4527	13.0	13.0
1922	1419	12.9	12.9	2118	13.0	13.0	3537	13.0	13.0
1923	1364	13.1	13.1	2035	13.2	13.2	3399	13.2	13.2
1924	1417	13.5	13.5	2114	13.5	13.5	3531	13.5	13.5
1925	1449	13.3	13.3	2162	13.4	13.4	3611	13.4	13.4
1926	1466	13.1	13.1	2189	13.2	13.2	3655	13.2	13.2
1927	1475	13.1	13.1	2202	13.2	13.2	3678	13.2	13.2
1928	1477	12.6	12.6	2205	12.7	12.7	3682	12.7	12.7
1929	1549	12.3	12.3	2312	12.3	12.3	3860	12.3	12.3
1930	1553	12.7	12.7	2317	12.7	12.7	3870	12.7	12.7
1931	1491	14.1	14.1	2225	14.1	14.1	3715	14.1	14.1
1932	1426	14.8	14.8	2128	14.8	14.8	3554	14.8	14.8
1933	1430	14.9	14.9	2134	14.9	14.9	3564	14.9	14.9
1934	1492	14.5	14.5	2227	14.5	14.5	3720	14.5	14.5
1935	1533	14.2	14.2	2288	14.2	14.2	3821	14.2	14.2
1936	1555	15.0	15.0	2320	14.2	14.2	3875	14.2	14.2
1937	1628	15.0	15.0	2430	14.2	14.2	4058	14.2	14.2
1938	1697	16.2	16.2	2533	15.4	15.4	4230	15.4	15.4
1939	1775	19.5	19.5	2649	18.7	18.7	4424	18.7	18.7
1940	1893	23.0	23.0	2825	22.2	22.2	4717	24.0	24.0
1941	2035	22.3	22.3	3037	21.5	21.5	5072	23.3	23.3
1942	2236	21.9	21.9	3337	21.9	21.9	5573	24.2	24.2
1943	2381	21.6	21.6	3554	21.6	21.6	5935	23.9	23.9
1944	2490	21.6	21.6	3717	21.6	21.6	6207	23.8	23.8
1945	2622	21.5	21.5	3913	21.5	21.5	6535	23.7	23.7
1946	2865	21.5	21.5	4277	21.5	21.5	7142	23.7	23.7
1947	3255	21.3	21.3	4859	23.6	23.6	8114	25.8	25.8
1948	3572	20.6	20.6	5331	23.2	23.2	8903	26.8	26.8
1949	3930	20.8	20.8	5865	25.3	25.3	9795	28.8	28.8
1950	4104	21.6	21.6	6125	25.1	25.1	10229	28.7	28.7
1951	4848	21.8	21.8	7235	25.3	25.3	12083	31.7	31.7
1952	5671	25.5	25.5	8464	28.1	28.1	14135	36.1	36.1
1953	5818	25.0	25.0	8684	28.8	28.8	14502	38.6	38.6
1954	6169	25.3	25.3	9208	32.9	32.9	15377	38.4	38.4
1955	6542	25.2	26.0	9765	32.8	33.5	16307	41.2	41.2



1956	6917	29.1	29.9	10323	32.9	33.6	17240	41.3	41.3
1957	7374	29.3	30.1	11007	33.5	34.3	18381	40.6	40.6
1958	7783	30.1	30.9	11616	35.3	36.0	19399	41.3	41.3
1959	8007	31.6	32.4	11951	38.2	38.9	19958	41.7	41.7
1960	8433	32.0	34.7	12587	38.5	41.0	21020	41.9	43.6
1961	9092	32.3	35.6	13570	38.8	41.8	22662	45.6	47.7
1962	9994	34.9	38.7	14916	39.0	42.5	24911	45.8	48.3
1963	10791	35.1	39.6	16107	39.1	43.4	26898	50.1	52.9
1964	11576	35.9	40.9	17277	43.9	48.3	28853	50.7	54.0
1965	12569	36.4	41.7	18760	42.1	46.9	31330	51.2	54.6
1966	13703	38.8	44.1	20453	42.7	47.7	34156	52.9	56.4
1967	14711	43.3	49.0	21956	46.4	51.8	36667	53.4	58.1
1968	15620	44.1	49.9	23313	47.1	52.6	38933	54.0	58.8
1969	16341	44.7	51.1	24390	47.7	53.8	40732	55.3	60.5
1970	17793	45.2	51.9	26557	48.2	54.5	44350	55.8	61.2
1971	19500	35.9	44.5	29104	47.3	54.3	48604	60.6	61.4
1972	22399	42.8	50.7	33432	57.7	63.5	55831	61.8	62.5
1973	24072	40.1	49.3	35929	62.3	68.1	60001	61.9	63.4
1974	26970	43.9	54.2	40254	63.2	69.9	67224	62.0	63.5
1975	31222	47.2	58.4	46600	58.2	67.0	77822	73.2	74.3
1976	35443	48.2	60.3	52900	64.2	72.6	88343	75.2	79.2
1977	37855	41.9	56.8	56500	62.9	72.4	94355	75.9	80.4
1978	38525	41.7	56.4	57500	59.7	69.9	96025	77.7	81.7
1979	42849	45.0	59.0	63954	62.0	71.7	106803	78.0	82.0
1980	46900	43.1	57.9	70000	59.1	69.8	116900	82.1	85.5
1981	51381	43.6	58.4	76688	55.6	67.3	128069	82.6	85.9
1982	56682	43.7	57.7	84600	58.7	69.0	141282	82.7	87.0
1983	58691	40.2	56.1	87598	53.2	65.6	146289	75.2	81.8
1984	64457	37.3	53.9	96205	53.3	65.7	160662	70.3	78.2
1985	69588	34.4	51.9	103862	50.4	63.6	173450	65.4	74.6
1986	74003	45.3	59.9	110452	50.3	63.6	184455	70.3	78.3
1987	79098	43.4	58.7	118057	50.4	63.8	197155	70.4	78.4
1988	85199	50.6	63.9	127162	50.6	63.9	212361	75.6	82.2
1989	94095	47.8	62.2	140440	47.8	62.2	234535	72.8	80.3
1990	103622	41.2	57.7	154660	55.2	67.7	258282	66.2	75.6
1991	108808	34.3	52.4	162400	34.3	52.4	271208	51.2	64.6
1992	114570	34.1	51.2	171000	34.1	51.2	285570	51.0	63.7
1993	116513	34.8	50.2	173900	34.8	50.2	290413	51.0	62.6
1994	122677	35.5	50.9	183100	35.5	50.9	305777	51.1	62.7
1995	124378	37.4	52.8	185639	37.4	52.8	310017	56.5	67.3
1996	137158	38.2	53.6	204714	38.2	53.6	341872	56.7	67.4
1997	140173	38.9	54.0	209214	35.7	51.6	349387	56.7	67.4
1998	144378	38.6	53.9	215490	35.6	51.6	359868	55.8	66.7
1999	147831	39.7	54.7	220644	36.6	52.4	368475	50.6	62.9
2000	154247	38.3	53.6	230220	35.2	51.3	384467	50.4	62.7
2001	154860	37.2	52.7	231134	34.2	50.4	385994	50.5	62.8
2002	161983	36.0	51.8	241766	32.9	49.5	403749	50.5	62.7
2003	166098	35.5	51.4	247908	35.5	51.4	414006	51.2	63.2
2004	168359	35.9	51.7	251282	35.9	51.7	419641	51.5	63.5
2005	169845	35.4	51.2	253500	35.4	51.2	423345	51.6	63.5
2006	174803	34.8	50.7	260900	34.8	50.7	435703	51.6	63.4

2007	181905	31.6	48.3	271500	31.6	48.3	453405	51.6	63.4
2008	188538	30.4	47.4	281400	30.4	47.4	469938	51.4	63.3
2009	193563	29.5	46.4	288900	29.5	46.3	482463	51.5	63.1
2010	197583	28.6	45.7	294900	28.6	45.6	492483	51.6	63.1

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*Note:* High income earner refers to an employee earning 167 percent of the wage of an average production worker, average income earner refers to an employee earning 100 percent of an average production worker, low income earner refers to an employee earning 67 percent of an average production worker. The marginal tax rate is the sum of the state and local marginal income tax rates as well as SSCs paid by employees.

*Source:* Own calculations based on references in Appendix A.

Table C2. Top marginal tax rates, top marginal tax wedges and relative top tax income, 1862–2010

Year	Wage SEK (in thousands)	Relative top tax income	Top state marginal income tax rate %	Top state marginal income tax rate# %	Top marginal tax rate %	Top marginal tax wedge %
1862	-	-	1.0		3.0	3.0
1863	-	-	1.0		3.0	3.0
1864	-	-	1.0		3.0	3.0
1865	-	-	1.0		3.0	3.0
1866	-	-	1.0		3.0	3.0
1867	-	-	1.0		3.0	3.0
1868	-	-	1.0		3.0	3.0
1869	-	-	1.0		3.0	3.0
1870	-	-	1.0		3.0	3.0
1871	-	-	1.5		3.5	3.5
1872	-	-	1.0		3.0	3.0
1873	-	-	1.0		3.0	3.0
1874	-	-	1.0		3.0	3.0
1875	-	-	1.0		3.2	3.2
1876	-	-	1.0		3.5	3.5
1877	-	-	1.0		3.6	3.6
1878	-	-	1.0		4.0	4.0
1879	-	-	1.5		4.8	4.8
1880	-	-	1.5		5.3	5.3
1881	-	-	1.5		5.4	5.4
1882	-	-	1.5		5.6	5.6
1883	-	-	1.0		5.2	5.2
1884	-	-	1.0		5.3	5.3
1885	-	-	1.0		5.5	5.5
1886	-	-	1.0		5.9	5.9
1887	-	-	1.0		5.9	5.9
1888	-	-	1.0		5.8	5.8
1889	-	-	1.0		5.7	5.7
1890	-	-	1.0		5.6	5.6
1891	-	-	1.0		5.6	5.6
1892	-	-	1.0		5.7	5.7
1893	-	-	1.3		6.1	6.1
1894	-	-	2.0		6.9	6.9
1895	-	-	2.0		6.8	6.8
1896	-	-	1.3		6.0	6.0
1897	-	-	1.0		5.6	5.6
1898	-	-	1.0		5.5	5.5
1899	-	-	1.0		5.3	5.3
1900	-	-	1.0		5.4	5.4
1901	-	-	2.0		6.8	6.8
1902	-	-	2.0		7.0	7.0
1903	84.4	114	6.0		11.2	11.2
1904	84.4	111	6.0		11.2	11.2

1905	84.5	109	6.0		11.4	11.4
1906	84.5	100	6.0		11.4	11.4
1907	84.6	94	6.0		11.4	11.4
1908	85.3	95	6.0		12.2	12.2
1909	85.8	102	6.0		12.8	12.8
1910	85.4	88	6.0		12.3	12.3
1911	85.2	86	6.1		12.2	12.2
1912	85.3	83	6.1		12.3	12.3
1913	239.5	226	19.6		25.7	25.7
1914	85.5	80	6.1		12.5	12.5
1915	86.2	78	6.1		13.3	13.3
1916	85.5	68	6.1		12.6	12.6
1917	85.3	57	6.1		12.3	12.3
1918	966.0	470	23.1		29.9	29.9
1919	969.6	377	23.1		30.3	30.3
1920	1,151	383	23.4	20.3	33.3	33.3
1921	1,166	430	26.4	22.6	36.3	36.3
1922	1,167	551	26.4	22.6	36.3	36.3
1923	1,170	575	26.4	22.6	36.5	36.5
1924	1,175	556	26.4	22.5	36.7	36.7
1925	1,175	543	25.6	21.8	36.1	36.1
1926	1,175	537	24.1	20.5	34.9	34.9
1927	1,177	535	24.1	20.5	35.0	35.0
1928	1,158	525	23.9	20.6	33.7	33.7
1929	1,155	500	23.0	20.0	32.8	32.8
1930	1,161	501	23.0	19.8	33.0	33.0
1931	1,180	531	23.3	19.7	34.4	34.4
1932	1,191	560	27.3	22.9	38.4	38.4
1933	1,185	555	30.3	25.6	40.5	40.5
1934	1,176	528	32.5	27.7	42.1	42.1
1935	1,172	512	32.5	27.8	41.8	41.8
1936	1,172	505	36.5	31.2	45.3	45.3
1937	1,172	482	36.5	31.2	45.3	45.3
1938	1,177	465	38.0	32.3	47.3	47.3
1939	226.0	85	53.7	47.5	59.0	59.0
1940	226.9	80	60.8	53.5	65.4	65.4
1941	224.9	74	60.8	54.0	65.1	65.1
1942	223.5	67	68.8	61.5	72.0	72.0
1943	222.6	63	68.8	61.8	71.9	71.9
1944	222.4	60	68.8	61.8	71.9	71.9
1945	222.2	57	68.8	61.9	71.9	71.9
1946	222.2	52	68.8	61.9	71.9	71.9
1947	221.7	46	68.8	62.0	71.8	71.8
1948	221.8	42	70	63.1	72.9	72.9
1949	222.5	38	70	62.9	73.0	73.0
1950	222.1	36	70	63.0	73.0	73.0
1951	222.7	31	70	62.9	73.1	73.1
1952	285.8	34	70	61.2	73.8	73.8
1953	172.4	20	65	57.2	70.0	70.0
1954	171.9	19	65	57.4	69.8	69.8
1955	171.6	18	65	57.5	69.7	69.7

1956	171.8	17	65	57.4	69.8	69.8
1957	172.3	16	65	57.3	69.9	69.9
1958	174.3	15	65	56.6	70.3	70.3
1959	175.4	15	65	56.3	70.5	70.5
1960	176.3	14	65	56.0	70.6	70.6
1961	177.0	13	65	55.8	70.8	70.8
1962	178.0	12	65	55.6	70.8	70.8
1963	178.4	11	65	55.5	70.9	70.9
1964	180.6	10	65	54.8	71.3	71.3
1965	182.2	9.7	65	54.3	71.6	71.6
1966	184.5	9.0	65	53.6	71.9	71.9
1967	185.5	8.4	65	53.3	72.1	72.1
1968	186.9	8.0	65	52.9	72.3	72.3
1969	189.0	7.7	65	52.4	72.6	72.9
1970	190.7	7.2	65	51.9	72.9	73.2
1971	150.0	5.2	54		76.5	77.0
1972	150.0	4.5	54		77.8	78.2
1973	150.0	4.2	54		77.9	78.8
1974	150.0	3.7	54		78.0	78.9
1975	154.5	3.3	56		81.2	82.0
1976	154.5	2.9	57		83.2	85.9
1977	154.5	2.7	58		84.9	87.7
1978	154.5	2.7	58		86.7	89.1
1979	166.5	2.6	58		87.0	89.4
1980	174.0	2.5	58		85.0	87.8
1981	192.0	2.5	58		85.0	87.9
1982	207.0	2.4	58		85.0	88.7
1983	328.5	3.8	54		84.0	88.3
1984	342.0	3.6	52		82.0	86.8
1985	351.0	3.4	50		80.0	85.3
1986	351.0	3.2	50		80.3	85.6
1987	351.0	3.0	47		77.4	83.5
1988	200.0	1.6	45		75.6	82.2
1989	200.0	1.4	42		72.8	80.3
1990	200.0	1.3	35		66.2	75.6
1991	180.3	1.1	20		51.2	64.6
1992	197.3	1.2	20		51.0	63.7
1993	204.1	1.2	20		51.0	62.6
1994	203.8	1.1	20		51.1	62.7
1995	223.4	1.2	25		56.5	67.3
1996	231.1	1.1	25		56.7	67.4
1997	234.3	1.1	25		56.7	67.4
1998	242.7	1.1	25		55.8	66.7
1999	389.5	1.8	25		55.6	66.6
2000	398.5	1.7	25		55.4	66.4
2001	411.1	1.8	25		55.5	66.5
2002	430.9	1.8	25		55.5	66.5
2003	447.2	1.8	25		56.2	67.0
2004	458.9	1.8	25		56.5	67.2
2005	465.2	1.8	25		56.6	67.2
2006	472.3	1.8	25		56.6	67.2

2007	488.6	1.8	25	56.6	67.2
2008	507.1	1.8	25	56.4	67.1
2009	538.8	1.9	25	56.5	66.9
2010	545.2	1.8	25	56.6	66.9

*Note:* The relative top tax income is defined as the income when the top marginal tax wedge starts to apply divided by the wage of an average production worker. This series stretches from 1903 to 2010, since the tax system was proportional before 1903.

An average tax cap that reduced the marginal tax rates on very high income levels was in place occasional years, i.e., the top marginal tax rate was paid between an interval where we present the lower bound.

Top state marginal income tax rate# includes the effect from the deductible local taxes 1920–1970.

*Source:* Own calculations based on references in Appendix A.

## Appendix D. Tax tables

Table D1. The local tax rate and the consumption tax rate, 1862–2010

Year	Local tax %	Consumption tax %	Year	Local tax %	Consumption tax %
			1895	4.84	5.4
1862	2.0	3.1	1896	4.73	5.6
1863	2.0	3.3	1897	4.62	5.7
1864	2.0	3.5	1898	4.47	5.5
1865	2.0	3.7	1899	4.33	5.5
1866	2.0	3.5	1900	4.44	5.5
1867	2.0	2.9	1901	4.76	5.3
1868	2.0	3.1	1902	5.05	5.0
1869	2.0	3.1	1903	5.17	5.1
1870	2.0	3.6	1904	5.21	5.3
1871	2.0	4.1	1905	5.37	5.5
1872	2.0	3.9	1906	5.36	4.6
1873	2.0	4.1	1907	5.44	4.7
1874	2.0	4.2	1908	6.20	4.9
1875	2.18	4.0	1909	6.81	4.3
1876	2.51	4.1	1910	6.34	4.7
1877	2.60	3.9	1911	6.15	4.9
1878	3.05	4.0	1912	6.21	4.8
1879	3.29	4.1	1913	6.07	4.6
1880	3.76	4.5	1914	6.38	4.3
1881	3.93	4.5	1915	7.15	3.9
1882	4.13	4.4	1916	6.46	3.7
1883	4.21	4.3	1917	6.19	2.1
1884	4.33	4.5	1918	6.83	1.4
1885	4.52	4.5	1919	7.18	2.2
1886	4.88	4.9	1920	7.39	2.8
1887	4.86	4.3	1921	8.52	3.7
1888	4.78	5.3	1922	8.57	4.5
1889	4.66	5.2	1923	8.79	5.3
1890	4.64	5.3	1924	9.13	5.5
1891	4.60	5.0	1925	9.15	5.2
1892	4.74	4.6	1926	9.18	5.4
1893	4.84	4.9	1927	9.17	5.6
1894	4.94	5.1	1928	9.02	5.5

Year	Local tax %	Consumption tax %	Year	Local tax %	Consumption tax %
1929	8.84	5.7	1970	21.00	21.7
1930	9.23	5.6	1971	22.54	23.4
1931	10.67	5.7	1972	23.79	22.9
1932	11.46	6.4	1973	23.94	22.2
1933	10.97	6.6	1974	24.03	21.1
1934	10.39	7.1	1975	25.23	22.0
1935	10.04	7.3	1976	26.15	21.8
1936	10.08	7.4	1977	26.85	22.7
1937	10.08	7.5	1978	28.71	22.7
1938	10.53	8.0	1979	29.02	22.5
1939	11.51	8.6	1980	29.09	23.6
1940	11.87	8.1	1981	29.55	23.0
1941	11.09	8.8	1982	29.74	23.7
1942	10.53	10.3	1983	30.15	23.7
1943	10.17	10.7	1984	30.30	25.8
1944	10.09	10.6	1985	30.38	25.6
1945	10.00	13.0	1986	30.34	25.6
1946	10.00	12.2	1987	30.44	25.7
1947	9.80	10.6	1988	30.56	25.4
1948	9.83	11.6	1989	30.80	26.6
1949	10.12	11.2	1990	31.16	27.6
1950	9.97	10.6	1991	31.15	24.6
1951	10.19	10.6	1992	31.04	24.0
1952	12.53	10.3	1993	31.04	24.5
1953	12.72	10.6	1994	31.05	23.5
1954	12.39	11.4	1995	31.50	21.7
1955	12.24	12.4	1996	31.65	26.0
1956	12.36	12.2	1997	31.66	24.4
1957	12.60	13.0	1998	31.65	25.1
1958	13.68	13.3	1999	31.48	24.8
1959	14.20	14.6	2000	30.38	24.9
1960	14.63	17.0	2001	30.53	24.5
1961	15.00	17.1	2002	30.52	24.4
1962	15.24	18.6	2003	31.17	24.2
1963	15.46	19.1	2004	31.51	24.2
1964	16.50	19.0	2005	31.60	25.3
1965	17.25	20.5	2006	31.60	25.9
1966	18.29	20.9	2007	31.55	26.4
1967	18.71	21.1	2008	31.44	27.0
1968	19.34	21.1	2009	31.52	26.8
1969	20.24	20.2	2010	31.56	27.5

*Note:* As the tax rates differ between cities, the average local tax rate has been used. Following OECD, the national church tax is excluded as from year 2000.

*Source:* See Appendix A.



Table D2. The state marginal income tax rate (appropriation tax), 1862–1910

State taxable income SEK	Marginal tax rate (%) 1862–1883	State taxable income SEK	Marginal tax rate (%) 1884–1910
0	0.0	0	0.0
400	1.0	500	1.0

*Note:* 1862–1883: If the state taxable income did not exceed SEK 1,800, SEK 300 was excepted from taxation. 1884–1910: If the state taxable income did not exceed SEK 1,200, SEK 450 was excepted from taxation. If the taxable income amounted to SEK 1,200 but did not exceed SEK 1,800, SEK 300 is excepted from taxation. The extra appropriations are not included in the figure. The row in Tables D2–D22 concerning the marginal income tax rate refers to a tax bracket, starting at the indicated income. The currency unit was changed in 1873 from *riksdaler* (rdr) to *kronor* (SEK).

*Source:* SFS 1861: 34, SFS 1883: 51 and SFS 1897: 111.

Table D3. Extra temporary appropriation tax, 1871–1902

State taxable income SEK	Marginal tax rate (%)							
	1871	1879–1882	1893	1894	1895	1896	1901	1902
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
400	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
800	0.5	0.5	0.3	1.0	1.0	0.0	0.0	0.0
1,200	0.5	0.5	0.3	1.0	1.0	0.15	0.5	0.5
1,800	0.5	0.5	0.3	1.0	1.0	0.3	1.0	1.0

*Source:* SFS 1871: 30, 1879: 25, SFS 1880: 46, SFS 1881: 29, SFS 1892: 111, SFS 1893: 34, SFS 1894: 76, SFS 1895: 62, SFS 1901: 34 and SFS 1902: 50.

Table D4. The state marginal income tax rate (appropriation tax), 1911–1928

State taxable income SEK	Marginal tax rate (%) 1911–1928
0	0.0
500	0.1

*Note:* If the state taxable income did not exceed SEK 1,200, SEK 450 was excepted from taxation. If the taxable income amounted to SEK 1,200 but did not exceed SEK 1,800, SEK 300 is excepted from taxation.

*Source:* SFS 1910: 116 and SFS 1920: 759.

Table D5. The state marginal income tax rate, 1903–1919

State taxable income SEK	Marginal tax rate (%) 1903–1910	State taxable income SEK	Marginal tax rate (%) 1911–1919
0	0	0	0
1,000	1.0	800	0.4
6,000	1.5	900	0.6
10,000	2.0	1,100	0.8
15,000	2.5	1,400	1.0
20,000	3.0	1,700	1.2
30,000	3.5	2,000	1.4
50,000	4.0	2,500	1.6
80,000	5.0	3,000	1.8
145,500	4.0	3,600	2.0
		4,500	2.2
		6,000	3.0
		8,000	3.5
		12,000	4.0
		20,000	4.5
		30,000	5.0
		50,000	5.5
		80,000	6.0
		104,500	5.0

*Note:* 1903–1910: If the state taxable income did not exceed SEK 2,000, SEK 800 was excepted from taxation. If the taxable income amounted to SEK 2,000 but did not exceed SEK 3,000, SEK 600 is excepted from taxation.: If the taxable income amounted to SEK 3,000 but did not exceed SEK 4,000, SEK 400 is excepted from taxation.:

The tax rates up to SEK 6,000 show how much the taxpayer paid in tax on the *whole* taxable income, e.g., if the taxpayer earned SEK 900 (s)he paid 0.6 percent on the whole income and if the taxpayer earned SEK 1,100 (s)he paid 0.8 percent on the whole income. Hence, the table shows the marginal tax within the brackets. If the income increases and pushes the taxpayer into a higher bracket, e.g., from, SEK 900 to SEK 1,100, the tax will not increase by 0.6 percent but by 1.7 percent  $(1,100 \cdot 0.008 - 900 \cdot 0.006) / (1,100 - 900)$ . If the income exceeds SEK 6,000, the taxpayer paid 2.25 percent in tax on the first 6,000 and the stated marginal tax rates on the income above SEK 6,000.

Between 1911 and 1919, 1/60<sup>th</sup> of the tax payer's wealth was also added to the state taxable income. In the highest tax bracket, the marginal income tax rate is lower due to the average tax cap. The appropriation and defense taxes are not included in the figures.

*Source:* Genberg (1942, pp. 21–22), SFS 1902: 84, SFS 1910: 115 and own calculations.

Table D6. The state marginal income tax rate, 1920–1947

State taxable income	1920–1938		State taxable income		1939–1947				
	SEK	Base amount (%)	SEK	Bottom tax (%)	Surtax (%)	Withdrawal percentage (%)			
0		3	0	4.5	0	1920	155	1934	170
10,000		4	3,000	5.5	0	1921	175	1935	170
20,000		5	6,000	6.5	0	1922	175	1936	170
40,000		6	8,000	6.5	2	1923	175	1937	170
60,000		7	10,000	6.5	4	1924	175	1938	180
100,000		8	15,000	6.5	8	1925	170	1939	120
150,000		9	25,000	6.5	12	1926	160	1940	150
200,000		10	40,000	6.5	16	1927	160	1941	150
300,000		11	60,000	6.5	20	1928	150	1942	150
400,000		12	100,000	6.5	24	1929	145	1943	150
600,000		13	200,000	6.5	28	1930	145	1944	150
800,000		14				1931	145	1945	150
1,000,000		15				1932	145	1946	150
1,226,670		12				1933	165	1947	150

*Note:* Between 1920 and 1938, 1/60<sup>th</sup> of the tax payer's wealth was also added to the state taxable income.

Between 1939 and 1947, 1/100<sup>th</sup> of the tax payer's wealth was also added to the state taxable income.

A state equalization tax and an extra state income tax were levied 1928–1938 and 1932–1938 and are not included in the figures above. In the highest tax bracket between 1920 and 1938 the marginal income tax rate is lower due to the average tax cap. To calculate the exact state marginal income tax rate for a specific year between 1920 and 1938, one must multiply the base amount with the withdrawal percentage for the specific year. To calculate the exact state marginal income tax rate for a specific year between 1939 and 1947, one must multiply the bottom tax with the withdrawal percentage for the specific year and add the surtax.

*Source:* Genberg (1942, pp. 22–24).

Table D7. The state marginal income tax rate, 1948–1956

State taxable income SEK	Marginal tax rate (%) 1948–1951	State taxable income SEK	Marginal tax rate (%) 1952	State taxable income SEK	Marginal tax rate (%) 1953–1956
0	10	0	10	0	13.2
1,000	11	1,000	11	4,000	17.6
2,000	12	2,000	12	6,000	22.0
3,000	14	3,000	14	8,000	26.4
4,000	16	4,000	16	10,000	29.7
6,000	18	6,000	17	12,000	33.0
8,000	20	8,000	19	16,000	37.4
10,000	24	9,000	20	20,000	41.8
12,000	28	10,000	23	30,000	46.2
14,000	32	12,000	27	40,000	50.6
16,000	36	14,000	32	60,000	55.0
20,000	40	16,000	35	100,000	60.5
30,000	45	18,000	36	150,000	65.0
40,000	50	20,000	39		
60,000	55	30,000	45		
100,000	60	40,000	49		
200,000	70	50,000	50		
		60,000	54		
		80,000	55		
		100,000	59		
		150,000	60		
		200,000	69		
		250,000	70		

Source: Söderberg (1996, pp. 82–85).

Table D8. The state marginal income tax rate, 1957–1970

State taxable income SEK	Marginal tax rate (%) 1957–1961	State taxable income SEK	Marginal tax rate (%) 1962–1965	State taxable income SEK	Marginal tax rate (%) 1966–1970
0	11	0	10	0	10
4,000	17	6,000	20	6,000	15
6,000	22	9,000	25	8,000	22
8,000	25	12,000	30	10,000	27
10,000	28	16,000	36	15,000	31
12,000	32	20,000	41	20,000	36
16,000	36	30,000	45	25,000	40
20,000	41	40,000	49	30,000	44
30,000	45	60,000	54	40,000	49
40,000	49	100,000	59	60,000	54
60,000	54	150,000	65	100,000	59
100,000	59			150,000	65
150,000	65				

Source: Söderberg (1996, pp. 86–89).

Table D9. The state marginal income tax rate, 1971–1975

State taxable income SEK	Marginal tax rate (%) 1971–1972	State taxable income SEK	Marginal tax rate (%) 1973–1974	State taxable income SEK	Marginal tax rate (%) 1975
0	10	0	7	0	7
15,000	16	15,000	13	15,000	12
20,000	22	20,000	19	20,000	17
30,000	28	30,000	28	25,000	22
52,500	38	52,500	38	30,000	28
70,000	44	70,000	47	40,000	33
100,000	49	100,000	49	45,000	38
150,000	54	150,000	54	65,000	43
				70,000	48
				100,000	52
				150,000	56

Note: From 1971 and onwards the local tax was no longer deductible.

Source: Söderberg (1996, pp. 90–91).

Table D10. The state marginal income tax rate, 1976–1978

State taxable income SEK	Marginal tax rate (%) 1976	State taxable income SEK	Marginal tax rate (%) 1977	State taxable income SEK	Marginal tax rate (%) 1978
0	4	0	2	0	2
20,000	10	15,000	4	15,000	4
25,000	20	20,000	6	25,000	8
30,000	22	25,000	10	30,000	13
35,000	28	30,000	15	35,000	16
40,000	33	35,000	21	40,000	21
45,000	38	40,000	26	45,000	27
65,000	43	45,000	35	50,000	31
70,000	48	50,000	36	55,000	34
80,000	49	55,000	37	60,000	35
100,000	53	60,000	38	65,000	40
150,000	57	65,000	43	70,000	45
		70,000	48	80,000	49
		80,000	49	100,000	53
		100,000	53	150,000	58
		150,000	58		

Source: Söderberg (1996, pp. 91–93).

Table D11. The state marginal income tax rate, 1979–1981

State taxable income SEK	Marginal tax rate (%) 1979	State taxable income SEK	Marginal tax rate (%) 1980	State taxable income SEK	Marginal tax rate (%) 1981
0	2	0	1	0	1
16,200	4	5,800	2	6,400	2
27,000	8	23,200	4	25,600	4
32,400	13	29,000	5	32,000	5
37,800	16	34,800	8	38,400	8
43,200	20	40,600	11	44,800	11
48,600	25	46,400	14	51,200	14
54,000	29	52,200	20	57,600	20
59,400	33	58,000	22	64,000	22
64,800	35	63,800	26	70,400	26
70,200	40	69,600	30	76,800	29
75,600	45	75,400	34	83,200	33
86,400	49	81,200	39	89,600	38
108,000	53	87,000	44	96,000	44
162,000	58	92,800	45	102,400	45
		98,600	48	108,800	48
		116,000	53	128,000	53
		174,000	58	192,000	58

Note: In 1980, a marginal tax cap was in place that limited the total marginal income tax (local and state) to at most 80 percent on taxable incomes up to SEK 174,000 and 85 percent above. In 1981, a marginal tax cap was in place that limited the total marginal income tax (local and state) to at most 80 percent on taxable incomes up to SEK 192,000 and 85 percent above.

Source: Söderberg (1996, pp. 94–96).

Table D12. The state marginal income tax rate, 1982–1984

State taxable income SEK	Marginal tax rate (%) 1982	State taxable income SEK	Marginal tax rate (%) 1983	State taxable income SEK	Marginal tax rate (%) 1984
0	0	0	0	0	0
6,900	2	7,300	3	7,600	3
27,600	4	29,200	4	30,400	4
48,300	9	51,100	7	53,200	6
55,200	14	58,400	10	60,800	7
62,100	23	65,700	19	68,400	17
69,000	26	73,000	23	76,000	22
82,800	29	87,600	26	91,200	23
89,700	33	94,900	29	98,800	25
96,600	38	102,200	32	106,400	26
103,500	44	109,500	36	114,000	28
110,400	45	116,800	38	121,600	32
117,300	48	124,100	40	136,800	36
138,000	53	138,700	42	144,400	40
207,000	58	146,000	45	174,800	43
		167,900	47	197,600	47
		189,800	49	228,000	49
		219,000	52	342,000	52
		328,500	54		

*Note:* In 1982, a marginal tax cap was in place that limited the total marginal income tax (local and state) to at most 80 percent on taxable incomes up to SEK 207,000 and 85 percent above.

In 1983, a marginal tax cap was in place that limited the total marginal income tax (local and state) to at most 80 percent on taxable incomes up to SEK 219,000 and 84 percent above. In 1984, a marginal tax cap was in place that limited the total marginal income tax (local and state) to at most 80 percent on taxable incomes up to SEK 228,000 and 82 percent above.

*Source:* Söderberg (1996, pp. 97–99).

Table D13. The state marginal income tax rate, 1985–1987

State taxable income SEK	Marginal tax rate (%) 1985–1986	State taxable income SEK	Marginal tax rate (%) 1987
0	0	0	4.5
7,800	4	63,000	13
70,200	15	72,000	20
78,000	20	126,000	25
124,800	25	135,000	30
140,400	29	144,000	34
148,200	34	180,000	40
163,800	35	189,000	45
179,400	40	342,000	47
202,800	45		
351,000	50		

*Note:* In 1985–1986, a marginal tax cap was in place that limited the total marginal income tax (local and state) to at most 80 percent on taxable incomes.

*Source:* Söderberg (1996, pp. 100–101).

Table D14. The state marginal income tax rate, 1988–1990

State taxable income SEK	Marginal tax rate (%) 1988	State taxable income SEK	Marginal tax rate (%) 1989	State taxable income SEK	Marginal tax rate (%) 1990
0	5	0	5	0	3
70,000	20	75,000	17	75,000	10
140,000	34	140,000	31	140,000	24
190,000	45	190,000	42	190,000	35

Source: Söderberg (1996, pp. 102–103).

Table D15. The state marginal income tax, 1991–1998

State taxable income SEK	Marginal tax rate (%) 1991–1994	Marginal tax rate (%) 1995–1998	Year	Tax limit SEK
0	0	0	1991	170,000
Tax limit	20	25	1992	186,600
			1993	190,600
			1994	198,700
			1995	203,900
			1996	209,100
			1997	209,100
			1998	213,100

Source: Söderberg (1996, pp. 103–105) and Statistical Tax Yearbook of Sweden (2009, p. 71, Table 4.20).

Table D16. The state marginal income tax rate, 1999–2010

State taxable income SEK	State marginal tax rate (%) 1999–2010	Year	Lower tax limit SEK	Upper tax limit SEK
0	0	1999	219,300	360,000
Lower tax limit	20	2000	232,600	374,000
Upper tax limit	25	2001	252,000	390,400
		2002	273,800	414,200
		2003	284,300	430,000
		2004	291,800	441,300
		2005	298,600	450,500
		2006	306,000	460,600
		2007	316,700	476,700
		2008	328,800	495,000
		2009	367,600	526,200
		2010	372,100	532,700

Source: Tax Statistical Yearbook of Sweden (2009, p. 71, Table 4.20).



Table D17. Defense taxes, 1913, 1918–1919

Taxable income SEK	Marginal tax rate (%) 1913	Taxable income SEK	Marginal tax rate (%) 1918	Taxable income SEK	Marginal tax rate (%) 1919
0	0	0	0	0	0
5,000	2.5	6,000	1.5	10,000	2.5
8,000	3.0	8,000	2.0	12,000	3.0
12,000	3.5	10,000	2.5	15,000	3.5
14,000	4.0	12,000	3.0	20,000	4.0
17,000	4.5	15,000	3.5	30,000	4.5
20,000	5.0	20,000	4.0	50,000	5.0
25,000	6.0	30,000	4.5	80,000	6.0
30,000	7.0	50,000	5.0	100,000	7.0
40,000	8.0	80,000	6.0	125,000	8.0
50,000	9.0	150,000	7.0	150,000	9.0
70,000	10.0			200,000	10.0
100,000	11.0			300,000	11.0
150,000	12.5			400,000	12.0
225,000	13.5			500,000	13.0
537,000	12.0			600,000	14.0
				700,000	15.0
				800,000	16.0
				900,000	17.0
				988,700	12.0

*Note:* Taxable income refers to state taxable income. The defense tax in 1913 includes 1/10th of the wealth and the payment was split over three years, 1915, 1916 and 1917. The defense taxes in 1918 and in 1919 includes 1/60th of wealth. In the highest tax bracket, the marginal income tax rate is lower due to the average tax cap.

*Source:* 1913 Genberg (1942, pp. 21–22), 1918 SFS, 1917: 513 and 1919 SFS 1918: 513.

Table D18. Defense surtax 1918

Taxable income SEK	Marginal tax rate (%) 1918
0	0
100,000	1.0
125,000	2.0
200,000	3.0
300,000	4.0
400,000	5.0
500,000	6.0
600,000	7.0
700,000	8.0
800,000	9.0
900,000	10.0
925,000	5.0

*Note:* Taxable income refers to state taxable income and includes 1/60th of tax payer's wealth. In the highest tax bracket, the marginal income tax rate is lower due to the average tax cap  
*Source:* SFS 1918: 512.

Table D19. Defense taxes during World War II, 1939–1947

Taxable income SEK	Marginal tax rate (%) 1939	Taxable income SEK	Marginal tax rate (%) 1940–41	Taxable income SEK	Marginal tax rate (%) 1942–47
0	2.7	0	5.0	0	6.0
3,000	3.3	3,000	5.5	3,000	7,0
6,000	3.9	6,000	6.5	6,000	8,0
8,000	4.9	9,000	8.0	9,000	10,0
10,000	5.9	12,000	10.0	12,000	12,5
15,000	7.9	15,000	12.0	15,000	15,0
25,000	9.9	25,000	14.0	25,000	18,0
40,000	11.9	35,000	16.0	35,000	21,0
60,000	13.9	50,000	18.0	50,000	24,0
100,000	15.9	100,000	20.5	100,000	27,5
200,000	17.9	200,000	23.0	200,000	31,0

*Note:* Formally, the defense tax in 1939 was half of the state income tax. Hence, if the tax payer paid 5.4 percent in state income tax, (s)he had to pay additional 2.7 percent of the taxable income in defense tax. Taxable income refers to state taxable income including 1/100th of the wealth.  
*Source:* Genberg (1942, pp. 24–25).

Table D20: The local progressive income tax (*den kommunala progressivskatten*), 1920–1938

State taxable income SEK	Base amount 1920–1927 (%)	State taxable income SEK	Base amount 1928–1938 (%)	Withdrawal percentage	
0	0	0	0	1920	92.50
3,000	0.5	3,000	0.5	1921	92.50
6,000	1.0	9,000	1.0	1922	93.75
10,000	2.0	15,000	2.0	1923	93.75
25,000	3.0	35,000	3.0	1924	93.75
40,000	4.0	60,000	4.0	1925	93.75
60,000	5.0	100,000	5.0	1926	93.75
100,000	6.0	432,000	4.5	1927	96.25
150,000	7.0				
200,000	8.0				
294,750	6.0				

*Note:* The base amount times the withdrawal percentage gives the marginal income tax rate.

*Source:* Genberg (1942, pp. 22–23), Söderberg (1996, pp. 75–76).

Table D21. The state equalization tax (*den statliga utjämningskatten*), 1928–1938

State taxable income SEK	Base amount 1928–1933 (%)	State taxable income SEK	Base amount 1934–1938 (%)	Withdrawal percentage %	
0	0	0	0	1928	85
3,000	0.167	3,000	0.333	1929	85
9,000	0.333	9,000	0.667	1930	80
15,000	0.667	15,000	1.333	1931	100
35,000	1.000	35,000	2.000	1932	100
60,000	1.333	60,000	2.667	1933	100
100,000	1.667	100,000	3.333		
432,000	1.500	432,000	3.000		

*Note:* Formally, the state equalization tax was 1/3 of the local progressive income tax between 1928 and 1933 and 2/3 between 1934 and 1938. To calculate the exact marginal income tax rate for a specific year between 1928 and 1933, one must multiply the base amount with the withdrawal percentage for the specific year.

*Source:* Genberg (1942, p. 23), Söderberg (1996, p. 77).

Table D22. The extra state income tax (*den statliga extra inkomstskatten*), 1932–1938

State taxable income SEK	Marginal tax rate (%) 1932–1935	State taxable income SEK	Marginal tax rate (%) 1936–1938
0	0	0	0
6,000	0.5	6,000	1.0
8,000	1.0	8,000	2.0
12,000	1.5	10,000	3.0
20,000	2.0	12,000	4.0
30,000	2.5	20,000	5.0
40,000	3.0	30,000	6.0
60,000	3.5	50,000	7.0
100,000	4.0	100,000	8.0

*Source:* Genberg (1942, p. 23).

## Appendix E: Basic local and state income tax allowances

Table E1. The basic state and local allowance, 1920–1990

Year	Local allowance	State allowance
	SEK	SEK
1920	600	1,200
1921	600	1,200
1922	450	900
1923	450	900
1924	450	900
1925	450	900
1926	450	900
1927	400	800
1928	420	840
1929	420	840
1930	420	840
1931	420	840
1932	420	840
1933	420	840
1934	420	840
1935	420	840
1936	420	840
1937	420	840
1938	420	See Table E2
1939	420	See Table E2
1940	420	See Table E2
1941	420	See Table E2
1942	420	See Table E2
1943	420	See Table E2
1944	420	See Table E2
1945	420	See Table E2
1946	420	See Table E2
1947	420	See Table E2
1948	420	See Table E3
1949	420	See Table E3
1950	420	See Table E3
1951	420	See Table E3
1952	1,290	See Table E3
1953	1,290	1,840
1954	1,290	1,840
1955	1,290	1,840
1956	1,290	1,840
1957	1,290	1,840
1958	1,840	1,840
1959	1,840	1,840
1960	1,840	1,840
1961	1,840	1,840
1962	2,250	2,250
1963	2,250	2,250
1964	2,250	2,250
1965	2,250	2,250

1966	2,250	2,250
1967	2,250	2,250
1968	2,250	2,250
1969	2,250	2,250
1970	2,250	2,250
1971	See Table E4	See Table E4
1972	See Table E4	See Table E4
1973	See Table E4	See Table E4
1974	See Table E4	See Table E4
1975	4,500	4,500
1976	4,500	4,500
1977	4,500	4,500
1978	4,500	4,500
1979	4,500	4,500
1980	6,000	0
1981	6,000	0
1982	7,500	0
1983	7,500	0
1984	7,500	0
1985	7,500	0
1986	7,500	0
1987	9,000	9,000
1988	10,000	10,000
1989	10,000	10,000
1990	10,000	10,000

*Note:* Until 1961 (local allowance) or until 1937 (state allowance), the allowance was 50 percent higher, given that the assessed income was twice as high as the original allowance. If the assessed income was between the original allowance and the double original allowance, the allowance was increased by half of the difference between the assessed income and the original allowance. The basic tax allowances differed somewhat between cities until 1960 depending on the price level in each city. In the tables E1–E3 we refer to the basic tax allowance in an average city. The local tax was deductible from the state taxable income between 1920 and 1970. In addition, the following allowance was guaranteed, even if the local tax was lower: in 1966 the guaranteed allowance was at least 25 % of the total net income and in 1967–1970 the guaranteed allowance was at least SEK 2,500 for singles (Söderberg 1996, p. 65).

*Source:* Basic local allowance: Söderberg (1996, pp. 54–62). Basic state allowance: Söderberg (1996, pp. 67–73)

Table E2. Basic state income allowances, 1938–1947

Assessed income SEK	Allowance
0	Allowance = state assessed income
810	SEK 810 plus SEK 10 for each SEK 20 exceeding SEK 810 in state assessed income
1,170	990
1,210	1,000
1,230	1,010
1,250	1,020
1,270	1,030
1,310	1,040
1,330	1,050
1,350	1,060
1,410	1,070
1,430	1,080
1,450	1,090
1,510	1,100
1,530	1,110
1,550	1,120
1,610	1,130
1,900	SEK 1,120 minus SEK 10 for each SEK 50 exceeding SEK 1,900 in state assessed income
2,400	1,020
5,300	SEK 1,010 minus SEK 10 for each SEK 100 exceeding SEK 5,300 in state assessed income
13,800	SEK 160 minus SEK 10 for each SEK 50 exceeding SEK 13,800 in state assessed income
14,600	0

*Note:* Example: if the state assessed income was 2,000, the allowance was calculated as  $1,120 - 10 * ((2,000 - 1,900) / 50) = 1,100$ .

*Source:* Söderberg (1996, p. 68).

Table E3. Basic state income allowances, 1948–1952

State assessed income SEK	Allowance	State assessed income SEK	Allowance	State assessed income SEK	Allowance	State assessed income SEK	Allowance
0	1,800	4,850	1,340	6,900	880	8,950	420
2,850	1,790	4,900	1,330	6,950	870	9,000	410
2,900	1,780	4,950	1,320	7,000	860	9,030	400
2,950	1,770	5,000	1,310	7,030	850	9,070	390
3,000	1,760	5,030	1,300	7,070	840	9,100	380
3,030	1,750	5,070	1,290	7,100	830	9,150	370
3,070	1,740	5,100	1,280	7,150	820	9,200	360
3,100	1,730	5,150	1,270	7,200	810	9,250	350
3,150	1,720	5,200	1,260	7,250	800	9,300	340
3,200	1,710	5,250	1,250	7,300	790	9,350	330
3,250	1,700	5,300	1,240	7,350	780	9,400	320
3,300	1,690	5,350	1,230	7,400	770	9,430	310
3,350	1,680	5,400	1,220	7,430	760	9,470	300
3,400	1,670	5,430	1,210	7,470	750	9,500	290
3,430	1,660	5,470	1,200	7,500	740	9,550	280
3,470	1,650	5,500	1,190	7,550	730	9,600	270
3,500	1,640	5,550	1,180	7,600	720	9,650	260
3,550	1,630	5,600	1,170	7,650	710	9,700	250
3,600	1,620	5,650	1,160	7,700	700	9,750	240
3,650	1,610	5,700	1,150	7,750	690	9,800	230
3,700	1,600	5,750	1,140	7,800	680	9,830	220
3,750	1,590	5,800	1,130	7,830	670	9,870	210
3,800	1,580	5,830	1,120	7,870	660	9,900	200
3,830	1,570	5,870	1,110	7,900	650	9,950	190
3,870	1,560	5,900	1,100	7,950	640	10,000	180
3,900	1,550	5,950	1,090	8,000	630	10,050	170
3,950	1,540	6,000	1,080	8,050	620	10,100	160
4,000	1,530	6,050	1,070	8,100	610	10,150	150
4,050	1,520	6,100	1,060	8,150	600	10,200	140
4,100	1,510	6,150	1,050	8,200	590	10,230	130
4,150	1,500	6,200	1,040	8,230	580	10,270	120
4,200	1,490	6,230	1,030	8,270	570	10,300	110
4,230	1,480	6,270	1,020	8,300	560	10,350	100
4,270	1,470	6,300	1,010	8,350	550	10,400	90
4,300	1,460	6,350	1,000	8,400	540	10,450	80
4,350	1,450	6,400	990	8,450	530	10,500	70
4,400	1,440	6,450	980	8,500	520	10,550	60
4,450	1,430	6,500	970	8,550	510	10,600	50
4,500	1,420	6,550	960	8,600	500	10,630	40
4,550	1,410	6,600	950	8,630	490	10,670	30
4,600	1,400	6,630	940	8,670	480	10,700	20
4,630	1,390	6,670	930	8,700	470	10,750	10
4,670	1,380	6,700	920	8,750	460	10,800	0
4,700	1,370	6,750	910	8,800	450		
4,750	1,360	6,800	900	8,850	440		
4,800	1,350	6,850	890	8,900	430		

Source: Söderberg (1996, pp. 69–72).



Table E4. Basic local and state income tax allowances, 1971–1974

Assessed income SEK	Allowance
0	4,500
30,000	$4,500 - 0.2 * (T - 30,000)$
52,500	0

Note: T = assessed income.

Source: Söderberg (1996, p. 58).

Table E5. Basic local and state income tax allowances, 1991–1992

Assessed income SEK	Allowance 1991	Assessed income SEK	Allowance 1992
0	10,300	0	10,700
60,300	$10,304 + 0.25 * (T - 59,892)$	62,800	$10,784 + 0.25 * (T - 62,682)$
92,700	18,500	97,200	19,400
98,900	$18,596 - 0.1 * (T - 97,888)$	103,100	$19,462 - 0.1 * (T - 102,448)$
179,900	10,300	189,100	10,700

Note: T = assessed income. The calculated amount is rounded down to closest hundred SEK.

Source: Söderberg (1996, pp. 59–60).

Table E6. Basic local and state income tax allowances, 1993–1994

Assessed income SEK	Allowance 1993	Assessed income SEK	Allowance Local 1994	Allowance State 1994
0	11,000	0	8,800	0
64,400	$11,004 + 0.25 * (T - 63,984)$	65,900	$8,800 + 0.25 * (T - 65,472)$	0
99,200	19,800	101,500	17,800	0
105,300	$19,866 - 0.1 * (T - 104,576)$	107,700	$17,864 - 0.1 * (T - 107,008)$	0
192,300	11,000	196,700	8,800	0

Note: T = assessed income. The calculated amount is rounded down to closest hundred SEK.

Source: Söderberg (1996, pp. 60–61).

Table E7. Basic local and state income tax allowances, 1995–1996

Assessed income SEK	Allowance 1995	Assessed income SEK	Allowance 1996
0	8,900	0	8,600
66,700	$8,925 + 0.25 * (T - 66,402)$	67,400	$8,688 + 0.25 * (T - 67,332)$
103,200	18,100	104,600	18,000
108,800	$18,118 - 0.1 * (T - 108,528)$	110,200	$18,009 - 0.1 * (T - 110,048)$
199,800	8,900	203,200	8,600

Note: T = assessed income. The calculated amount is rounded down to closest hundred SEK.

Source: Söderberg (1996, pp. 61–62).

Table E8. Basic local and state income tax allowances, 1997–1998

Assessed income SEK	Allowance 1997	Assessed income SEK	Allowance 1998
0	8,700	0	8,700
67,900	8,712+0,25*(T-67,518)	68,000	8,800 +0.25*(T-68,000)
104,700	18,000	105,200	18,100
111,000	18,059-0,1*(T-110,352)	110,800	18,000 -0.1*(T-110,800)
203,000	8,700	203,800	8,700

*Note:* T = assessed income. The calculated amount is rounded down to closest hundred SEK.

*Source:* Taxpayers' Association (1997, p. 35), Tax Statistical Yearbook of Sweden (1998, p. 41).

Table E9. Basic local and state income tax allowances, 1999–2000

Assessed income SEK	Allowance 1999	Assessed income SEK	Allowance 2000
0	8,700	0	8,700
68,000	8,800 +0.25*(T-68,000)	68,200	8,800 +0.25*(T-68,200)
105,200	18,100	105,800	18,200
110,800	18,000 -0.1*(T-110,800)	111,400	18,100 -0.1*(T-111,400)
203,800	8,700	205,400	8,700

*Note:* T = assessed income. The calculated amount is rounded down to closest hundred SEK in 1999 and in 2000.

*Source:* Tax Statistical Yearbook of Sweden (1999, p. 46), Tax Statistical Yearbook of Sweden (2000 p. 51).

Table E10. Basic local and state income tax allowances, 2001–2002

Assessed income SEK	Allowance 2001	Assessed income SEK	Allowance 2002
0	10,000	0	11,200
68,800	10,100 +0.25*(T-68,800)	70,900	11,300 +0.25*(T-70,900)
106,400	19,500	109,300	20,900
112,900	19,400 -0.1*(T-112,900)	115,900	20,800 -0.1*(T-115,900)
206,900	10,000	211,900	11,200

*Note:* T = assessed income. The calculated number is rounded to closest hundred SEK in 2001 and rounded up to closest hundred SEK in 2002.

*Source:* Tax Statistical Yearbook of Sweden (2001, p. 50), Tax Statistical Yearbook of Sweden (2002, p. 51).

Table E11. Basic local and state income tax allowances, 2003–2004

Assessed income SEK	Allowance 2003	Assessed income SEK	Allowance 2004
0	15,600	0	16,700
53,600	15,700 +0.17*(T-53,600)	58,557	16,700 +0.2*(T-58,557)
113,600	25,900	106,896	26,400
120,300	25,900 -0.1*(T-120,300)	121,830	26,400 -0.1*(T-121,830)
264,300	11,400	269,991	11,600

*Note:* T = assessed income. The calculated number is rounded up to closest hundred SEK.

*Source:* Tax Statistical Yearbook of Sweden (2002, p. 51), Tax Statistical Yearbook of Sweden (2003, p. 67).

Table E12. Basic local and state income tax allowances, 2005–2006

Assessed income SEK	Allowance 2005	Assessed income SEK	Allowance 2006
0	0.423 PBB	0	0.423 PBB
1.185 PBB	$0.423 + 0.20 * \text{PBB} (T - 1.185 \text{ PBB})$	0.99 PBB	$0.423 \text{ PBB} + 0.20 * (T - 0.99 \text{ PBB})$
2.72 PBB	0.73 PBB	2.72 PBB	0.77 PBB
3.11 PBB	$0.73 \text{ PBB} - 0.10 * (T - 3.11 \text{ PBB})$	3.11 PBB	$0.77 \text{ PBB} - 0.10 * (T - 3.11 \text{ PBB})$
7.48 PBB	0.293 PBB	7.88 PBB	0.293 PBB

Note: PBB = price base amount (*prisbasbelopp*). T = assessed income. PBB 2005 = 39,400 SEK. PBB 2006 = 39,700 SEK. The calculated number is rounded up to closest hundred SEK.

Source: Tax Statistical Yearbook of Sweden (2004, p. 70), Tax Statistical Yearbook of Sweden (2005, p. 68).

Table E13. Basic local and state income tax allowances, 2007–2008

Assessed income SEK	Allowance 2007	Assessed income SEK	Allowance 2008
0	0.423 PBB	0	0.423 PBB
0.99 PBB	$0.423 \text{ PBB} + 0.20 * (T - 0.99 \text{ PBB})$	0.99 PBB	$0.423 \text{ PBB} + 0.20 * (T - 0.99 \text{ PBB})$
2.72 PBB	0.77 PBB	2.72 PBB	0.77 PBB
3.11 PBB	$0.77 \text{ PBB} - 0.10 * (T - 3.11 \text{ PBB})$	3.11 PBB	$0.77 \text{ PBB} - 0.10 * (T - 3.11 \text{ PBB})$
7.88 PBB	0.293 PBB	7.88 PBB	0.293 PBB

Note: PBB = price base amount (*prisbasbelopp*). T = assessed income. PBB 2007 = 40,300 SEK. PBB 2008 = 41,000 SEK. The calculated number is rounded up to closest hundred SEK.

Source: Tax Statistical Yearbook of Sweden (2006, p. 69), Tax Statistical Yearbook of Sweden (2007, p. 70).

Table E14. Basic local and state income tax allowances, 2009–2010

Assessed income SEK	Allowance 2009	Assessed income SEK	Allowance 2010
0	0.423 PBB	0	0.423 PBB
0.99 PBB	$0.423 \text{ PBB} + 0.20 * (T - 0.99 \text{ PBB})$	0.99 PBB	$0.423 \text{ PBB} + 0.20 * (T - 0.99 \text{ PBB})$
2.72 PBB	0.77 PBB	2.72 PBB	0.77 PBB
3.11 PBB	$0.77 \text{ PBB} - 0.10 * (T - 3.11 \text{ PBB})$	3.11 PBB	$0.77 \text{ PBB} - 0.10 * (T - 3.11 \text{ PBB})$
7.88 PBB	0.293 PBB	7.88 PBB	0.293 PBB

Note: PBB = price base amount (*prisbasbelopp*). T = assessed income. PBB 2009 = 42,800 SEK. PBB 2010 = 42,400 SEK. The calculated number is rounded up to closest hundred SEK.

Source: Tax Statistical Yearbook of Sweden (2008, p. 70), Tax Statistical Yearbook of Sweden (2009, p. 70).

## Appendix F. National basic pension contribution paid by employees (*Folkpensionsavgift*)

Table F1. National basic pension contribution, 1913–1921

State assessed income SEK	Fee SEK
0	3
500	5
800	8
1,200	13

*Source:* Elmér (1960, p. 222).

Table F2. National basic pension contribution, 1922–1935

State assessed income SEK	Fee SEK
0	3
600	5
800	8
1,200	13
3,000	18
5,000	23
7,000	28
10,000	33

*Source:* Elmér (1960, p. 222).

Table F3. National basic pension contribution, 1936–1974

Year	Fee SEK
1936–1947	1 percent of the state assessed income, however at least SEK 6 and at the most SEK 20.
1948–1951	1 percent of the state assessed income, however at least SEK 6 and at the most SEK 100.
1952–1953	Same as above although no minimum amount.
1954–1956	1.8 percent of the state assessed income. For unmarried individuals a maximum of SEK 180. No fee if the assessed income is less than SEK 1,200.
1957–1958	2.5 percent of the state assessed income. For unmarried individuals a maximum of SEK 250. No fee if the assessed income is less than SEK 1,200.
1959–1961	4 percent of the state assessed income. A maximum of SEK 600 for unmarried individuals. No fee if the assessed income is less than SEK 1,200.
1962–1965	Same as above although the exemption from fee for low incomes is expanded up to SEK 2,400 in state assessed income.
1966	4 percent of the state taxable income. A maximum of 1,200 SEK for unmarried individuals.
1967	4.5 percent of the state taxable income. A maximum of 1,350 SEK for unmarried individuals.
1968–1973	5 percent of the state taxable income. A maximum of 1,500 SEK per individual.

*Source:* Söderberg (1996, pp. 111–113).

## Appendix G. Health insurance fee paid by employees (*Sjukförsäkringsavgift*)

Table G1. Health insurance fee, 1955–1962

Wage SEK	Fee SEK		
	1955–1958	1959–1961	1962
0	65	75	100
1,800	75	85	105
2,400	80	90	110
3,000	85	95	115
3,600	95	100	120
4,200	100	105	125
5,000	105	115	135
5,800	110	120	140
6,800	125	130	150
8,400	140	145	165
10,200	155	155	175
12,000	170	170	190
14,000	185	180	200

*Note:* As the fee was a fixed amount within certain income brackets up until 1973, the marginal effect within the brackets was zero.

*Source:* Söderberg (1996, p. 49).

Table G2. Health insurance fee, 1963–1966

Wage SEK	Fee SEK		
	1963–1964	1965	1966
0	120	130	140
1,800	120	130	140
2,600	130	135	150
3,400	135	145	155
4,200	140	150	165
5,000	150	160	175
5,800	160	170	185
6,800	170	185	200
8,400	190	200	215
10,200	200	215	235
12,000	215	230	250
14,000	230	245	265
16,000	245	260	285
18,000	265	285	310
21,000	290	310	335

*Note:* The fee was a fixed amount within certain income brackets up until 1973, i.e., the marginal effect within the brackets was zero.

*Source:* Söderberg (1996, p. 50).

Table G3. Health insurance fee, 1967–1973

Wage SEK	Fee SEK						
	1967	1968	1969	1970	1971	1972	1973
0	145	205	240	240	0	0	0
1,800	145	205	240	240	255	295	310
2,600	155	210	245	245	260	300	320
3,400	160	220	250	255	265	305	325
4,200	165	225	255	260	275	310	335
5,000	170	230	260	265	280	320	340
5,800	185	245	275	280	285	330	355
6,800	195	260	285	295	305	345	370
8,400	205	270	300	305	320	360	385
10,200	225	290	315	325	340	380	405
12,000	245	310	335	345	360	400	425
14,000	260	330	350	365	380	420	450
16,000	280	350	370	385	400	440	470
18,000	295	370	390	405	420	460	490
21,000	315	390	405	425	440	475	515
24,000	335	410	425	445	460	495	535
27,000	350	430	440	465	480	515	555
30,000	370	450	460	485	500	535	575
33,000	385	470	485	505	520	555	600
36,000	405	490	495	525	540	575	620
39,000	425	510	515	545	560	595	640

*Note:* The fee was a fixed amount within certain tax brackets up until 1973, i.e., the marginal effect within the brackets was zero.

*Source:* Söderberg (1996, pp. 51).

Table G4. Health insurance fee, 1974

1974      SEK 300 + 1.6 % of salary up to SEK 60,750.  
(Hence, the maximum fee was SEK 1,272.)

*Source:* Söderberg (1996, pp. 52).

## Appendix H. General social security contributions paid by employees (*Allmänna egenavgifter*)

Year	Fee (%)	Income cap SEK	Tax compensation (%)	Marginal effect (%)	Allowance to local and state income tax (%)
1993	0.95	258,000	0	0.95	100
1994	1.95	264,000	0	1.95	100
1995	3.95	270,000	0	3.95	100
1996	4.95	276,000	0	4.95	100
1997	5.95	277,500	0	5.95	100
1998	6.95	299,000	0	6.95	100
1999	6.95	299,800	0	6.95	100
2000	7.0	301,000	25	5.25	75
2001	7.0	304,200	50	3.5	50
2002	7.0	313,100	75	1.75	25
2003	7.0	330,000	75	1.75	25
2004	7.0	341,300	75	1.75	25
2005	7.0	349,400	87.5	0.875	12.5
2006	7.0	359,100	100	0	0
2007	7.0	370,400	100	0	0
2008	7.0	387,300	100	0	0
2009	7.0	410,700	100	0	0
2010	7.0	412,300	100	0	0

*Note:* As from year 2000 tax payers were compensated for the fee, which lowered the marginal effect. The allowance to the local and state income tax was decreased in a corresponding degree.

*Source:* 1993–1996: Söderberg (1996 p. 52). 1997–2010: Tax Statistical Yearbook of Sweden (2009, p. 84, Table 4.33) and Tax Statistical Yearbook of Sweden (1998–2009).



## Appendix I. Income tax credits

Table I1. Tax credits 1999–2002

Income SEK	Tax credit
0	1,320
135,000	SEK 1,320 minus 1.2 % times the income exceeding SEK 135,000
245,000	0

*Note:* 1999–2001, income refers to pension-entitled income. In 2002 it refers to taxable income.  
*Source:* Tax Statistical Yearbook (2002, p. 50).

Table I2. Earned income tax credit, 2007

	Income from active work per year, SEK (AI)	Tax credit
	0	$(AI-GA)*KI$
2007	0.79 PBB	$(0.79\text{ PBB} + 0.2*(AI-0.79\text{ PBB})-GA)*KI$
	2.72 PBB	$(1.176\text{ PBB}-GA)*KI$

*Note:* Refers to persons less than 65 years of age.

PBB = Price base amount according to the law of public insurance.

AI = labor income

KI = The tax rate for municipal income tax

In 2007 the price base amount was SEK 40,300.

*Source:* Ministry of Finance (2007, pp. 46–47).

Table I3. Earned income tax credit, 2008

	Income from active work per year, SEK (AI)	Tax credit
	0	$(AI-GA)*KI$
2008	0.91 PBB	$(0.91\text{ PBB} + 0.2*(AI-0.91\text{ PBB})-GA)*KI$
	2.72 PBB	$(1.272\text{ PBB} + 0.033*(AI-2.72\text{ PBB})-GA)*KI$
	7.00 PBB	$(1.413\text{ PBB}-GA)*KI$

Table I4. Earned income tax credit, 2009

	Income from active work per year, SEK (AI)	Tax credit
	0	$(AI-GA)*KI$
2009	0.91 PBB	$(0.91\text{ PBB} + 0.25*(AI-0.91\text{ PBB})-GA)*KI$
	2.72 PBB	$(1.363\text{ PBB} + 0.065*(AI-2.72\text{ PBB})-GA)*KI$
	7.00 PBB	$(1.642\text{ PBB}-GA)*KI$

*Note:* Refers to persons less than 65 years of age.

PBB = Price base amount according to the law of public insurance

AI = Labor income

GA = The sum of all basic allowances and sea income tax reduction

KI = The tax rate for municipal income tax

In 2009 the price base amount was 42,800 SEK.

*Source:* Ministry of Finance (2009, pp. 46–47).

Table I5. Earned income tax credit, 2010

	Income from active work per year, SEK (AI)	Tax credit
	0	$(AI-GA)*KI$
2010	0.91 PBB	$(0.91\text{ PBB} + 0.304*(AI-0.91\text{ PBB})-GA)*KI$
	2.72 PBB	$(1.461\text{ PBB} + 0.095*(AI-2.72\text{ PBB})-GA)*KI$
	7.00 PBB	$(1.868\text{ PBB}-GA)*KI$

*Note:* Refers to persons less than 65 years of age.

PBB = Price base amount according to the law of public insurance

AI = Labor income

GA = The sum of all basic allowances and sea income tax reduction

KI = The tax rate for municipal income tax

In 2010 the price base amount was SEK 42,400.

*Source:* Ministry of Finance (2010, pp. 61–62).

## Appendix J. Social security contributions paid by the employers (*Arbetsgivaravgifter*)

Year	Fee		
1955–1959	1.14	%	on wage share up to SEK 15,000
1960	1.14	%	on wage share up to SEK 4,200
	4.14	%	on wage share between SEK 4,200 and SEK 15,000
	3.00	%	on wage share between SEK 15,000 and SEK 31,500
1961	1.14	%	on wage share up to SEK 4,300
	5.14	%	on wage share between SEK 4,300 and SEK 15,000
	4.00	%	on wage share between SEK 15,000 and SEK 32,250
1962	1.14	%	on wage share up to SEK 4,500
	6.14	%	on wage share between SEK 4,500 and SEK 15,000
	5.00	%	on wage share between SEK 15,000 and SEK 33,750
1963	1.50	%	on wage share up to SEK 4,700
	7.50	%	on wage share between SEK 4,700 and SEK 22,000
	6.00	%	on wage share between SEK 22,000 and SEK 35,250
1964	1.50	%	on wage share up to SEK 4,800
	8.50	%	on wage share between SEK 4,800 and SEK 22,000
	7.00	%	on wage share between SEK 22,000 and SEK 36,000
1965	1.50	%	on wage share up to SEK 5,000
	9.00	%	on wage share between SEK 5,000 and SEK 22,000
	7.50	%	on wage share between SEK 22,000 and SEK 37,500
1966	1.50	%	on wage share up to SEK 5,300
	9.50	%	on wage share between SEK 5,300 and SEK 22,000
	8.00	%	on wage share between SEK 22,000 and SEK 39,750
1967	2.60	%	on wage share up to SEK 5,500
	11.1	%	on wage share between SEK 5,500 and SEK 41,250
1968	2.60	%	on wage share up to SEK 5,700
	11.6	%	on wage share between SEK 5,700 and SEK 42,750
1969	3.60	%	on wage share up to SEK 5,800
	13.1	%	on wage share between SEK 5,800 and SEK 43,500
	1.00	%	on wage share exceeding SEK 43,500
1970	3.90	%	on wage share up to SEK 6,000
	13.9	%	on wage share between SEK 6,000 and SEK 45,000
	1.00	%	on wage share exceeding SEK 45,000
1971	5.12	%	on wage share up to SEK 6,400
	15.37	%	on wage share between SEK 6,400 and SEK 48,000
	2.00	%	on wage share exceeding SEK 48,000
1972	5.47	%	on wage share up to SEK 7,100
	15.97	%	on wage share between SEK 7,100 and SEK 53,250
	2.00	%	on wage share exceeding SEK 53,250

<b>Year</b>	<b>Fee</b>		
1973	7.57	%	on wage share up to SEK 7,300
	18.07	%	on wage share between SEK 7,300 and SEK 54,750
	4.00	%	on wage share exceeding SEK 54,750
1974	11.87	%	on wage share up to SEK 8,100
	22.37	%	on wage share between SEK 8,100 and SEK 60,750
	4.00	%	on wage share exceeding SEK 60,750
1975	15.97	%	on wage share up to SEK 9,000
	26.72	%	on wage share between SEK 9,000 and SEK 67,500
	4.00	%	on wage share exceeding SEK 67,500
1976	19.675	%	on wage share up to SEK 9,700
	30.675	%	on wage share between SEK 9,700 and SEK 72,750
	19.675	%	on wage share exceeding SEK 72,750
1977	22.95	%	on wage share up to SEK 10,700
	34.7	%	on wage share between SEK 10,700 and SEK 80,250
	22.95	%	on wage share exceeding SEK 80,250
1978	21.97	%	on wage share up to SEK 11,800
	33.72	%	on wage share between SEK 11,800 and SEK 88,500
	21.97	%	on wage share exceeding SEK 88,500
1979	22.38	%	on wage share up to SEK 13,100
	34.13	%	on wage share between SEK 13,100 and SEK 98,250
	22.38	%	on wage share exceeding SEK 98,250
1980	23.25	%	on wage share up to SEK 13,900
	35.25	%	on wage share between SEK 13,900 and SEK 104,250
	23.25	%	on wage share exceeding SEK 104,250
1981	23.605	%	on wage share up to SEK 16,100
	35.855	%	on wage share between SEK 16,100 and SEK 120,750
	23.605	%	on wage share exceeding SEK 120,750
1982	33.055	%	on full wage
1983	36.255	%	on full wage
1984	36.155	%	on full wage
1985	36.455	%	on full wage
1986	36.45	%	on full wage
1987	37.076	%	on full wage
1988	37.07	%	on full wage
1989	37.97	%	on full wage
1990	38.97	%	on full wage
1991	38.03	%	on full wage
1992	34.83	%	on full wage
1993	31.00	%	on full wage
1994	31.36	%	on full wage
1995	32.86	%	on full wage
1996	33.06	%	on full wage
1997	32.92	%	on full wage
1998	33.03	%	on full wage
1999	33.06	%	on full wage

<b>Year</b>	<b>Fee</b>		
2000	32.92	%	on full wage
2001	32.82	%	on full wage
2002	32.82	%	on full wage
2003	32.82	%	on full wage
2004	32.70	%	on full wage
2005	32.46	%	on full wage
2006	32.28	%	on full wage
2007	32.42	%	on full wage
2008	32.42	%	on full wage
2009	31.42	%	on full wage
2010	31.42	%	on full wage

*Note:* Including the unspecified payroll tax (*allmän arbetsgivaravgift*).

*Source:* 1955–1996 Söderberg (1996, pp. 117–119), 1997–2010 Tax Statistical Yearbook of Sweden (2009, p. 84, Table 4.33).

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- SFS 1895: 62 Kongl. Maj:ts nådiga kungörelse angående den vid 1895 års riksdag åtagna bevillning af fast egendom samt af inkomst och angående särskild tilläggsbevillning för år 1896 [Swedish Statutes 1895, regulation number, 62. Regulation concerning appropriation of real estate and income and of extra appropriation for the year 1896].
- SFS 1897: 111 Kongl. Maj:ts nådiga förordning angående bevillning af fast egendom samt af inkomst [Swedish Statutes 1897, regulation number 111. Regulation concerning appropriation of real estate and income].
- SFS 1901: 31 Kongl. Maj:ts nådiga kungörelse angående den vid 1901 års riksdag åtagna bevillning af fast egendom samt af inkomst [Swedish Statutes 1901, regulation, number, 31. Regulation concerning appropriation of real estate and income].
- SFS 1901: 34 Kongl. Maj:ts nådiga förordning angående särskild tilläggsbevillning för år 1901 [Swedish Statutes 1901, regulation number 34. Regulation concerning extra appropriation for year 1901].



- SFS 1902: 50 Kongl. Maj:ts nådiga kungörelse angående den vid 1902 års riksdag åtagna bevillning af fast egendom samt af inkomst [Swedish Statutes 1902, regulation number 50. Regulation concerning appropriation of real estate and income].
- SFS 1902: 84 Kongl. Maj:ts nådiga förordning om inkomstsskatt [Swedish Statutes 1902, regulation, number 84. Regulation concerning taxation of income].
- SFS 1910: 115 Kongl. Maj:ts nådiga förordning om inkomst- och förmögenhetsskatt [Swedish Statutes 1910, regulation number 115. Regulation concerning taxation of income and wealth].
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- SFS 1917: 513 Fastställelse av vissa till ledning vid uträknandet av extra inkomst- och förmögenhetsskatt för år 1918 erforderliga tabeller [Swedish Statutes 1917, regulation number 513. Defense tax 1918].
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