

## English summary

What is the optimal design of the tax- and transfer system? This is one of the most fundamental concerns in a modern welfare state. The government collects taxes to finance public goods, such as the police force and military defense, and engages in income redistribution from rich to poor. However, redistribution entails efficiency losses as high marginal tax rates discourage people from working. The theory of optimal income taxation offers a systematic way to think about tax design, relying on the fundamental insight that there is an inherent trade-off between redistribution and economic efficiency. The tax policy that is optimal from the government's perspective depends on preferences for redistribution as well as on how much taxes distort individuals' behavior. The main purpose of this report is to analyze the taxation of labor incomes in Sweden through the lens of optimal tax theory.

We begin by describing how labor incomes are taxed in Sweden and provide a historical description how taxes have evolved in Sweden during the last decades. In general, Sweden is a high-tax country, and most taxes affect work incentives – either directly or indirectly. Even though our report mostly focuses on personal income taxation, the reader should keep in mind that “invisible” taxes, like payroll taxes and the VAT also lowers the return to work. Changes to the tax system in Sweden have occurred through a series of major tax reforms as well as through many, more gradual, changes. In several respects, the structure of the current Swedish tax system is a heritage of the comprehensive reform of 1991. In the 1970s and 1980s broad groups of taxpayers faced very high marginal tax rates. In 1991 marginal tax rates were sharply reduced, but went up again in the late 1990s. Interestingly, in the last 20 years marginal tax rates fell significantly for Swedish middle-income taxpayers. By contrast, marginal taxes of high-income earners increased slightly.

This development has led to a widening gap between the marginal tax rates of middle- and high-income taxpayers.

To give a concrete example, consider a specialized medical doctor, who has monthly earnings of SEK 59,000 and receives an offer from an employer who is willing to pay her more. How much of an earnings increase will she keep after taxes? If she accepts the offer, she will only keep 40 percent net of personal taxes. Local taxes, the central government tax, and the phase-out of the EITC create a personal marginal tax rate of 60 percent. If one also accounts for indirect taxes, which affect the difference between the employer's wage cost and the employee's consumption, the effective marginal tax rate is around 75 percent. It is important to note that in Sweden, high marginal tax rates are not restricted to people with the most extreme earnings. Already at monthly earnings of SEK 42,000 the personal marginal tax rate exceeds 50 percent. Another salient feature of the Swedish income tax system is that the marginal tax rate jumps quite dramatically at the kink point where the central government tax kicks in. As a consequence, marginal work incentives are very different for someone earning, say, SEK 35,000 and someone earning, say, SEK 45,000.

After having described the Swedish tax system and its evolution over time, we provide a non-technical overview of some of the basic insights of the very simplest incarnation of the theory of optimal taxation of labor incomes. We discuss a stylized model in which the government wants to redistribute from individuals with high skills to individuals with low skills, while taking into account that taxes distort how much people work. The government maximizes welfare, and the preference for redistribution is captured by a social welfare function. Asymmetric information is the key difficulty from the perspective of the government. If the government directly could observe individual skill types it would be possible for the government to levy non-distortive individual specific lump sum taxes and redistribute resources without efficiency losses. However, the government does not observe individual skills, and individuals lack incentives to reveal their true types. Therefore, the government needs to tax incomes rather than skills. Taxing incomes gives rise to labor supply responses and, hence, efficiency losses.

In a non-linear income tax system, the marginal tax rate is different at different income levels. The profile of optimal marginal

tax rates depends on the skill distribution, the taxable income elasticity and the government's preferences for redistribution. One of the most transparent insights that can be derived from the theory is that it is typically a bad idea levying high marginal tax rates at income levels where a large number of individuals locates. The reason is that many individuals will lower their labor supply in response to such high marginal tax rates. Another important insight is that in a non-linear tax system, the distinction between marginal and average tax rates is central. In an optimal tax system, it might happen that some people pay high *average* tax rates, even though their *marginal* tax rate is low.

To illustrate the key properties of the basic model we provide numerical simulations of optimal tax schedules. We use Swedish data on wage rates, and we examine how the optimal tax schedule is affected by changing the government's objective and the taxable income elasticity. The latter quantity describes how sensitive people are to taxes. Finally, we make a novel exercise in which we replace the compressed Swedish wage distribution with the considerably more dispersed U.S. wage distribution. The three experiments together reveal important properties of the optimal income tax model: The optimal marginal tax rate increases when: i) the government's preference for redistribution increases, ii) the taxable income elasticity decreases, and, (iii) the skill distribution becomes more dispersed. The optimal marginal tax schedule is often U-shaped – marginal tax rates are high at the bottom, low for middle-income taxpayers, and often higher for high-income earners.

Our analysis concentrates on middle- and high-income earners. What do we learn from a policy perspective from the simulations? The first lesson is that the simulations do not provide any immediate support for a Swedish "flat tax", i.e. a tax system in which marginal tax rates are constant at all income levels. On the other hand, the simulations also indicate that the large marginal tax difference between middle- and high-income taxpayers in the current Swedish system is too large. The second lesson is that the effective marginal tax rates facing high-income earners lie well above the revenue maximizing tax rates if the tax base elasticity is 0.2, which is a typical taxable income elasticity estimate in empirical studies conducted on Nordic data. This implies that tax revenues would increase if the

government lowered marginal tax rates, and there would be more resources available to transfer to needy groups of the population.

We also discuss a number of limitations of the basic model we have used in our simulation exercise. The by far most serious limitation is that we abstracted from capital incomes. In at least two ways, capital taxation is a first-order concern for the problem at hand. First, taxes on capital income affect the distribution of disposable incomes. Second, there are incentives in the Swedish system to transform highly taxed labor income into more leniently taxed capital income – a phenomenon commonly referred to as income shifting. Employees typically lack means to shift incomes. By contrast, owner-managers of closely held corporations, who report their own incomes, have much better opportunities. When accounting for corporate and payroll taxes the difference between the marginal tax rates on capital and labor income amounts to 32 percentage points, which is quite extreme.

We then continue to discuss the role of capital incomes. We have ordered data from Statistics Sweden, and we graphically examine how different types of capital incomes (in particular dividends) correlate with labor incomes. Sweden taxes different types of capital incomes at different proportional rates, and it is therefore interesting to examine these correlations. We find that incomes from financial assets are heavily concentrated at the top of the earnings distribution, and we observe the same pattern for dividends, which is an important component of incomes from financial assets. Property values also correlate positively with labor income – especially at high earnings levels. But housing wealth is not as concentrated to the top of the labor income distribution as e.g. dividends. Finally, we make a detailed description of the composition of dividends. Strikingly, 80 percent of all dividends received by those reporting larger labor incomes than the central government kink are leniently taxed dividends from closely held corporations (the tax rate is 20 percent).

Finally, we sketch how the Swedish income tax system can be reformed. There are strong arguments in favor of lowering the very high marginal tax rates that many high-income earners currently face. In order to make our concrete policy proposals appealing to a policy-oriented audience we impose two restrictions, which do *not* follow from our theoretical framework. Our policy proposals are

both "budget neutral" and "distribution neutral". Budget neutrality implies that the fiscal policy has no impact on the government's budget when assuming away behavioral responses. In this context, distribution neutrality ensures that our policy proposals do not affect the distribution of disposable incomes.

When disregarding behavioral responses to lower taxes, cutting taxes of high-income earners is both costly and increases income inequality. To satisfy the two conditions above, one must raise taxes on incomes that correlate with large labor incomes. As already mentioned, dividends are strongly concentrated at the top of labor income distribution, whereas property values are more evenly distributed. To a large extent, our reform proposals are financed by a progressive property tax and a somewhat larger tax on dividends from closely held corporations. There are other arguments in favor of higher taxes on (large) property values and dividends other than achieving budget and distribution neutrality. Increasing the dividend tax rate closes the extreme gap between taxes on capital and labor incomes. Moreover, the low level (and regressive nature) of the currently implemented property tax in Sweden tax is difficult to defend on efficiency grounds.

In order to analyze concrete policy-proposals, we have calculated the mechanical effects of our proposals on tax revenues and the income distribution, using similar procedures as the Swedish Ministry of Finance. More specifically, we used a micro-simulation model called FASIT. It should be emphasized that we did not take behavioral effects into account in this exercise.

Inspired by our numerical simulations, we propose two reform packages. The first one involves lower marginal tax rates for high-income earners. To be more precise, we suggest

- Abolished "värnskatt", i.e. the additional 5 percent bracket applying to top labor incomes. Moreover, the phase-out of the EITC is also abolished (3 percent phase-out rate).
- Higher taxes on dividends and capital gains from closely held corporations – the current proportional tax of 20 percent should be increased to 25 percent. Moreover, we introduce a progressive property tax.

The second proposal implies a flattening of the marginal tax schedule. The details are:

- A 10-percentage point cut in the central government tax above the current central government kink point.
- A new central government tax of 5 percent applying to annual incomes between SEK 324 000 and the current kink point.
- Higher taxes on dividends and capital gains from closely held corporations – the current proportional tax of 20 percent is increased to 25 percent. Moreover, we introduce a progressive property tax.

It deserves to be mentioned that some of the reform proposals should be further investigated. However, our analysis shows that it is feasible to lower tax rates on labor income, even after having imposed stringent political constraints.