



Optimal top marginal tax rates under income splitting for couples

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ABSTRACT

This paper provides formulas for optimal top marginal tax rates when couples are taxed according to income splitting between spouses, consumption is taxed, and the skill distribution is unbounded. Optimal top marginal income tax rates are computed for Germany using a dataset that includes the tax returns of all German top taxpayers. We find that the optimal top marginal tax rate converges to about 2/3 and convergence obtains at income levels that are substantially higher than those currently subject to the actual top tax rate.

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1. Introduction

Recent increases in both income concentration and public debts have generated much research and policy interest in the taxation of very high incomes.¹ Since actual tax codes include a top marginal tax rate that applies to incomes above a certain threshold, a crucial issue for tax policy is to determine what the optimal level of that top marginal tax rate is. The early literature on optimal income taxation delivered a deceptively simple answer to that question. In its basic model, the optimal marginal tax rate on the highest income level is zero. However, as pointed out e.g. by Tuomala (1984) and Diamond (1998), the zero-taxation result has to be interpreted with great caution. Its policy application requires ex-ante knowledge of the maximum income subject to taxation and optimal marginal tax rates need not approach zero until very close to that maximum. If one captures government's ex-ante ignorance about the top of the income distribution by positing an unbounded distribution of skills, the optimal asymptotic marginal tax rate turns out to be positive under mild assumptions on preferences and the shape of the distribution. This fact was already noticed by Mirrlees (1971) in his pioneering paper, where he established it for the case of a separable utility function and skills distributed according to the Pareto law. Using an approximation method, Saez (2001) extended the analysis to a more general setting and offered a formula for the optimal top marginal tax rate that only depends on estimable sufficient statistics. That formula provides an ideal starting point for empirical analyses of optimal top marginal income tax rates and ways in which tax policy should react to changing trends in top income inequality.

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¹ On the evolution of top incomes, see Atkinson and Piketty (2010). Early works on the taxation of top incomes are Slemrod (1994) and Feenberg and Poterba (2000). As documented by Sabirianova Peter et al. (2010), there has been a worldwide decline in top marginal tax rates in the period 1981–2005. However, in the wake of the current financial crisis, some European governments have decided to raise their top tax rates.

This paper contributes to the literature on optimal tax rates for top incomes by developing extensions to Saez's formulas and by providing novel estimations of optimal top tax rates. Existing formulas for the optimal top marginal income tax rate do not distinguish between taxation of singles and taxation of couples. Such a distinction is crucial for tax systems that have joint taxation with income splitting for spouses. Joint taxation of couples with income splitting is practised in various countries, for instance, in Germany and France. This paper offers a formula for the optimal top marginal income tax rate under such a tax system and shows how it relates to existing formulas. Furthermore, we examine how the presence of a consumption tax affects the optimal top marginal income tax rate. Our empirical contribution is to employ high-quality data to estimate the optimal top marginal rate of the income tax for Germany. The unique feature of our dataset is that it includes all taxpayers in the top percentile of the German income distribution.

When couples are taxed according to the method of joint taxation with splitting, the spouses' incomes are added together and taxed as if each earned one-half of their total income. The income cutoff for taxation at the top marginal tax rate is for couples twice the level that applies to single taxpayers. We derive a formula for the optimal top marginal tax rate that depends on the elasticities and income distributions of both couples and singles in the economy. It is shown that in the special case where they have identical asymptotic elasticities, the optimal top tax rate can be written as in Saez (2001) once the Pareto parameter is re-interpreted as a properly modified weighted average of the Pareto parameters of the respective distributions for singles and couples. When consumption is taxed along with income, the optimal top marginal income tax rate has to be adjusted correspondingly. We derive a simple formula that takes the existence of a consumption tax into account, which differs from the one mentioned in Saez (2001).

The empirical part of this paper applies the optimal tax formulas obtained in its theoretical part in order to assess what the optimal taxation of top incomes is in Germany, a country where top taxpayers often are couples and where consumption is relatively heavily taxed. Our computations are based on an administrative dataset that includes the individual tax returns of all taxpayers in the top percentile of the German income distribution of the years 2004 and 2005. Labor supply elasticities for taxpayers at the top of the income distribution are estimated using data from the German Socio-Economic Panel. A microsimulation model is used to compute their burden in terms of consumption taxes. We find that the optimal top marginal tax rate for Germany converges to about 2/3 and that convergence obtains at an income cutoff for singles of about 350,000€. As compared to actual taxation of top incomes in Germany, the optimal asymptotic marginal tax rate is substantially higher and it only applies to a subset of those incomes that are currently subject to the top marginal tax rate of the actual German tax code.²

The remainder of the paper is organized as follows. Section 2 extends the formulas of Saez (2001) to the cases of income splitting for spouses and taxation of consumption. Section 3 implements those formulas for Germany. Section 4 discusses how our findings should be qualified when thinking about policy implications. Section 5 concludes.

2. Two simple extensions

As in Saez (2001), each household has a well-behaved utility function, defined on consumption and leisure, that can be written as $u(c,y)$, where c is consumption and y is earnings, the only source of income in this model. Households differ according to their productivity, which is their private information. Since we are only concerned with top earners and assume that the social planner does not care about their marginal utility, no additional assumption about households' preferences is necessary. In particular, they can be different for singles and couples. However, we assume that couples behave as a unitary decision maker, which is a standard assumption in the taxation literature but has not gone undisputed.³ We first introduce couple taxation and then a consumption tax. Whenever useful we attach an index S to variables that relate to single households and an index C to variables that relate to couples.

2.1. Income splitting for spouses

There is a continuum of households whose mass is normalized to unity. Households may be either single persons or couples. Let μ denote the share of couples in the population of tax units. The income of single individuals is taxed according to the tax schedule $T(y)$, while couples are taxed jointly with income splitting between spouses. A couple with income y pays income tax equal to $2T(y/2)$.

The government sets a constant marginal tax rate τ above a cutoff level of income \bar{y} . The income tax paid by single individuals with $y \geq \bar{y}$ equals $T(\bar{y}) + \tau(y - \bar{y})$. Couples are only affected by the top marginal rate if their income exceeds $2\bar{y}$. In that case, their income tax liability amounts to $2T(\bar{y}) + \tau(y - 2\bar{y})$. For both household types, consumption is related to earnings through $c = y - T(y)$. Thus, the consumption level of singles in the top tax bracket is given by

$$c = y(1 - \tau) + R, \quad (1)$$

² In 2005, the top marginal tax rate in Germany, including the solidarity surcharge, was about 45% and started at an income level of about 50,000€ for singles and 100,000€ for couples. Since 2007 there exists an additional tax for incomes above 250,000€ (500,000€ for couples), the resulting top marginal tax rate is about 48%.

³ See e.g. Apps and Rees (2009) for a discussion of alternative cooperative and non-cooperative household models. Recent work on the taxation of couples includes Immervoll et al. (2011) and Corneo (forthcoming).

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