The Rise and Likely Fall of the German Income Tax, 1958-2005

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July 2004

Abstract

Data from official statistics and tax laws are exploited in order to describe fifty years of income tax in Germany, with a focus on its role as a fiscal and distributive tool. The temporal pattern that emerges is one of a golden age of the German income tax, followed by a slow shift towards a major crisis. The turning point on the income-tax path seem to have occurred in 1986. I put forward the thesis that the downturn was the outcome of a long-term change in the balance of political power. That change is rooted in structural changes that occurred in the German economy during the 1970s and early 1980s.

Keywords: personal income tax, tax reform.

JEL-Classification: D31, D72, H23.

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1 Introduction

The personal income tax is the centerpiece of modern tax systems and a key component of the welfare state. The "Queen of taxes" (Popitz, 1926) is not merely the major source of governmental revenue. By reducing the inequality of disposable income, a progressive income tax promotes equal opportunities of self-realization. In the eyes of many, a progressive income tax substantially contributes to social justice. Redistributing by means of an income tax also provides some collective insurance against income risks. Since such risks cannot be fully covered in the market, e.g. because of informational asymmetries or legal restrictions, providing collective insurance by means of an income tax might generate efficiency gains.

The advent of the personal income tax in the fiscal systems of advanced economies dates back about a century. However, it was only after the second world war that the income tax began to account for the lion's share of governmental revenues. Nowadays, the fiscal primacy of the income tax is menaced by new developments, e. g. economic globalization. Some countries have replaced the synthetic income tax with a dual one, and other countries are going to follow. There are also signs that the main source of governmental proceeds is shifting from direct to indirect taxes, although data on this matter are still inconclusive.

Putting the recent developments in a long-term perspective may help to shed some light on current problems of the income tax and the origin of its reform. This paper scrutinizes the evolution of the personal income tax in the Federal Republic of Germany over the last five decades. I exploit data from official statistics and tax laws to describe fifty years of tax rates, tax revenue, tax expenditures and tax-burden distribution. The temporal pattern that emerges from this analysis is one of a golden age of the German income tax, followed by a slow shift towards a major crisis. The turning point on the income-tax path seem to have occurred in 1986. It went unnoticed because the trend reversal was smooth and consisted of many small steps, rather than a radical reform, like the one that was introduced in the U.S. during the same year. But even tortoises can go a long way if you give them a long time.

Based on empirical evidence and theoretical reasoning, I then speculate about the modifications to the economic environment which influenced the evolution of the German income tax and discuss to what extent policymakers were effectively responsible for that evolution. I put forward the following thesis: The main factor behind the decline of the

German income tax over the last two decades is a change in the balance of political power, rather than the natural outcome of economic globalization or other circumstances beyond the control of policy makers. In turn, that political change is rooted in structural economic changes that intervened during the 1970s and early 1980s.

The period I investigate starts in 1958; this is the year when the current system of family taxation, with income splitting for spouses, was introduced. In Sections 2-7 I describe the evolution of tax rates, progressivity, tax expenditures, and revenue. In Sections 8-10 I offer an interpretation of the empirical evidence. Section 11 concludes the paper.

2 Statutory tax rates

In Germany, the income tax liability of a given taxpayer is computed each year as a function of his nominal taxable income in that year. The functional form of the income tax is specified in the tax law ("Einkommensteuergesetz"). The domain of the tax schedule can be subdivided into a basic allowance ("Grundfreibetrag"), various income brackets, and a top income threshold. Within each income bracket, the tax liability is specified as a quadratic function of taxable income, the functional form changing across the various income brackets. For income levels between the basic allowance and the top income threshold, the statutory marginal tax rate strictly increases with taxable income. For incomes larger than the top income threshold, the tax liability linearly increases with income, i. e. the marginal tax rate stays constant. The top income threshold is currently about 52,000 Euro for single taxpayers, and the double amount for spouses.

2.1 Marginal tax rates

Figure 1 portrays the evolution of the marginal tax rate since 1958 for five levels of taxable income. Income levels are defined as proportions of per capita GDP of the various years.[1] The tax rates displayed in Figure 1 refer to single taxpayers ("Grundtarif").[2]

The following five income levels are considered: half the level of per-capita GDP ("the relatively poor"), per-capita GDP itself ("the middle class"), twice that level ("the upper middle class"), five times that level ("the upper class"), and fifty times that level ("the rich"). Just to fix ideas, notice that German per-capita GDP in 2003 was estimated at

[1] All data presented in this paper refer to West Germany until the year 1991; starting with the year 1992, the data refer to reunified Germany.

[2] All data about tax rates presented in this paper refer to single taxpayers. As couples are taxed according to the splitting rule, a tax rate for a single taxpayer with taxable income y equals the tax rate of a couple with taxable income $2y$.

about 25,600 Euro; this figure is close to average taxable income of singles. To appreciate the empirical relevance of the group defined here as "the rich", notice that in 1992 there were in Germany about 25,000 taxpayers who declared an income larger than 1,000,000 DM.

As shown by Fig. 1, there has been a remarkable intertemporal variation of marginal tax rates since 1958. Variation in tax rates may be due to changes in the tax code or in the level of nominal incomes, or both. Since 1958, the German tax formula has been altered fifteen times, while GDP at current prices - and the nominal income of the various classes with it - has increased each year.

Figure 1: Marginal tax rates, 1958-2005. Source: Statistische Jahrbücher, various years.

Unsurprisingly, incomes at the level of the rich have always been taxed at the top marginal rate. As shown by Figure 1, the top marginal tax rate, $T'(50y)$, changed little from 1958 until the end of the last millenium. It then started decreasing, with a major drop occuring in the last few years.

The marginal tax rate for the upper class, $T'(5y)$, was significantly below the top marginal rate in 1958, and rapidly grew till the end of the 1970s. Since the beginning of the 1980s, the upper class has also been taxed at the top marginal tax rate. This finding reflects the fact that the threshold income, at which the top marginal rate applies, has remained remarkably stable, in nominal terms, over the entire period. Actually, this threshold is now slightly below its level in 1958. During the same period, nominal GDP has grown by almost twenty times. An increasing fraction of taxpayers has thus faced the top marginal rate during the last decades; whereas in 1958 you had to earn about twenty-three times the per capita GDP level to face the top marginal rate, nowadays even taxpayers earning about twice the per capita GDP level face the top marginal tax rate.

In the case of taxpayers from the middle classes, with income between per capita GDP and twice that level, the marginal tax rate stayed roughly constant over the 1960s, rapidly increased during the 1970s, and changed little during the 1980s. The tax reform of 1990 significantly reduced the marginal tax rate of the middle classes. Since then, those marginal tax rates have been on the rise again. This trend was however reversed in the last few years.

The evolution of the marginal tax rate that applies to the relatively poor, $T'(y/2)$, displays a moderate upward trend, mainly caused by the 1995 tax reform.

2.2 Average tax rates

Figure 2 displays the intertemporal pattern followed by average tax rates. Overall, the picture is one of bell-shaped curves, each one reaching a maximum during the second half of the 1980s. There are however some remarkable differences across the various income classes.

First, only the rich carry at the end of the period a lower tax burden than at the beginning of the period. For all other groups, the average tax rate is in 2005 well above the corresponding rate in 1958.

Second, the increase of the tax burden during the 1960s and the 1970s has been especially dramatic for the upper middle class and the upper class, less for the other groups. For people with an income equal to five time the average income, the average tax rate grew by twenty percentage points from 1958 to 1985 (from 26 % to 46 %)! In comparison, for someone with an income equal to the average level, the average tax rate grew by nine percentage points, and for the rich the increase was of only seven percentage points, during the same period.

Third, the decrese in average tax rates brought about by the reforms introduced by the current government mainly benefitted the high-income groups; for taxpayers with average and low incomes the tax relief was relatively modest.

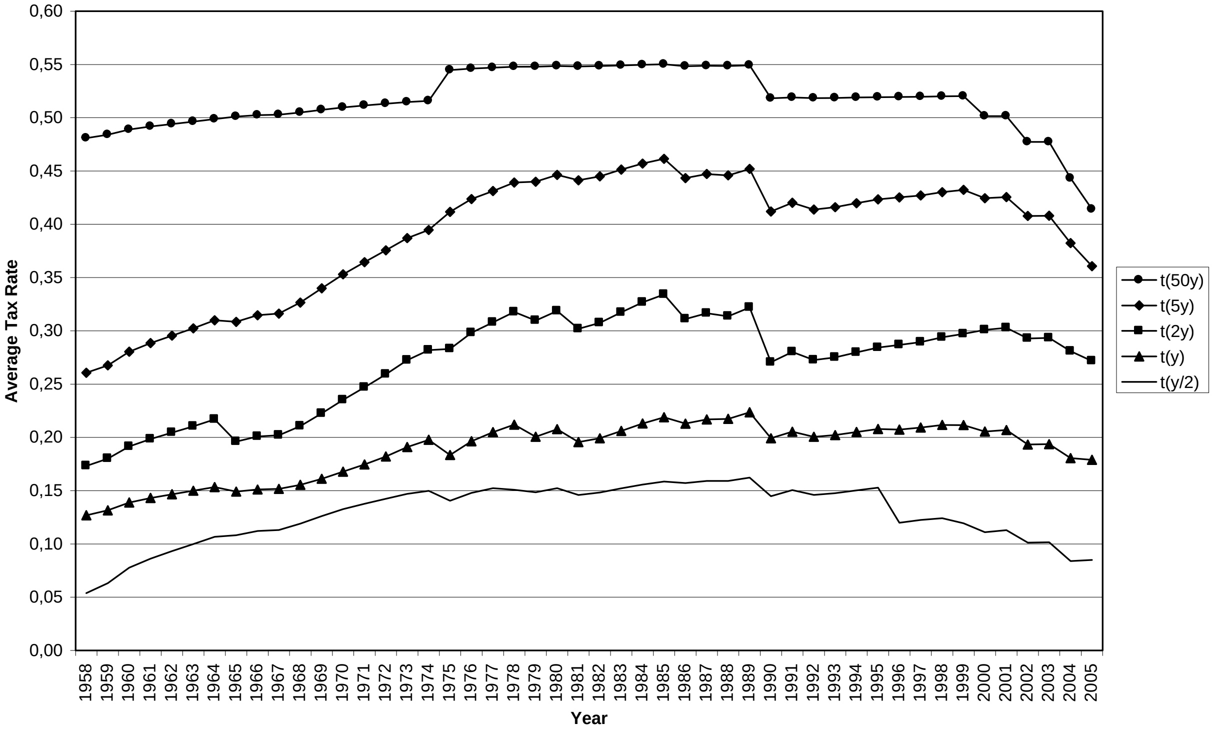

Figure 2: Average tax rates, 1958-2005. Source: Statistische Jahrbücher, various years.

2.3 Excursus: Implications for work incentives

For a given and constant average tax rate, an increase of the marginal tax rate is predicted by standard microeconomic theory to induce households to reduce their working hours and exert less effort into income-generating activities (substitution effect). For given marginal tax rate, an increase of the average tax rate is predicted to induce people to raise their working hours and exert more effort (income effect). How did the disincentive effects of income taxation changed over time?

As shown by Figures 1 and 2, except in the case of the working poor, for all other income classes there are clear co-movements of the marginal and the average tax rate. Thus, nothing can be said from these data about how work incentives were affected by income taxation. In particular, it is not clear how the recent tax cuts for top-income individuals affected their incentive to work hard.

In the case of the poor, marginal and average tax rates did not always move together, so that some predictions about their supply of hours can be derived. The marginal tax rate of the working poor stayed almost constant from 1958 to 1974, while their average tax rate steadily grew from 5 % to 15 % during the same period. Theory predicts that, ceteris paribus, the labor supply of the poor should increase at the margin. Another theoretical prediction can be made with regard to the effect of the 1995 tax reform, which entailed an increase of the marginal tax rate from 23 % to 28 % and a decrease of the average tax rate from 15 % to 12 %: in this case, work incentives were weakened by the reform.

Income taxation also affects the incentive for households to participate in the labor market (work decision on the extensive margin). While households with high-skill workers generally participate in the labor market, those formed only by low-skill members might prefer to rely on welfare payments if the take-home wage is too low. Hence, the incentive for them to participate in the labor market crucially depends on the average, not the marginal, tax rate. A higher average tax rate discourages households with low productivity to take up job opportunities. This implies that in the period from 1958 to 1978, tax policy weakened the incentive of low-skill households to enter the labor market, whereas the 1995 reform had the opposite effect.

3 Progressivity measures

In order to asses the redistributive effect produced by the legislated tax rates, I now turn to two measures of tax progressivity: the coefficient of residual progression and the net-income ratio.

3.1 Coefficient of residual progression

Let y denote taxable income and $t(y) = T(y)/y$ denote the average tax rate. The standard measure of tax progressivity is the coefficient of residual progression, which is defined as

$$\rho(y) = \frac{d \ln[1 - t(y)]y}{d \ln y}.$$

Hence, the coefficient of residual progression is the elasticity of net income to taxable income. Tax progressivity exists at the income level y if $\rho(y) < 1$. The smaller the coefficient of residual progression, the higher is the degree of local progressivity.

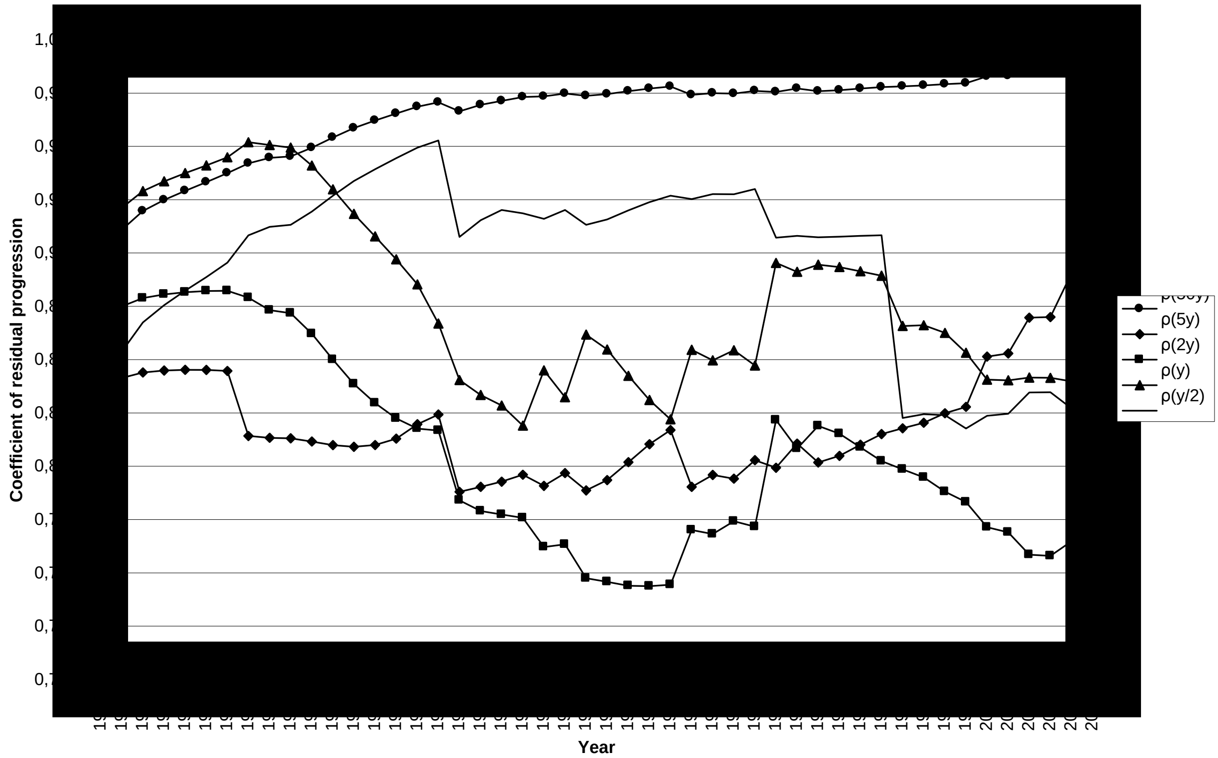

Figure 3: Coefficients of residual progression, 1958-2005. Source: Statistische Jahrbücher, various years.

Figure 3 depicts the somewhat erratic pattern of the coefficient of residual progression for the five income classes. As expected, all coefficients are smaller than one, which means that the German tax schedule is progressive.

A few remarks are necessary. First, the rich is the only income group for which local progressivity has been almost steadily falling over the entire period. Since the late 1960s, this is the income group with the lowest degree of tax progressivity.

Second, for the upper class and the middle classes the picture is basically one of increasing degree of progressivity from 1958 to the mid-1980s, and decreasing progressivity thereafter. The upper class and the upper middle class are the income groups that have been hit by the highest degrees of local progressivity. Strikingly, the coefficient of residual progression was below 0.75 in the early 1980s for the upper middle class.

Third, in the case of the relatively poor, local progressivity has decreased from 1958 to 1974; local progressivity was later increased by the tax reforms of 1975 and 1996.

3.2 Net-income ratios

Net-income ratios provide further information on the redistributive effect of the income tax. Net income is defined as $[1 - t(y)]y$ and the net-income ratio between two income levels y and y' is given by

$$r_{y,y'} = \frac{[1 - t(y)]y}{[1 - t(y')]y'}.$$

Let income levels be so ordered that $y > y'$. If $r_{y,y'} < y/y'$, there is incremental progressivity at the income range (y', y), whereas $r_{y,y'} > y/y'$ implies incremental regressivity. The smaller the net-income ratio at a given income range, the stronger is the degree of incremental progressivity.

Figure 4 shows how net-income ratios evolved for various income ranges defined by an intertemporally constant gross-income ratio y/y'. For instance, $r_{5,1}$ is the ratio between the net income of a taxpayer with taxable income equal to five times per-capita GDP and the one of a taxpayer earning per capita GDP. This ratio has always been smaller than five, which shows that income taxation has been characterized by incremental progressivity.

Figure 4 tells the following story. First, for income ranges between the level of per-capita GDP and five times that level, incremental progressivity increased from 1958 to the mid-1980s and decreased thereafter, however without recovering the level attained in 1958. Second, the relative position of the rich, as measured by $r_{50,10}$ and $r_{50,5}$, has almost steadily improved. Third, consider the evolution of $r_{1,1/2}$, which denotes the net-income ratio in the range between half the level of per-capita GDP and per-capita GDP itself. The fact that this ratio did not change much over the entire period shows that incremental progressivity stayed roughly constant at low income levels.

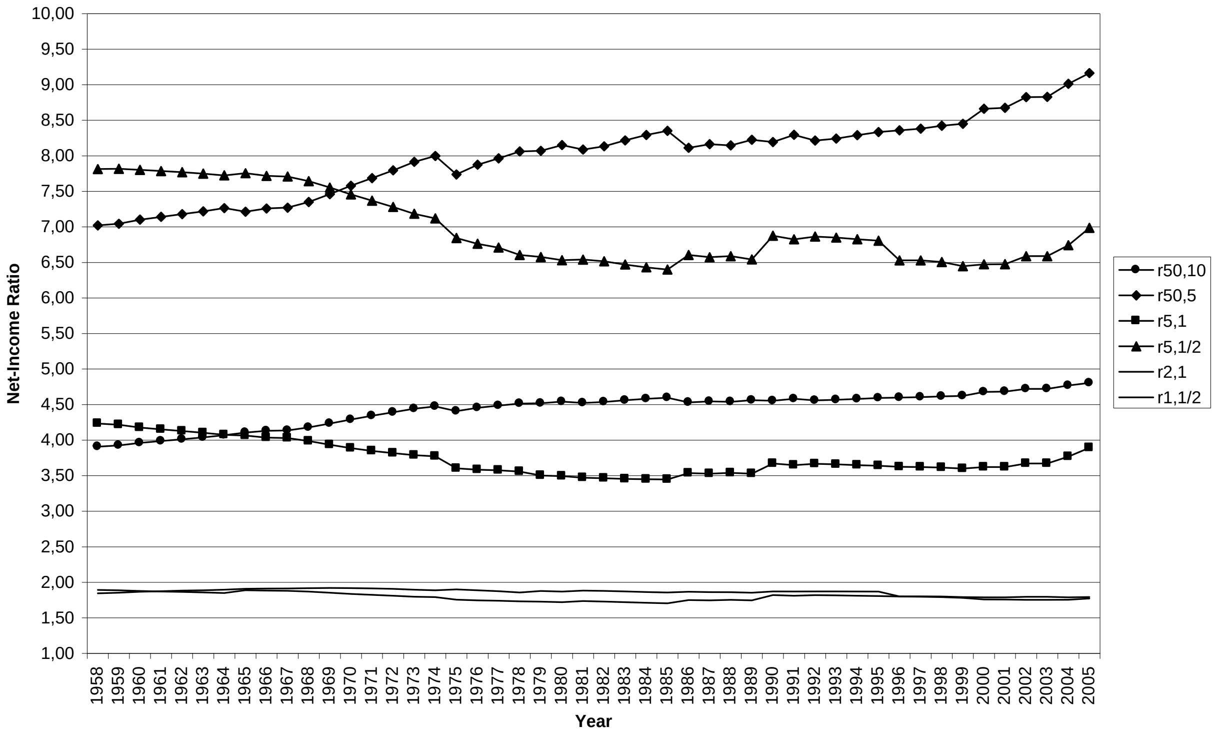

Figure 4: Net-income ratios, 1958-2005. Source: Statistische Jahrbücher, various years.

4 Tax expenditures

The distributional and fiscal impacts of the income tax are not only determined by statutory tax rates, but also by the definition of the tax base. In Germany, the base of the personal income tax has changed several times since 1958. Assessing those changes is key for understanding the evolution of the German income tax.

By their multidimensional nature, changes in the definition of the tax base are difficult to quantify. As a first exploratory step, I analyze official statistics contained in the "Finanzbericht", a document that is produced by the federal government on a yearly basis and presented to the parliament for approval. That document collects for each year the changes occurred in all federal tax laws. For each change, an official estimation of its fiscal effect in the first year after its introduction is provided. The available data set covers the period 1966-2001.

Based on this data source, one can compute the fiscal effect that in a given year was obtained by new laws that modified the base of the income tax, as estimated by government. There is, however, a problem: some laws exert a fiscal impact not only on the revenue generated by the personal income tax, but also on the revenue generated by other taxes. In the case of these laws, only an estimation of the overall fiscal impact is available, i. e. no distinction is made between the change in revenue from the income tax and the change in revenue from other taxes.

In order to deal with the above problem, Figure 5 exhibits the evolution of three measures of tax expenditures. The first variable is obtained by aggregating the fiscal effects of laws that only affected the personal income tax. The second variable refers to the effects produced by laws that jointly affected the revenues from the income tax and other taxes - typically, the corporation tax and local business taxes. The third variable is just the sum of the first two variables.

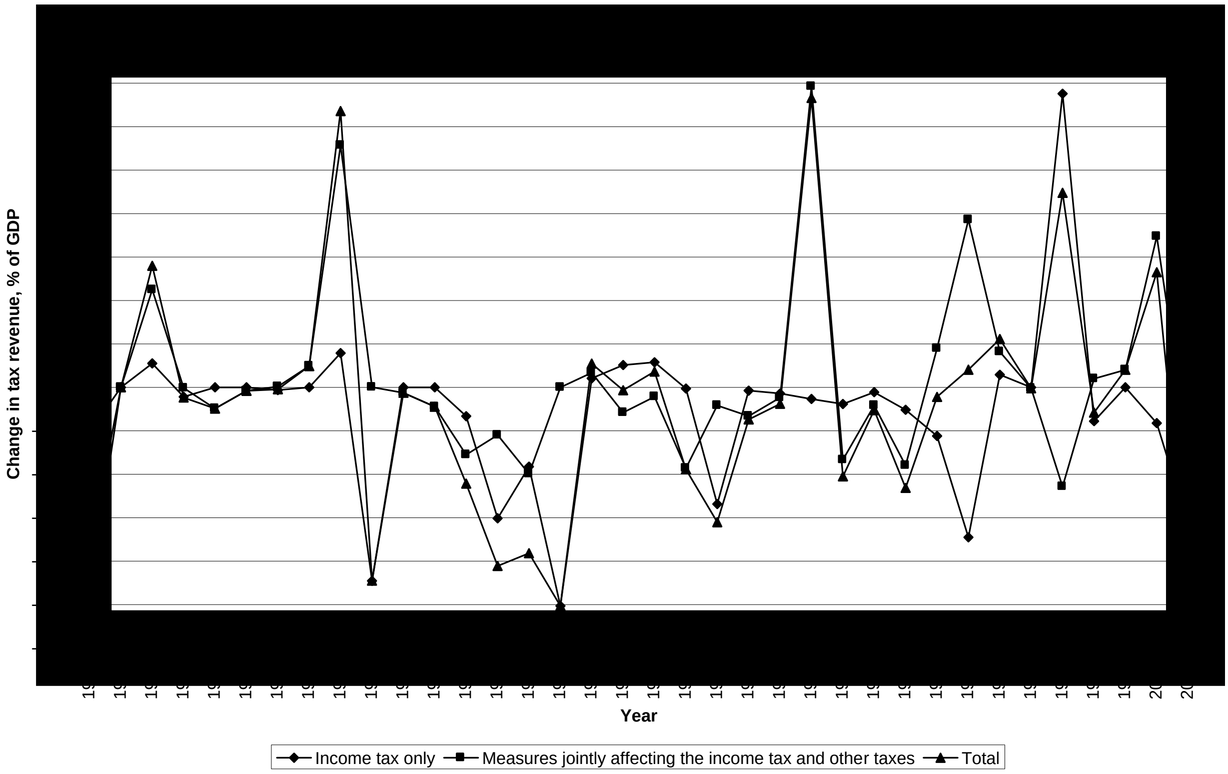

Figure 5: Fiscal effect from tax expenditures, 1966-2001. Source: Bundesministerium der Finanzen (2000).

In Figure 5 the net fiscal effect of new tax expenditures in the year of their introduction is depicted. Figure 6 displays the cumulative effect from altering the tax base. The assumption made here is that each fiscal effect produced by a new measure continues to produce the same effect - in terms of GDP percentage points - in the future.

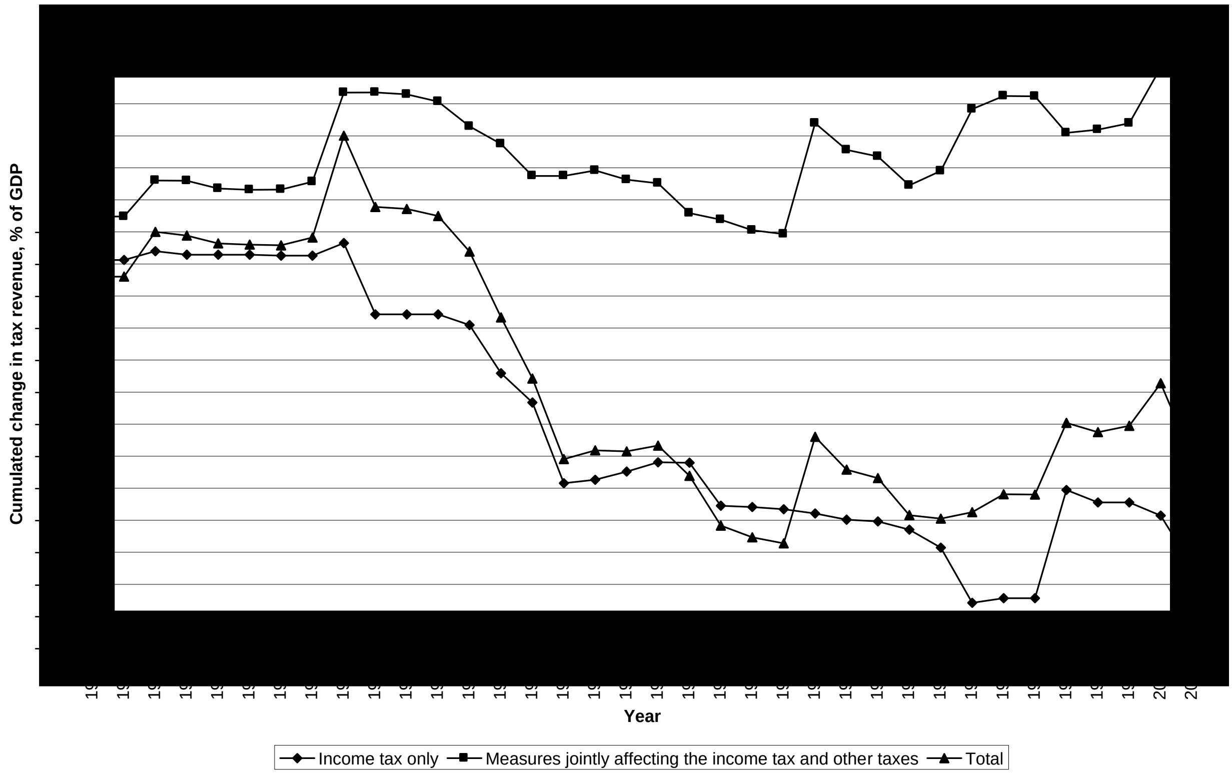

Figure 6: Cumulated fiscal effect from tax expenditures, 1966-2001. Source: Bundesministerium der Finanzen (2000).

As suggested by Figure 6, an extraordinary increase of tax expenditures took place in the second half of the 1970s and early 1980s. Accordingly, the revenue loss due to tax expenditures over that period might have been equivalent to 1.5 percentage points of GDP.

Close inspection of modified laws reveals that the massive tax expenditures of those years benefited both wage and capital income. Particularly large revenue losses were caused by legislation that increased general tax allowances ("Sonderausgaben").

In other periods, the fiscal effects from tax expenditures were less prominent. The rather modest upward trend during the nineties suggests that, like in other countries, also in Germany a movement towards tax-base broadening recently occurred, while statutory tax rates were on the fall.

5 The evolution of tax revenue

I now turn to the fiscal revenue generated by the personal income tax. Figure 7 depicts the evolution of the revenue of the German income tax as a fraction of GDP since 1958.

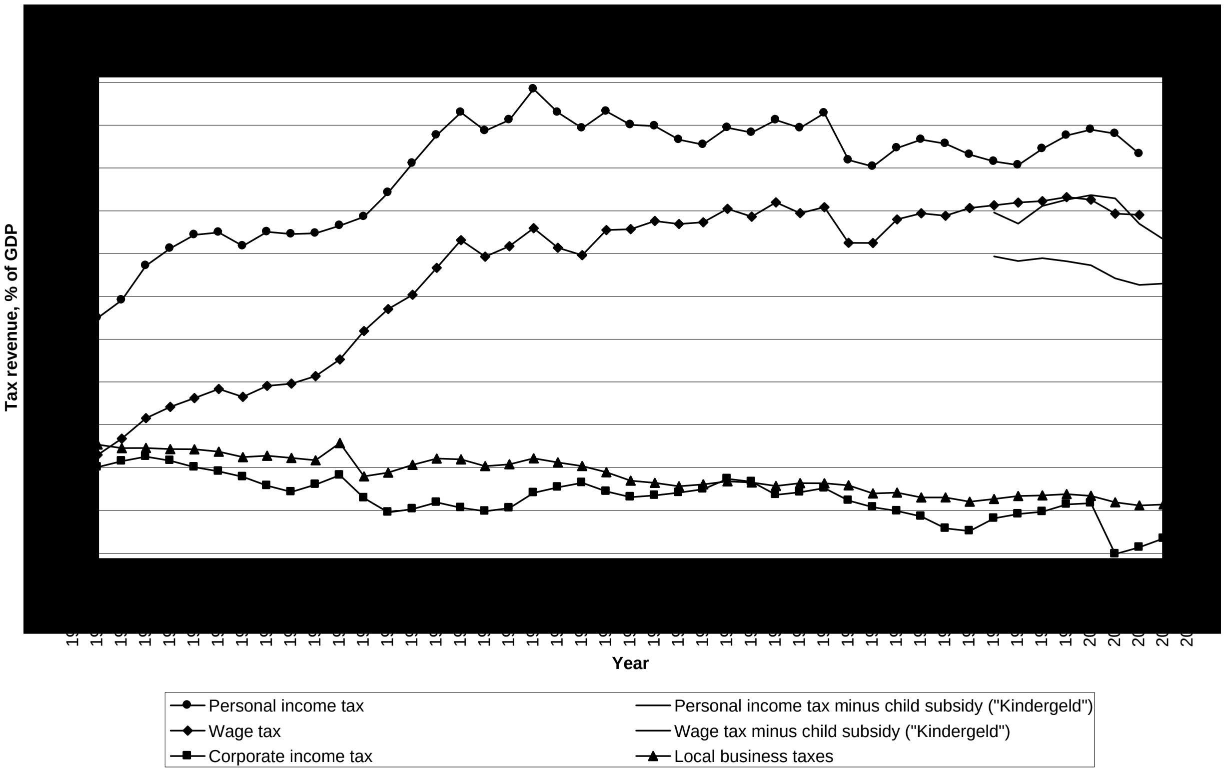

Figure 7: Tax revenue as percentage of GDP, 1958-2004. Source: Statistische Jahrbücher, Bundesministerium der Finanzen, various years.

Starting from a level close to 5 % of GDP in 1958, the revenue from the income tax rapidly increased as a fraction of GDP over the 1960s and crossed the 10 % level in 1974. It then reached a historical peak of nearly 11 % in 1977. Since then, the revenue has gently declined.

The income tax revenue can be split into two components: revenue from the wage tax ("Lohnsteuer") and revenue from the taxation of other incomes - basically from self-employment and capital (respectively "Veranlagte Einkommensteuer" and "Nicht veranlagte Steuern vom Ertrag", including "Kapitalertragsteuer" and "Zinsabschlagsteuer"). As shown by Figure 7, the wage tax delivered less than half of the entire income tax revenue at the beginning of the period. Since then, the share of the wage tax has kept increasing over time; its level is estimated at about 86 % in 2002.

Incomes from capital are taxed in Germany also by means of a corporate income tax ("Körperschaftsteuer") and a locally imposed business tax ("Gewerbesteuer"). For completeness, Figure 7 also depicts the evolution of the tax revenues from those two sources. Their tax revenue, as a percentage of GDP, exhibits a clearly decreasing trend. This finding and the increasing revenue share from the wage tax suggest that over the years factor taxation has dramatically shifted from capital to labor.

6 Tax avoidance

Comparing the findings about tax revenue, tax rates and tax expenditures gives a clue to the evolution of tax avoidance. The latter is meant to capture both legal and illegal ways of acting, ranging from the exploitation of loopholes in the tax code to outright tax evasion.

Until the mid-1970s, average tax rates and tax revenue moved together - they both increased. This pattern disappeared in the subsequent decade. While average tax rates kept increasing - e. g. in the case of the upper class from 39 % in 1974 to 46 % in 1985 - the income tax revenue stayed rather stable at the level of 10 % of GDP.

The discrepancy between statutory tax rates and tax revenue might partly be explained by mounting tax expenditures. As shown by Figure 6, tax expenditures boomed in the period 1975-1981. However, in the period 1982-1985 the net impact of tax expenditures on the government's proceeds was negligible. Thus, at least for the years 1982-1985 the gap in the tax revenue should be attributed to increasing tax avoidance.

The data suggest that the overwhelming part of that tax avoidance was due to tax arbitrage and evasion concerning incomes from capital and self-emplyment. While the revenue from the wage tax as a percentage of GDP increased from about 7 % in 1978 to 8 % in 1985, the remaining revenue from the personal income tax - generated by taxation of income from capital and self-employment - decreased from about 3 % to 1.9 % in the same years. National accounts show that the share of income from capital and self-employment in national income *increased* during the first half of the 1980s, from 24.2 % in 1980 to 27.1 % in 1985. The share of wage income correspondingly decreased.[3]

Further evidence supporting the above hypothesis comes from a micro-econometric investigation by Lang et al. (1997), who studied tax avoidance using the 1983 wave of the German income and consumption survey, EVS. They found that interest income was under-reported by more than 50 % relative to national accounts and that most of this income illegally went untaxed. Along with unreported interest income, negative income from real assets and underreported income from self-employment were found to be the main causes for relatively low income-tax proceeds.

[3] Bundesministerium für Arbeit und Sozialordnung (2001).

7 A closer look at the current reform

The current government of Socialdemocrats and Green has significantly modified the personal income tax. I now investigate more closely how that reform affects the distribution of disposable income. The reform was started by the new government in 1999 and is supposed to end in 2005.

Let $t_{98}(y)$ denote the average tax rate for gross income y in year 1998, that is the tax rate prevailing when Mr. Schröder's government was elected. Net income in that year is then defined as $x_{98}(y) = [1 - t_{98}(y)]y$. Similarly denote net income after completion of the reform as $x_{05}(y) = [1 - t_{05}(y)]y$.

The tax relief generated by the reform yields a rate of growth of net incomes equal to

$$\Delta_n(y) = \frac{x_{05}(y) - x_{98}(y)}{x_{98}(y)} = \frac{t_{98}(y) - t_{05}(y)}{1 - t_{98}(y)}.$$

Table 1 displays the growth rate of net income $\Delta_n(y)$ for various income levels.

Table 1: Distributive effects of the tax relief, 1998-2005

Taxable income in Euro	Average tax rate in 1998	Average tax rate in 2005	Δ_n	Δ_r
10,000	9.8	4.0	6.38	4.59
20,000	19.4	14.3	6.31	5.01
30,000	23.8	19.4	5.77	4.51
40,000	27.2	23.1	5.60	4.05
50,000	30.4	26.2	6.05	4.08
60,000	33.6	28.8	7.15	4.71
70,000	36.3	30.7	8.77	6.27
80,000	38.4	32.1	10.19	7.90
90,000	40.1	33.2	11.43	9.24
100,000	41.3	34.1	12.28	10.33
200,000	47.2	38.0	17.34	16.19
300,000	49.1	39.4	19.06	18.24
400,000	50.1	40.0	20.17	19.55
500,000	50.7	40.4	20.82	20.28
600,000	51.1	40.7	21.17	20.72
700,000	51.3	40.9	21.43	21.06
800,000	51.5	41.0	21.75	21.42
900,000	51.7	41.1	21.95	21.67
1,000,000	51.8	41.2	22.07	21.81

For a yearly gross income of 10,000 Euro, the growth rate of net income is almost 6.4 %. At higher income levels the growth rate is slightly lower, reaching a minimum of 5.6 % at 40,000 Euro. At still higher income levels the growth rate rapidly increases with gross income. Millionaires get an increase of their net income of roughly 106,000 Euro, which means a growth rate of about 22.1 %. Hence, for the income range above 40,000 Euro the tax reform is strongly regressive.

The above computation was based on constant nominal incomes, whence it neglected the impact of inflation on the tax burden. I now look at the effect of the reform on real net incomes. The growth rate for real net incomes can be defined as

$$\Delta_r(y) = \frac{[1 - t_{05}(y)]y - [1 - t_{98}(\widetilde{y})]y}{[1 - t_{98}(\widetilde{y})]y} = \frac{t_{98}(\widetilde{y}) - t_{05}(y)}{1 - t_{98}(\widetilde{y})},$$

where $\widetilde{y} = y/(1 + \Pi)$ denotes that level of nominal income in 1998 which is equivalent to a nominal income y in 2005. The inflation rate Π has been set at 9 %.

Results appear in the last column of Table 1. Again, for the income range above 40,000 Euro the reform has a strongly regressive impact on the distribution of net incomes. As top incomes are taxed at a constant marginal rate, the tax-burden-increasing effect due to inflation is weaker for those incomes. As a result, the regressive effect of the reform on real incomes is even more pronounced than in the case of nominal incomes.

The tax reform has also broadened the base of the income tax. Alledgedly, the new base-broadening measures mainly affect top incomes and have a progressive effect. However, Figures 5 and 6 suggest that the extent of such measures is relatively modest. Indeed, back-of-the-envelop computations support the conjecture that those base-broadening measures cannot offset the regressive impact generated by the change in statutory tax rates.[4]

8 A periodization of the German income tax

The empirical evidence suggests a periodization of the German income tax. Since 1958, the following three stages of development may be distinguished:

From 1958 to 1974: These years belong to the *golden age* of the income tax. This period is characterized by rapidly increasing average tax rates, rapidly increasing progressivity - except at the very top and very bottom of the income distribution - and rapidly increasing tax revenue as a percentage of GDP.

From 1975 to 1985: These are years of *transition* for the German income tax. Within this phase, two subperiods may be distinguished. The first one lasts till 1981 and its distinctive feature is a boom of tax expenditures - while average tax rates kept increasing. Formal progressivity was sharpened, while keeping the tax revenue roughly constant as a percentage of GDP. The second subperiod covers the years from 1982 to 1985. These are

[4]See Corneo (2003).

years of manifest tax avoidance. While tax rates kept growing and no major increase of tax expenditures occurred, the tax revenue stayed constant.

From 1986 to present: This is the period of the soft *rolling back* of the income tax. Except for an abrupt decrease in 1990, tax rates, progressivity, and tax revenue changed little until 1998 and decreased more sharply in the subperiod starting in 1999. During the whole period, the income tax got quite close to a wage tax.

9 Simple stories

Before laying down my own interpretation of the facts, I briefly discuss whether some simple theory can explain the three stages of the German income tax.

9.1 Is the party in power key?

In Germany there are two major political parties: the conservative CDU, with its bavarian homologue the CSU, and the socialdemocratic SPD. A natural conjecture from a politics perspective is that the income tax might have expanded and become more progressive whenever the SPD was in power.

At first glance, the political colour of the ruling party did not generate a noticeable impact on tax progressivity. Socialdemocrats were the leading party of the governmental coalition in two periods: from 1969 to 1982, and from 1998 to the present date. In the remaining periods, the Christian-Democrats constituted the leading party of the governmental coalition, although a big coalition was in place from 1966 to 1969.

The first period of socialdemocratic government was one of increasing progressivity. The second period is taking place right now and is characterized by declining progressivity. Christian-Democratic governments either increased the degree of progressivity or left it almost unchanged. Apparently, the trend from capital to labor taxation and the evolution of the tax revenue were not affected by changes in the governmental coalition.

9.2 Is pre-tax income inequality key?

According to both standard optimal-taxation and public-choice theories, an increase in the inequality of the pre-tax income distribution should lead to more redistributive taxation.

This prediction is quite off the mark in the case of the German income tax. Various studies indicate that the German distribution of pre-tax incomes became more equal in the 1960s and the early 1970s, while inequality somewhat increased afterwards (Smeeding, 2000; Hauser and Becker, 2000). If anything, this suggests a negative, rather than a positive, correlation between pre-tax inequality and tax progressivity. Interestingly, a similar conclusion is reached when looking at cross-country data (Lindert, 1996; Perotti, 1996).[5]

10 Interpreting the evidence

The income tax may be viewed as chosen by a rational actor, the government, so as to maximize an objective function subject to appropriate constraints. However, the government's preferences are not autonomous but reflect a compromise between the interests of various social groups. As a result, the income tax may change over time either because the constraints of the optimization problem of the government change or because the relative bargaining power of the social groups, and therefore the government's preferences, change.

Of course, the approach just sketched is a simplification. In reality, economic constraints impinge upon political compromises and policies dynamically affect some contraints. Still, distinguishing between preferences and constraints helps one to organize the material in a meaningful way. Furthermore, it helps in assessing the role which political action - i. e. the process of finding compromises that lead to collective decisions - can play in shaping tax policy, for given economic circumstances.

10.1 1958-1974

In this period, both the balance of political power and the economic environment were eminently favorable to the development of the progressive income tax in Germany.

Political preferences

As compared to later decades, the years from the end of the 1950s to the mid-1970s were characterized by a substantial influence of the working class and its mass organizations - especially the trade unions - upon the government. Mostly, this influence was exerted in an indirect way, i. e. in most cases policy makers did not come from the working class and were not deemed to represent its interests. Still, they gave those interests a large weight when making a decision. In a similar vein, during the last decades of the 19th century, the prussian tradition of "revolution from above" brought about a profound modernization of Germany that largely benefitted workers and their families. The strong political influence of German labor, especially during the late 1960s and 1970s, helps to explain the increased role of the income tax as both a redistributive tool and a financial pillar of the public sector.[6]

[5]Both in models of optimal taxation and in political-economy models the predicted relationship between income inequality and the degree of progressivity can be reversed if a preference for relative income is posited. See e. g. Corneo and Grüner (2000) and Corneo (2002).

[6]The attachment of German labor to the progressive income tax dates back to the beginnings of its

The political influence of trade unions and other worker organizations was in part the result of a labor market characterized by almost full employment during a major portion of this period. Full employment is bound to increase the self-respect of workers and thereby their ability to promote their interests against those of other social groups. Relatedly, the degree of self-organization of workers into trade unions was relatively large. The union density was rather high and stable during the 1960s and began increasing at a fast pace during the early 1970s.[7]

Conversely, the period 1958-1974 was one of relative political weakness of the German affluent. At the beginning of that period, many of the older capitalistic dynasties were still in a relatively bad shape because of the severe financial losses that had resulted from World War II.[8] Almost all dynasties were politically discredited in view of their acquiescience with the Nazi regime.

In the realm of corporate governance, managerial capitalism fully took over in Germany after World War II. Arguably, the abrupt renewal of the industrial elite implied that the new industrial leaders, i. e. the top managers, needed some time for organizing themselves into a powerful lobby. This suggests that the rich were not very effective in mobilizing political power against labor's claims for more redistribution.

At its start, managerial capitalism was relatively favorable to the employees of large firms because it did not view itself in antagonism to workers. The mission of top managers was to increase the size of the cake, rather than get a larger slice. This is reflected in German law on corporate governance. According to it, the board of directors must represent the interests of all stakeholders, not only those of shareholders. Furthermore, the German co-determination system requires representatives of the employees as well as the trade union to sit in the controlling board.

Another likely reason why the government gave so much weight to interests of the working class was the existence of a credible systemic alternative to a free-market economy. Fastly growing centrally-planned economies provided a yardstick for that sort of system competition that benefits workers and their families. Income redistribution by means of tax progressivity reflected the desire of politicians and top civil servants in the West to convince people of the working class that equality of opportunities could also be reached in an economic system based on private property, i. e. without the creation of soviet-type institutions. As a matter of fact, along with an enhanced degree of tax progressivity, this

political self-organization. In 1875, the SPD proposed in its Gothaer Programm that the tax system be based on a single progressive income tax. The worldwide first progressive income tax was indeed introduced in Prussia in 1891, however on a much more modest scale that the one aimed at by the socialdemocrats.

[7] See e. g. Müller-Jentsch and Ittermann (2000).

[8] See Dell (2004).

period is characterized by major achievements in the realm of social policy. Since the early 1970s, a full-fledged welfare state exists in the FRG.

Economic constraints

Until the mid-1970s, the expansion of the income tax and the increase in the degree of progressivity did not run against major economic obstacles.

Arguably, the contraints generated by labor-supply responses to taxation were not very strict. Econometric studies show that the elasticities of labor supply with respect to the after-tax wage are extremely low for men, so that the increase in progressivity did not significantly reduce their supply of labor. Two peculiar features of this period reinforce this conclusion. First, consumers' aspirations in terms of disposable income were rather high, as many households still lacked a number of consumer durables, like cars and television sets. In microeconomic terms, the income effect of a higher wage tax might have offset the substitution effect. Second, the effect of tax increases on labor supply might have been small because at the beginning of the period the marginal tax rates were relatively low for a large fraction of the taxpayer population.

Tax policy has also to take into account how it affects the accumulation of human capital. Potentially, an income tax may seriously distort individual decisions to invest in education and professional qualification. However, remarkably little is known about the magnitude of those effects. It seems likely that in the period 1958-1974, the negative effects of increasing tax progressivity on individual decisions to accumulate human capital could be compensated by generous educational policies, promoting universal access to both vocational and higher education.

Another source of constraints for tax policy stems from a country's integration within the world economy, in particular the international mobility of capital. The period 1958-1974 was one of still effective national economic policy. Specifically, the Bretton Woods system of stable exchange rates was strengthened by capital controls in most countries. While those controls countered the danger of capital flight induced by mounting taxation of earners with high income, it is unclear to what extent capital flight was a real possibility and did occur. Especially when financial openness increased, it is likely that some capital owners exploited the new opportunities to shift their capitals abroad and evade taxes. This surely applies to the FRG, one of the few countries in which both inward and outward capital account transactions were basically free. As a matter of fact, the revenue from the German income tax that can be ascribed to the taxation of financial capital[9] exhibits in the period 1958-1974 a relatively slow dynamics.

[9] This is the revenue generated by "Nicht veranlagte Steuern vom Ertrag", including "Kapitalertragsteuer" and "Zinsabschlagsteuer".

10.2 1975-1985

The period from the mid-1970s to the mid-1980s may be interpreted as one of *inertial* tax policy. This is not to mean that the income tax remained unchanged during that decade. On the contrary, tax policy more or less continued to evolve along the same route as before. Surprisingly enough, this occurred despite major structural changes, something which is often interpreted as the end of *les trente glorieuses*. But the decline of the income tax observed in later years is rooted in those structural changes.

The inertia of tax policy despite major changes in balance of power and economic constraints is easily understandable. Both citizens and politicians need time to become aware that the changes they come to observe are not just temporarily shocks but long-lasting modifications to both their economic and social environment.

Political preferences

Arguably, the dramatic deterioration of the labor market began eroding the self-confidence of workers and their organizations. In ten years, the unemployment rate jumped from 2.6 % in 1974 to 9.3 % in 1985. At the same time, the inequality of market incomes increased, after years of income equalization. Membership in the trade unions, as measured by the union density, began its long-run decline at the turn from the 1970s to the 1980s.

Conversely, this period laid the foundations for a regain of influence of capitalistic elites, especially the one in charge of financial institutions. Sky-rocketing real interest rates characterized the world economy in the period 1975-1985. As reflected in national accounts, a remarkable increase of the share of capital income in national income occurred in Germany during the first half of the 1980s.

Political attitudes were also affected by the observation that keynesian policies failed to bring about economic recovery after the oil shock. A keynesian view of how the economy works typically correlates with the belief that a high degree of tax progressivity is a good thing. The switch to a neoclassical view gave renewed impetus to supply-side economic policies - which already had a strong tradition in the FRG. The emergence on the international political scene of charismatic leaders like Margareth Thatcher and Ronald Reagan is likely to have encouraged conservative forces in Germany.

Economic constraints

Arguably, during this period the major change in constraints was the one concerning the international mobility of financial capital. Worldwide, an era of financial globalization began in the mid-1970s. On the one hand, this was the result of the growth of multinational corporations and the development of international telecommunication links during the early 1970s. On the other hand, a number of governments promoted financial globalization in several ways, e. g. by abolishing national capital controls. Thus, in January 1974 the United States abolished their capitals control program, in place since the mid-1960s. Almost all OECD-countries and many countries in East Asia substantially increased their financial openness.[10] This strengthened the incentive to place private capital in the international financial market and facilitated tax evasion and arbitrage. Consistent with this view, a recent study by Huizinga and Nicodeme (2004) finds that, over the 1980s, international non-bank deposits substantially responded to interest income taxes in the capital-exporting and capital-importing countries.[11]

As mentioned in Sect. 6, data on the German income tax are consistent with an increase in tax evasion concerning capital incomes in Germany during the first half of the 1980s. The data suggest a second possible behavioral change in those years: an increase of tax arbitrage, concerning incomes from both capital and self-employment.

10.3 Since 1986

The year 1986 marks a turning point in the history of the German income tax, although not at all a spectacular one. Reversing the previous trend, both the degree of progressivity and the revenue of the income tax slowly began to diminish, while the factor incidence of the income tax gradually shifted from capital to labor. Those developments, especially the one concerning the decline of progressivity, became more visible at the end of the 1990s, when the Schröder cabinet decided to dramatically reduce the top marginal tax rate from 53 % to 42 %.

The empirical evidence on the years after 1986 suggests that the decline of the German income tax was primarily due to a change in the balance of political power, rather than a change in economic circumstances. In turn, the change in the balance of political power resulted from developments of the German economy that had started during the previous decade.

Political Preferences

Since the late 1980s there has been a resurgence of capitalistic predominance in German industrial relations and political discourse. The influence of trade unions on public opinion and policy makers has been severely weakened by persistently high unemployment rates, a decreasing share of wage income in national income, and an accelerated decline of trade union membership. The demise of the GDR at the beginning of the 1990s

[10] See e. g. Helleiner (1994, Ch. 5) and Quinn (1997).

[11] Surprisingly, Huizinga and Nicodeme (2004) fail to find a statistically significant relationship between external deposits and interest income taxes in the 1992-1999 period. A possible explanation is that tax competition during the 1980s made the interest income tax burden almost insignificant, getting to a point where tax sensitivity is no longer material.

contributed to the diffusion of a new euphoria about the social virtues of the market and individual responsability, as opposed to the inefficacy and arbitrariness of state intervention. Gradually, a very favorable view of how markets work gained momentum within the establishments of the German mass parties, CDU-CSU and SPD, that had been strenous defenders of the model of a corporatistic welfare state. Pundits of both parties began envisioning a new relationship between markets and government, one in which the scope for governmental activity is strongly reduced. Neoliberalism and anxiety about global competition - both actively promoted by the media - have substantially eroded the political support of redistributive taxation. The example of the U.S. tax reform of 1986, which entailed a dramatic cut of the top marginal tax rate from 50 % to 28 %, is likely to have fostered a critical appraisal of tax progressivity in Germany and elsewhere.

Empirical evidence on falling support of tax progressivity in Germany comes from a micro-econometric investigation of self-reported preferences for governmental redistribution of income [Corneo (2004)]. Accordingly, the percentage of those supporting governmental reduction of income inequality diminished by almost two percentage points per year during the 1990s. Interestingly, the decline in the demand for redistributive taxation concerned both the new and the old Länder. That decline was not just due to frustration about the huge amount of transfers going from the western to the eastern part of Germany after reunification.

Economic Constraints

In contrast to the change in political preferences, in this period the economic constraints that are relevant to the income tax did not significantly differ from the ones encountered in the previous decade. Moreover, those constraints cannot account for the substantial reduction of tax progressivity during the last years.

With respect to labor supply, econometric studies keep finding very low wage elasticities and lend support to the view that reductions of the income tax rate have a modest impact. This is likely to hold even for top-income earners, i. e. those who mostly benefitted from the recent tax cuts. Discussing this issue requires one to examine the experience of other countries, since no suitable German data are available. In the case of the U.S., Moffit and Wilhelm (1998) exploited unique panel data that provide information about the work hours of very rich taxpayers during the 1980s. They were thus in a position to investigate the labor supply response of top-income earners to the Tax Reform Act of 1986, which cut the top marginal tax rate from 50 % to 28 %. In spite of that huge reduction, no significant increase of labor supply could be detected. A likely reason for that finding is that the working affluent already worked a great deal before the tax cut, so that a further increase of work hours would have generated dramatic utility losses.

Although income taxation has a small effect on worked hours, it might affect the type of activity chosen by the taxpayer. Specifically, the decision to become an entrepreneur might be affected by taxation. If entrepreneurial activity generates important spillovers that accelerate economic growth, tax policy should take entrepreneurial incentives into account. Up-to-date empirical evidence on taxes and entrepreneurial activity is provided by Cullen and Gordon (2002), who scrutinize cross-section samples of personal income tax returns made available by the U.S. Statistics of Income for the period 1964-1993. Contrary to popular beliefs, they find that a cut in personal tax rates *reduces* entrepreneurial activity. Firstly, small business owners can more easily underreport their income than can salary earners. Hence, the higher are tax rates, the stronger the incentive to start a business as a means to avoid taxes. Secondly, a higher personal tax rate implies more risk-sharing with the government. Thus, a higher personal tax rate lowers an entrepreneur's risk premium and encourages self-employment.

Over the past decade, a new empirical literature has emerged which studies how income taxation affects reported income, rather than labor supply or entrepreneurial activity. The latter are just two of a number of behavioral responses to taxation that determine reported income. Other responses include the accumulation of human capital, savings, retirement decisions, unmeasured effort, the form of compensation, tax-deductible activities, and compliance. Saez (2004) offers a very detailed study of tax responsiveness of reported income in the U.S. during the period 1960-2000, a time span during which tax rates wildly varied. Strikingly, he finds that taxpayers up to the top 1 % income threshold - around $280,000 per year in 2000 - are not sensitive to income taxation. Besides strong short-term reactions, the top 1 % income share does show some long-run responses to drastic tax cuts. However, those responses are mainly due to a shift of corporate income to the individual income sector, i. e. individual income gains came at the expense of taxable corporate income. Overall, Saez's analysis casts serious doubts about the existence of any supply-side success from the U.S. tax cuts over the last forty years. In a similar vein, Piketty (1999) reports that small changes in the French top tax rates generated small short-term responses of top incomes, but those responses did not persist over time.

In Germany, the tax responsiveness of reported income from financial capital, especially interest income, is sometimes mentioned as a driving force behind the recent cut of top marginal tax rates. As argued above, the process of financial globalization is likely to have promoted tax evasion. A possible rationale for the reduction of top marginal tax rates is that it might increase tax compliance.[12] However, in the case of Germany, the natural

[12] Microeconomic theory of tax evasion does not support this claim. As shown by Yitzaki (1974), reducing the tax rate gives rise to *more* evasion as long as there is decreasing relative risk aversion.

way to combat that tax evasion would be to improve access to bank information for tax purposes, not to reduce the degree of progressivity of the income tax. Most governments of OECD countries require their banks to automatically report interest income paid and to whom it is paid. The vast majority of those countries also automatically provide bank information to foreign tax authorities if the receipient of interest income is a foreigner. Germany neither requires automatic reporting by banks nor provides information to other countries. Taking those measures would generate a first-order effect on reported interest income and dampen harmful tax competition.

11 Conclusion

The income tax is a key fiscal and distributive instrument of modern welfare states. In Germany, the income tax increasingly accomplished those two tasks until the late 1970s. In the subsequent decades, the evolution of the income tax has manfested signs of a slow but persistent crisis, one which accelerated at the start of the new millenium.

Arguably, the major new problem encountered by the German income tax over the last decades is the increasing ability of capital income to escape taxation. Although capital income has made up an increasing share of national income during the last three decades, its share as a source of tax revenue has been decreasing. The vanishing taxation of capital income implies that the income tax is losing its strenght both as a fiscal and a distributive tool.

The recent reform of the tax schedule is drastically reducing tax progressivity. Empirical insights from the U.S. experience over the last forty years suggest that such a reform is not likely to transform the German income tax into a more powerful fiscal and distributive tool. The contrary is the more likely outcome. This likely prolongation of the fall of the German income tax seems to reflect a long-term change in the balance of political power rather than constraints to tax policy imposed by new circumstances, e.g. economic globalization.

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