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A FLAT TAX WITH A SOCIAL COMPONENT

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Commenting on the personal income tax reform in many countries of the former Soviet bloc, *The Economist* of April 16, 2005, spoke of a *Flat-Tax Revolution*. It seems that the widespread introduction of flat taxes had increased the efficiency of the tax regimes of these countries considerably. This paper develops a flat-tax regime for Germany to overcome her economic problems. Germany is presently in a difficult economic situation: taxes and labor costs are too high. This causes outsourcing of firm activities to low-wage countries and profit shifting to low-tax countries. This provokes the question whether a flat tax may provide a better tax system for Germany. For reasons of equity, i.e., for avoiding the distribution of disposable incomes from becoming too unequal, a social component is introduced to supplement the flat tax proposal. To prepare the grounds for the development of our proposal, we start this paper with analyzing flat tax systems. Then we proceed to propose a true flat tax for Germany supplemented with a social component. The social component provides a social compensation to those income earners whose incomes are insufficient to make their living, pay their social security contributions, and pay for the education of their children. Better-off income earners would have to shoulder their own expenses for subsistence, for social security, and for human capital investment into their children. Using a micro-simulation model for Germany, we show that this reform proposal can not only be financed; it allows also for dispensing with the business tax and the corporation tax which leaves the private sector an extra 46.5 billion € of purchasing power. Moreover, this proposal leads to considerably more equal distributions of disposable incomes.

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Предисловие

В последние годы в разных странах переходят на плоский налог на доходы граждан. Это уже произошло в некоторых постсоветских государствах, ряде стран Европы, Азии и Америки. Россия перешла на 13%-ю ставку налогообложения в 2001 г.

Вместе с тем у нас все чаще раздаются голоса о необходимости перехода на прогрессивную ставку налогообложения.

Предлагаемая статья профессора Кильского университета (Германия) Кристиана Зейдла посвящена анализу систем налогообложения. Здесь дан краткий исторический обзор теории налогов, анализ стимулов, на которые влияют налоги, причин ухода от налогов, администрирования в налоговой сфере и политических последствий налоговых реформ.

Особое внимание уделяется Германии, существующей в ней системе прогрессивного налогообложения и социальной поддержки населения. Указывается, что прогрессивные налоги являются одной из причин оттока капитала в развивающиеся страны.

Автор предлагает новую систему налогообложения — плоский налог с социальной компонентой, т.е. с адресными субсидиями малоимущим семьям. Показывается, что введение такого налога позволит оставить в частном секторе ежегодно более 40 млрд евро.

Эта работа, безусловно, будет интересна экономистам, занимающимся вопросами налогообложения, специалистам, разрабатывающим модели социальной поддержки малоимущих слоев населения, и широкому кругу сотрудников министерств и ведомств экономического блока.

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1. Introduction

In its cover story of April 16, 2005, entitled "The Flat-Tax Revolution", *The Economist* eulogized the introduction of flat tax regimes in many East European countries and argued that the gains from a radical simplification of the tax system would be very great. Most industrialized Western countries are plagued by tax-code sclerosis which "squanders resources on an epic scale and grind the spirit of the helpless taxpayer as well". The United States tax code consists of a nine million word mountain of verbiage and the German tax legislation does not fall short of such monster. The efficacy of the flat tax reforms in East European countries provokes the question of whether a flat tax would provide a promising option for Germany, too.

The most basic shape of a flat tax is certainly a true flat tax, or a proportional tax. A true flat tax is a functional equation such that the tax on a sum of items is equal to the sum of the individual taxes as applied to the items. This allows administering the greater part of taxation in terms of withholding at source, which can replace income tax returns for many taxpayers. On the other hand, flat taxes with tax thresholds implied by personal allowances sacrifice a lot of administrative simplicity. While a true flat tax, i.e. a proportional tax, does not change the inequality of gross incomes at all, tax thresholds may change the picture. As long as tax thresholds are small, they also have the property of producing unequal distributions of disposable incomes for flat taxes.

Hence, for the tax reform proposed in this paper, the flat tax is supplemented by a social component to make the distribution of disposable incomes more equal. However, this is just an accessory task of the social component. Its main performance would be the reform of the involved German social security system. The basic idea behind the social component is rather simple: those persons whose income is *insufficient* to allow for their subsistence, for paying their social security contributions and paying for the education of their children should receive public subsidies. The crucial problem here is to determine what income is considered as insufficient to carry these expenses. Moreover, as own income rises, the public subsidies should decrease. In regard for simplicity we propose to measure insufficiency as a percentage – of income. In so far as the expenses for subsistence, social security contributions, and child education exceed the fraction σ of income, the difference is remunerated from public funds. At the point where the fraction σ of income equals the expenses for subsistence, social security contributions and child education, the public subsidies expire.

This reform proposal allows marrying the advantages of a true flat tax with a comprehensive reform of the whole social security system. Using a micro-simulation model for Germany, it is shown that the reform proposal makes the distribution of disposable incomes considerably more equal (with the exception of the very top incomes). Moreover, the revenue raised by the reform proposal allows dispensing with the business tax and the corporation tax, which leaves an extra 46.5 billion – of purchasing power in the private sector of the German economy.

A hybrid form of a flat tax is the *dual income tax*. Under a dual income tax, labor income is taxed at a progressive tax schedule, whereas profits and other returns to capital are taxed at a comparatively low proportional flat tax rate.[1] However, because of the parity-before-the-law principle, preferential tax treatment cannot be limited to corporations; it has also to be extended to the self employed. All entrepreneurial profits have thus to be divided into capital income and labor income. The dual income tax has been introduced in the Nordic countries Denmark, Sweden, Norway, and Finland at the beginning of the nineties.[2] All these countries have high gross wages and, hence, high labor costs. These high labor costs can only be sustained under a highly capital intensive production. However, as capital is highly internationally mobile, high taxes on profits will induce the capital to move to low-tax countries. Hence, high-wage countries have endeavoured to entice capital to stay in the home country by taxing it at lower rates than labor income. However, a dual income tax may trigger a vicious circle, as the tax on labor income and indirect taxes have possibly to be raised to warrant sufficiently high tax revenue. This may then cause a push in labor costs which put the respective country again at a disadvantage in international competition.

Of course, different tax rates for different sources of income will give rise to *tax arbitrage*, which will be dealt with in greater detail in Section 2.3.5. Thus, a dual tax system is bound to become very complicated simply due to the reason to control for tax arbitrage. Moreover, a dual tax has to struggle with the problem to divide the income of the self employed into the two components, viz. capital and labor income. In order to prevent that all profits are either wholly declared as capital or, alternatively, as labor income (depending on what is preferable for the entrepreneur), a "normal" rate of interest on the working capital is considered as capital income and all "excessive profits" are considered as labor income and are taxed along with other sources of income at the progressive schedule. This will lead, inter alia, to severe problems of valuing the invested capital, because it is crucial as a basis of the flat tax rate. The valuation of the invested capital determines the profit share to be taxed at the flat rate for capital incomes.

[1] For a dual income tax see, e.g., Boadway (2004), Christiansen (2004), Eggert and Genser (2005), Schratzenstaller (2004), Spengel and Wiegard (2004), Solms (2005, 16–19).

[2] Denmark has meanwhile partly abolished the dual income tax, although capital income taxation has basically retained the feature of a dual tax system; see Larsen (2006, 113).

Before embarking on the reform proposal of the German tax and social security system, we start in Section 2 with a theoretical analysis of flat tax regimes. In this section we formulate flat tax schedules, give information on the flat tax community, and investigate nine aspects of flat tax performance. Section 3 gives a concise account of the German disease. Section 4 informs on the present German tax and social security system. Section 5 reports on present attempts at a tax and social security reform in Germany. Section 6 expounds my own reform proposal of the tax and social security regimes for Germany in greater detail, and Section 7 concludes.

2. Whither Flat Taxes as Reform Options?

2.1. Shapes of Flat Taxes Schedules

The flat taxes which were adopted by various countries vary widely. Their common feature is a constant marginal tax rate $\xi > 0$ on labor income Λ beyond a tax threshold $\alpha \geqslant 0$. α denotes the personal allowance which may vary with the taxpayer's personal circumstances. Tax liability T is computed by

$$(1) \quad T = \max\{\xi(\Lambda - \alpha), 0\}.$$

Note that the term "flat tax" is often associated with the American authors Hall and Rabushka (1983, 1995, 1996), and Armey (1996). However, their proposal is a cash-flow tax on business income (except wage income) combined with a tax on labor income (with a personal allowance for wage income). In fact, it is a consumption-type, origin-based value added tax collected by the subtraction method and supplemented by a non-refundable tax credit against labor income.[3] Nonwage value added is taxed at the firm level, and wages, less personal exemptions, are taxed at the individual level.[4] The American flat tax proposals aim at replacing the sales tax, the corporation tax, and the income tax by this tax. This view is also backed by work of Jorgenson and Wilcoxen (2002), Zodrow (2002), and Forbes (2005). Hence the American flat tax is much different from the flat taxes which were introduced in most other countries. Note, moreover, that, while such a tax reform proposal would easily be viable for a low-tax country like the United States, it is not viable for the high-tax countries of Western Europe. If they opt for a flat tax at all, this tax could replace not much more than the income tax, the corporation tax, the business tax, and the payroll tax. The value added tax has to be maintained side-by-side with a (different) flat tax.

Taken at face value, a tax as described in (1) is truly a progressive linear tax rather than a real flat tax. A tax should be addressed as a real flat tax if $\alpha = 0$ throughout. Following the tradition we will keep addressing a tax as defined in (1) as a flat tax [FT], and a flat with $\alpha = 0$ as a true flat tax [TFT].[5]

2.2. The Flat Tax Community

The FT community comprises a respectable list of countries. Flat taxes according to formula (1) were adopted by Estonia in 1994 (26%),[6] by Lithuania in 1994 (33%), by Latvia in 1997 (25%), by Russia in 2001 (13%), by the Ukraine in 2003 (13%), by Slovakia in 2004 (19%), by Georgia in 2005 (12%)[7], by Romania in 2005 (16%), and by Macedonia in 2007 (12%).[8] Serbia had introduced a constant marginal tax rate on labor income, but applies a kind of surtax on the sum of income from all sources exceeding a certain limit. Keen et al. (2006, 3, footnote 2, and 5, footnote 5) report that Bolivia (13%) and Paraguay (10%) introduced a FT, but mainly as an instrument to improve the compliance of the value added tax, and that Jersey and Guernsey (20%) and Jamaica (25%) had introduced a FT. Hong Kong SAR allows taxpayers the choice between a 16% FT (with a narrow range of deductions) and a progressive tax schedule. Some subnational governments, such as Illinois, Indiana, Massachusetts, Michigan, and Alberta, also levy a regional FT; Pennsylvania has a TFT. The second version of the British income tax (reintroduced in 1842 after the first – graduated – income tax introduced in 1798) was also a FT. Quite recently, three more countries joined the FT community, viz. Iceland (36%) [Mitchell (2007)], the Czech Republic (15%) [Lornas (2007)], and Albania (10%) [Koci (2007)]. Interestingly enough, *The Washington Post* reported on November 2, 2003, that the U.S. Administrator of Iraq, L. Paul Bremer, had imposed a FT on Iraq (15%) [Milbank and Pincus (2003)].

[3] See Keen et al. (2006, 4): "The base of a subtraction VAT [value added tax] is the difference between the values of a firm's sales and purchases; under a consumption-type VAT, capital goods are excluded from the tax base. The origin-based VAT taxes exports but not imports, and so is a tax on goods produced within the country (in contrast to a destination-based form of VAT, under which exports are exempt and imports fully taxed, so that the base is ultimately domestic consumption)."

[4] Gaddy and Gale (2005, 985).

[5] See Wikipedia (2007); in an article entitled «The Flat-Tax Revolution» *The Economist* Vol. 375, Issue 8422, of April 16, 2005, championed a FT.

[6] Starting from 2005, Estonia passed a schedule of decreasing her FT rates to reach 20% in 2009, and at the same time increasing personal allowances; see Vanasaun (2006, 102).

[7] Georgia seems to be the only country which so far had introduced a TFT.

[8] Keen et al. (2006, 6), Wikipedia (2007).

While most of the FT countries kept their rates of the corporation tax not lower than the rates of their personal income tax,[9] and Estonia (for distributed profits), Latvia, Slovakia, Romania, Macedonia, and Albania have equal rates for the personal income tax and for the corporation tax, Iceland followed the Nordic tradition along the lines of a dual income tax. Iceland's top marginal personal tax rate of some 48% was reduced to 36% with generous personal allowances, the corporation tax has been cut from 50% in the late eighties to 33% by the mid nineties to just 18% in 2002. In this period, the corporation tax revenue increased from 0.9% of Iceland's GDP in 1985 to 1.5% of GDP in 2003 [Mitchell (2007)]. This is a spectacular Laffer effect.

FT reform proposals are presently under discussion in Croatia, Greece, Slovenia [for Slovenia see Cajner et al. (2006) and Caprirolo (2006)], and Poland [International Tax Review (2005)]. In Germany, Kirchhof's (2003) reform proposal is close to a FT, the Scientific Advisory Board at the German Ministry of Finance [Wissenschaftlicher Beirat (2004)] also proposed a FT, and Seidl (2006) proposed a TFT with a social component. It seems that FT proposals presently have no chance at a serious discussion, let alone realization, in Germany. A vivid discussion on FT reforms is now going on in Great Britain,[10] again, as it seems, without any chance of realization.

2.3. Economic Analyses of Tax Schedules Emphasizing Flat Taxes

2.3.1. Is a Flat Tax Optimal?

Concerning optimum income tax schedules, three paradigms were developed in succession, the *equal sacrifice principles*, the *first best optimum taxation*, and the *second best optimum taxation*.

The equal sacrifice principles were first summarized by Cohen-Stuart (1889). One variety concerns equal absolute sacrifice, the second equal relative sacrifice. Let $U(Y)$ denote a utility function of income Y, and let T denote the tax liability. Then equal absolute sacrifice means that $U(Y) - U(Y - T) = const$ for all incomes, and equal proportional sacrifice means that $[U(Y) - U(Y - T)]/U(Y) = const$ for all incomes. Then it is easily calculated that equal proportional sacrifice yields a TFT if, firstly, $U(.)$ is a concave function of income, and, secondly, if

$$(2) \quad -U''(Y) = U'(Y)/Y$$

[9] With the exception of Lithuania and Estonia (Estonia for withheld profits).

[10] See, e.g., Grecu (2004), Theather (2005), Heath (2006), Minford (2006), Wadsworth (2006) and UK Independence Party (2006).

for all income levels. Equal relative sacrifice yields a TFT if $U(.)$ is a concave function of income and if

$$(3) \quad -U''(Y) = [1 - YU'(Y)/U(Y)] \times U'(Y)/Y$$

for all income levels. This is, of course, a knife-edge result; it holds only for rather specified utility functions of income. For a >-sign instead of an equality sign in (2) and (3), respectively, the respective equal sacrifice principle yields a progressive income tax schedule,[11] for a <-sign it yields a regressive income tax schedule.

Notice, however, what the equal sacrifice principles ask for to bring about a tax schedule: First, the tax authorities have to know the utility functions of income, second, the utility functions have to be identical for all taxpayers, third, the utility function of income has to be cardinal, and forth, it should give rise to an inflation-resistant tax schedule. These requirements are too exacting to allow us to state that a FT is an optimum tax schedule.

Edgeworth (1897) started out from a Benthamite social welfare function defined on the net incomes of the taxpayers. He had to assume the above requirements for the individual utility functions of income (which entered the social welfare function). Maximizing aggregate social welfare of the net incomes under a tax revenue constraint yields a tax schedule with maximum progression, i.e, equality of post-tax incomes. The tax schedule consists of only two marginal tax rates, −100% for income recipients below the average income, and +100% for income recipients above average income. Edgeworth had to admit with regret that such income tax schedule would eradicate all work incentives and, hence, would not be viable.

Edgeworth's approach was later rekindled and improved by Vickrey (1945) and – with much more mathematical sophistication – by Mirrlees (1971). In addition to Edgeworth, they assumed a skill distribution of the economic agents. An agent's power to earn income is determined by his or her skill. Skill is assumed to be private information. The tax authorities know only the skill distribution. They cannot identify agents by their skill, which means that agents can successfully conceal their skill when the tax schedule envisages too high taxation for them. This is captured by self-selection constraints which require the tax schedule to induce agents revealing their true skill levels for earning gross incomes. Because of these additional constraints this theory is called second-best optimum taxation.

Unfortunately, second-best optimum taxation is unable to tell us how an optimum tax schedule should look like. Mirrlees (1971) argued that it could well be approximated by a linear tax schedule, which induced, e.g., Sheshinski (1972)

[11] This does not rule out that the progressive tax schedule is a linear income tax with a positive tax threshold α. This is, however, another knife-edge result.

to focus wholly on linear tax schedules, but this conclusion depends crucially on rather specific assumptions. Change the assumptions and the optimum second best income tax schedule will change: Mirrlees employed a utilitarian social welfare function (which just sums the individual utilities of net incomes); when more inequality-averse social welfare functions are used, when other patterns of labor supply responses and/or other shapes of the skill distribution are assumed, then simulations have shown that highly nonlinear optimum income tax schedules may result.[12]

Thus, the theory of optimum income taxation does not provide guidelines to judge whether a FT is an optimal tax or not. Hence, we have to adduce other criteria to evaluate a FT.

2.3.2. Income Redistribution and Equity

A crucial aspect of a FT represents its distributional effects. Consider first a TFT; a TFT does not change the Lorenz curve of the distribution of gross incomes. In other words, a TFT does not make the distribution of net incomes more equal. For any scale invariant income inequality measure, a TFT maintains the level of inequality of gross incomes also for the net incomes. This implies that, as compared with a graduated income tax, a TFT results in greater income inequality of net incomes unless some attendant measures are taken. The case is different for a FT with a positive tax threshold α.

More generally, if the income tax schedules T_G and T_H raise the *same* tax revenue [revenue neutrality] and if the schedule T_G crosses T_H once from below, then T_G is more progressive than T_H in the sense that the Lorenz curve of T_G dominates the Lorenz curve of T_H[13]. This is trivially the case if T_G is a graduated income tax and if T_H is a TFT. However, if T_H is a FT and if α and ξ are high enough, then it will cross a revenue-neutral graduated income tax T_G once from below, which means that this FT is more progressive than T_G [Graph 1]. If T_H is a FT and if α and ξ are moderately high, then it will cross a revenue-neutral graduated income tax schedule T_G twice, first from below and then from above [Graph 2], which means that the associated Lorenz curves of T_H and T_G cross once.[14] No general statement can be made about tax progression. We can only say that, in this case, a FT is more progressive than a revenue-neutral graduated tax for the lower incomes and less progressive for the higher incomes. As the very low incomes enjoy tax exemption due to the positive tax threshold α which is, by assumption, larger than under the former graduated tax which the FT replaced, the FT will

[12] See, for instance, Tuomala (1990) and Kanbur et al. (1994).

[13] See Hemming and Keen (1983) and Davies and Hoy (2002). The case is more difficult if T_G and T_H raise *different* tax revenues; for this case see Seidl (1994).

[14] See Dardanoni and Lambert (1988).

turn out to be more progressive for the taxpayers in the middle ranges of the income strata. This can cause problems of political sustainability of a FT because the bulk of taxpayers are accumulated in the middle income range. High rates of social security contributions can aggravate political sustainability. We shall take up this problem in Section 2.3.8.

We have to be cautious to apply these theoretical insights immediately to the actual FT reforms because they usually lack revenue neutrality. But, by and large, the FT reforms which replaced the former graduated taxes with FT rates which are close to the top marginal tax rate of the former graduated tax are more progressive than the former tax. They tend to work in favor of the low income strata. This is the case for Estonia, Lithuania, and Latvia. For Georgia, which introduced a TFT, the tax became less progressive. The FT reforms in all other countries have the tendency to decrease progression at the lower and upper ends of the income range and increase it for the middle income range.

2.3.3. Deadweight Loss of Income Taxation

Taxation aims at money transfers from the taxpayers to the fiscal authorities. For all cases, for which the benefit principle of taxation[15] does not apply, this means a welfare loss on the part of the taxpayers. However, all taxation except lump-sum taxation causes also an additional *deadweight loss or excess burden* of taxation.[16] For instance, a sales tax implies that consumers demand less than they would have demanded had the sales tax be replaced by a revenue-neutral lump-sum tax. They suffer a welfare loss in terms of the reduction of their consumers' rent and the suppliers suffer a loss of profits in terms of the reduction of the producers' rent. These are losses which are not matched by respective tax revenue of the fiscal authorities; hence they are called deadweight losses.

Feldstein (1999) has shown that this story carries over to the income tax as well. Let I denote taxable income and t the marginal tax rate, then the deadweight loss of income taxation is, according to Feldstein (1999, 675), $(t^2/2)\times[dI/d(1-t)]$. If the derivative varies slowly, then the deadweight loss is approximately proportional to the square of the marginal tax rate. If we replace a marginal tax rate of 30% by a marginal tax rate of 45%, then the deadweight loss does not rise by a factor of 1.5, but by a factor of 2.25.

[15] The benefit principle of taxation applies if the economic agents pay for the use of public goods according to their individual preferences; see Samuelson (1954). Because of free-riding behavior, the benefit principle requires that the exclusion principle applies (persons who do not pay for the public good can be excluded from its use); see Wicksell (1896, 100). Because of the practical problems with the benefit principle, taxes are usually justified referring to the ability-to-pay approach (taxes should be levied according to the taxpayers' ability to pay); see Musgrave (1959, chapters 4 and 5).

[16] See, e.g., Harberger (1964 a, b).

A deadweight loss is not only a loss in welfare alone. In addition, it affects taxpayers' behavior, thereby reducing gross income both as the basis of the personal income tax and as the basis of social security payroll tax. Feldstein (1999, 678) calculates that increasing all personal income tax rates in the U.S.A. by 10% would yield an additional revenue of impost (income tax and social security payroll tax) of $ 21.4 billion (instead of $ 56 billion without behavioral taxpayer responses) and cause a deadweight loss of $ 43 billion. This means that the incremental deadweight loss per dollar of additional revenue of impost amounts to more than two dollars! This example demonstrates that the deadweight loss of taxation is by no means negligible.[17]

As lump-sum taxes are not viable, a TFT represents a tax schedule which minimizes the deadweight loss of taxation, because all tax thresholds $\alpha > 0$ require a higher rate of ξ to warrant revenue neutrality. A TFT is a least progressive tax with a non-decreasing marginal tax rate.

Things are even more clear-cut for social security contributions. They can easily be collected as lump-sum contributions provided the social system allows for relief for hardships. Then deadweight losses can altogether be avoided for social security contributions.

2.3.4. Work Incentives

Work incentives are much related to deadweight losses. However, whereas deadweight losses concentrate on the marginal tax rate, work incentives result from the joint effect of the marginal and the average tax rate. It is well known that any tax change has a substitution effect and an income effect. The substitution effect is governed by the marginal tax rate; the income effect is governed by the average tax rate. The substitution effect works toward increased work effort if the marginal tax rate decreases; the income effect works toward increased work effort (provided that leisure is a normal good) if the average tax rate increases.[18] However, the combination of a lower marginal tax rate and a higher average tax rate applies only for parts of a FT reform.

Suppose that the tax threshold α is higher under a FT than under the former graduated tax. Then the low-income earners experience a marginal and an average tax rate of zero. Thus, the substitution effect suggests increased work effort and increased participation in the labor market. However, the income effect works in the opposite direction. Although we may assume that the substitution effect outweighs the income effect, the income effect detracts from the working of the substitution

[17] Contrary to Feldstein's (1999) results, Goolsbee (1999) did not observe major reactions of high income earners to tax changes, apart from the 1986 cut in the U.S. income tax rates.

[18] Keen et al. (2006, 26).

effect. The next higher stratum of income earners experiences an increase of the marginal tax rate and a decrease of the average tax rate as compared to the former graduated income tax. Hence, both components work in the direction of reduced work effort.[19] The next higher stratum of income earners experiences an increase of the marginal tax rate and an increase of the average tax rate. The substitution effect works in the direction of less work effort, the income effect works in the direction of increased work effort. We may assume that the substitution effect outweighs the income effect, but its working is weakened. The next higher stratum of income earners experiences a decrease of the marginal tax rate and an increase in the average tax rate. Both effects work in the direction of increased work effort. The income earners affected by this case represent the higher middle class of income earners. The highest stratum of income earners experiences a decrease of the marginal and of the average tax rate. The substitution effect works in the direction of increased work effort, whereas the income effect works in the direction of reduced work effort. Although we may again assume that the substitution effect outweighs the income effect, the increase in work effort due to the substitution effect is diminished by the counteracting income effect.

There is widespread belief that a FT would exert strong effects on work incentives. However, a closer view shows that both the substitution and the income effect work only for one income stratum in the same direction, viz. for the higher middle class of income earners. This insight should not be trifled because it is precisely this group of income earners who are very productive and usually have a considerable space of manoeuvre to vary their work effort. However, a FT does not have this effect in general. In particular, it works against work effort for low qualified income earners, as it increases their marginal tax rate, while it decreases their average tax rate at the same time.

Thus, while we may conclude that a FT reform increases work effort for a very productive group of income earners, it has weak or even opposite effects on work effort for other groups of income earners. Therefore, aggregate income may rise; however, in the short run this is certainly not enough to trigger a Laffer effect to pay for a tax cut of introducing a FT; instead it will raise less revenue than the former graduated income tax.[20]

2.3.5. Tax Arbitrage

Whenever different sources of income are taxed at different tax schedules, taxpayers who derive income from different sources are tempted to shift income from the higher taxed income source to the lower taxed income source. A dual income

[19] Compare also the simulation results of Cajner et al. (2006, 130) which point in he same direction.

[20] See in particular Goolsbee (1999).

tax is a splendid example of incentives for tax arbitrage. Because of tax arbitrage, the draft of the Sachverständigenrat et al. (2006), which endorsed a dual income tax for Germany, devotes hundreds of pages to prevent tax arbitrage.[21]

Tax arbitrage in the opposite direction is in the bush if the corporation tax rate exceeds the personal income tax rate. This is the case in Russia for the corporation tax (37%) as compared with the marginal tax rate for higher executives and managers with salaries above 600,000 roubles per year. Their salaries are burdened at the margin with 15% [13% personal income tax and 2% social security taxes]; before the Russian FT reform, the marginal tax burden of higher executives and managers was 69.5% [30% marginal tax rate of the personal income tax, 1% employees' share of social security contributions, 38.5% employers' share of social security contributions]. The incomes of low income earners were burdened after the reform at the margin with 48.6% [now they are burdened at the margin with 39% (13% personal income tax and 26% social security taxes)]; before the Russian FT reform, their marginal tax burden was 51.5% [12% marginal rate of the personal income tax, 1% employees' share of social security contributions, 38.5% employers' share of social security contributions].[22]

As the social security contributions of employees are formally incident on employers and as the personal income tax of employees seems to be deducted at source by the employers, it is not easy to comprehend why pre-reform tax compliance in Russia could have been as low as 74% for the lower income strata and 52% for higher income strata.[23] There had been widespread tax evasion, supported by corruption and bribes to the tax authorities.[24] As the marginal burden of impost decreased under the 2001 reform by only 2.9 percentage points for the low income earners, it is no surprise that tax compliance did not change much for this group.[25]

[21] When Germany will adopt a tax system along a dual income tax, tax arbitrage will become the main concern of tax audits and lawsuits before the fiscal courts.

[22] After the 2001 reform the marginal tax burden of low income earners was 48.6% [13% personal income tax and 35.6% social security taxes]; see Ivanova et al. (2005, 6, 8, and 25). The law N 144-ФЗ of July 27, 2006, reduced the marginal tax burden of low income earners to 39%.

[23] Ivanova et al. (2005, 36).

[24] This becomes clear from Gaddy and Gale's (2005, 984–985) instructive paper on the turmoil of Russian pre-reform tax system. Due to a general "payments crisis" enterprises paid taxes by tax offsets, which means that enterprises were allowed to offset their tax obligations against goods or services delivered to local governments or to the federal government. Many of these goods and services were not marketable. In the late nineties, large enterprises had paid less than 8% ot their tax bills in cash; 29% were not paid at all, and 63% were paid in the form of offsets and barter goods. This situation of widespread tax avoidance and tax evasion was only terminated by the Putin government, which in 2000 launched a stiff policy of tax enforcement policy and administrative changes to increase tax compliance. Also, taxpayers' identity numbers were introduced in 2000.

[25] Ivanova et al. (2005, 36); notice that Ivanova et al. (2005) compared only the pre-reform year 2000 with the post-reform year 2001.

However, Ivanova et al. (2005, 36) were surprised to find that tax compliance for the high income earners increased from 52% to 68%. As the difference of the marginal tax burden between the corporation tax and the marginal impost rate of executives and managers amounts to 22 percentage points, it should be tempting for corporate firms to shift profits to managerial salaries. This is even more so the case if the managers of corporate firms possess also shares of their firms. The fall in the gross wage rates of the high income earners [Ivanova et al. (2005, 37–39)] seems to have mainly affected the firms' executives. This indicates that the substantial reduction in marginal impost rates has been shared between the firms and the executives, which means that their net wages rose, while their gross wages fell. It seems that the firms had claimed their share in the heavy slump of the marginal impost rate.

The lesson to be learned from tax arbitrage, its severe administrative problems, and its behavioral consequences is that the rates of the personal income tax and the corporation income tax should be set equal. This removes all incentives of income shifting from the higher to the lower taxed income source. It saves a lot of administrative costs.

2.3.6. Tax Compliance

Tax compliance[26] has two aspects, viz. *tax avoidance* and *tax evasion*. We will assume throughout that there is a functioning tax administration. First, we consider tax avoidance.

Let $T(.)$ denote the tax schedule, I taxable income, Θ the concealed part of taxable income, and $C(\Theta)$ the cost of concealment. Assume first that $C(\Theta)$ is increasing and convex, that is additional monetary units to be concealed require higher concealment costs. Then the necessary condition for optimum concealment is $T'(I - \Theta) = C'(\Theta)$. Thus, under a graduated personal income tax, the rich will avoid more taxes than the poorer taxpayers. Under a FT, however, all taxpayers declaring income above the tax threshold will conceal the same amount of income, since the marginal tax rate is a constant. Hence, the richer taxpayers conceal a smaller proportion of their income than the poorer taxpayers, which makes taxation in effect more progressive than without tax avoidance.[27]

Things change fundamentally if $C(\Theta)$ is increasing and concave. This may be the case if tax avoidance has economies of scale, for instance, because an efficient tax consultant may have a high fixed cost. Then the marginal concealment costs may be too high for poorer taxpayers, primarily for a graduated income tax, but possibly also for a FT. For richer taxpayers it pays to avoid all taxes irrespective of the tax schedule.

Of course, such a model lacks realism. Lastly, we may assume that $C(\Theta)$ is ogival-shaped (counter S-shaped), that is, it is first concave and, after an in-

[26] More generally, see Andreoni et al. (1999).

[27] See Keen et al. (2006, 22); more generally, see Hindriks et al. (1999).

flection point, convex. Under this model, it does not pay for poor taxpayers to avoid taxes, but beyond the level of taxable income at which $T'(I - \Theta) = C'(\Theta)$, all taxpayers conceal the same amount of taxes under a FT. Under a graduated tax, the richer taxpayers will conceal more. We consider this scenario to be the most realistic model.

Let us now turn to tax evasion.[28] In contrast to tax avoidance, tax evasion is definitively illegal. If it is discovered, the convicted taxpayer had not only to pay the evaded taxes, but also a fine, or has even to face being sentenced to jail. Of course, if tax evasion is discovered with certainty, it would not occur. Rather there is a probability less than one that it is discovered; consequently, taxpayers' strategies depend on their risk attitudes. Allingham and Sandmo (1972) assumed that the fine on tax evasion is imposed on undeclared income. Under this assumption an increase of the marginal tax rate has a substitution effect and an income effect which point in different directions. However, when the fine is imposed on the evaded tax (which is the rule under most revenue codes) and when taxpayers' absolute risk aversion decreases with income, then the income evaded decreases as the marginal tax rate increases; in this case, there are no opposing effects [Yitzhaki (1974)]. The reason for this is simply that, as the marginal tax rate increases and the fine is imposed on the evaded tax, there are greater amounts at stake for tax evasion. Moreover, net income decreases due to the higher tax rate. Thus, a higher fine in case of detection is combined with a smaller net income, which, together with decreasing absolute risk aversion as a function of income, means that, as the marginal income tax rate increases, the income evaded decreases. Now a FT decreases the marginal tax rate and decreases also the average tax rate, at least for the high income strata. Within the confines of this model (when taxpayers' absolute risk aversion decreases with income), this means that the high income strata have an incentive to evade more taxes under a FT than under the former graduated income tax.

This means that the effect of a FT is ambiguous. For the higher income strata, tax avoidance will by and large decrease, whereas tax evasion will increase. Hence, any move in the direction of a FT should be accompanied by a synchronous strengthening of tax administration. Precisely this seems to have complemented the Russian FT reform.

2.3.7. Administrative Simplification

Let us start with a TFT. A TFT is a functional equation such that the tax on a sum of items is equal to the sum of the individual taxes as applied to the items. This allows administering the greater part of taxation in terms of deductions at

[28] For theoretical analyses see Allingham and Sandmo (1972), Seidl (1974, 17–86), Yitzhaki (1974).

source, which can replace income tax returns for many taxpayers.[29] However, this has, at the same time, some disadvantages. When the social security contributions of employees are formally incident on employers and when the personal income tax of employees is deducted at source by the employers (which is the case in Russia), employees may easily perceive that the whole impost system is beyond their scope of influence, and would no longer react to changes in the parameters of the tax and social security system.[30] In order to alert them to react to the parameters of the tax and social security system, they should have the feeling that they could behave responsively to the tax and social security system.

However, for a FT system with a tax threshold $\alpha > 0$ this administrative advantage disappears. Taxpayers can claim their personal allowance only if they have either only one employer, or if they file an income tax return. The same applies to social security contributions in the shape of graduated social security taxes, as they are levied, e.g., in Russia. To adapt a FT to inflation, the tax threshold and the graduated social security taxes require an indexation to prevent cold progression of the tax schedule as well as cold regression of the social security tax. Indexation is, however, dispensable under a TFT.[31]

Tax simplification is severely handicapped in case of tax arbitrage. Different tax rates induce shifting of income in the direction of the less taxed source of income. Gaddy and Gale (2005, 985, footnote 5) report that firms used insurance contracts to shift company income to employees, which led Russian reformers to impose a 35% tax on insurances payments and other incomes shifted to employees. The rate of this special tax just equals the rate of the corporation income tax to avoid tax shifting from firms' profits to employees' wages. Hence, tax simplification is best attained under a TFT whose rate is equally applied to all sources of income.

A FT promises lower tax rates for the higher income earners. Therefore, its introduction offers ample possibilities to broaden the tax base and clean out many tax exemptions, special tax treatments, etc. The resistance against a substantial base-broadening of the tax can be more easily overcome if its introduction is readily by a lower tax schedule. This seems to have been the ultimate reason why the FT reform, together with a stiff reform of the tax administration, was readily accepted in Russia and in other East European countries. Problems such as these carry over to political sustainability.

[29] Vanasaun (2006, 103) gives a vivid picture of tax simplification in Estonia, although it is still more complicated than the reform proposal for Germany presented in Section 6.

[30] Only the employers react because they perceive the higher or lower costs of labor in their entirety.

[31] Indexation is, however, indispensable for social security contributions in the form of lump sum payments.

2.3.8. Political Sustainability

In Section 2.3.2 we noticed that a revenue-neutral FT would basically shift the tax burden from the high income strata to the middle and lower income strata. As α increases, the low income strata tend to be unburdened as compared to a revenue-neutral graduated income tax. As ξ increases, the tax relief for the high income strata diminishes without, however, being able to eliminate their tax relief completely under a revenue-neutral FT. It is the middle income strata which are the ones to be more burdened by a FT reform.[32] This means that FT reform proposals will almost inevitably affect the median voter by a higher tax liability.[33] This can only be avoided by reform proposals which violate revenue neutrality, but even under such reform proposals the relative positions of the low and middle income strata in the gamut of the net incomes deteriorate; moreover, such reforms cannot be financed [see Bach and Steiner (2006)]. This explains why FT reform proposals have no chance in highly democratic countries with established progressive income tax schedules.[34]

In highly democratic countries it is the median voters whose preferences govern income redistribution and, hence, the structure of the income tax schedule. This is succinctly summarized by Persson and Tabellini (2000, 121): "Concentration of income at the top makes redistribution more attractive for the median voter and hence implies a high equilibrium tax rate. But more-extreme poverty has the opposite effect, because it reduces the benefit of redistribution for the median voter. The model also predicts that the larger are the deadweight costs of taxation... the smaller is equilibrium redistribution."

In highly democratic countries in which all voters make use of their suffrage, the median voters have a relatively lower income rank than in countries in which the low income strata make less use of their suffrage. This seems to largely explain the high income redistribution in Western European countries as compared with the United States with its very unequal income distribution and its low income redistribution.

In a dynamic context, which also draws on the wealth distribution, greater inequality of wealth in highly democratic countries should be associated with higher taxation and slower growth. As empirical research showed, it is, in particular, greater income inequality which is associated with lower growth.[35] The dynamic view gives also rise to another kind of public opposition against a FT: most FT proposals imply a more unequal distribution of net incomes. Risk averse people will, therefore, experience a welfare loss in situations of a veil of ignorance concerning their future income position. Hence, they prefer a more equal distribution of net incomes even if it is bought at a lower level of mean net income.[36]

Given these insights, what then explains the success of the FT reforms in the countries of Eastern Europe? First and foremost, the tax turmoil before the reforms seems to have paved the way for the acceptance of a FT. There was some kind of implicit bargain between the state and the taxpayers saying something like: "Be faithful in your tax payments and we will grant you a favorable tax schedule."

Now, taxpayers have better recognized their position and became aware that income and wealth distribution became much more unequal than before. By now, income and wealth is more concentrated at the top of the income and wealth gamut than ever before. This is precisely the soil for median voters to ask for more income redistribution. The only hurdle for that seems to consist in the circumstance that democracy is still in its infancy in most East European countries. However, before long political parties will take the distribution issue on their agenda and will press for a return to a more progressive graduated income tax. Unfortunately, this will at the same time involve dispensing with all advantages of a FT.

How then could political sustainability of a FT be secured? The rub seems to consist in the attainment of a more equal distribution of disposable incomes, in the maximum reduction of the deadweight loss of impost, and in decreasing the marginal tax rate while simultaneously increasing the average impost rate to foster work incentives. It will be shown in the next section how these requirements can be reconciled. Our reform proposal will be developed for Germany, but it may easily also carry over to other countries.

2.3.9. Capital Intensity of Production and GDP Growth

A dual income tax was adopted by the Nordic countries and is now seriously considered for the German business tax reform: its main goal is to attract capital by preferential tax treatment. This implies a more capital intensive production which, at the same time, also increases labor productivity. Both influences contribute to a higher GDP per capita, and allow higher real wages in an economy. Thus, high taxation of capital income, in particular a high corporation income tax, curtails a country's potential wealth in terms of forgone GDP.[37]

[32] See, e.g., the instructive model calculations for three scenarios for Denmark by Larsen (2006, 113–116); for Germany, see Fuest et al. (2006); for Slovenia see Cajner et al. (2006, 130).

[33] For median-voter models see, e.g., Romer (1975), Roberts (1977), Meltzer and Richard (1981); for general surveys see Boadway and Keen (2000) and Persson and Tabellini (2000, chapers 6, 11, and 12).

[34] Hence Larsen (2006, 117) concludes "that Denmark is not likely to introduce a flat tax due to the distributional effects of such a tax reform." However, Vanasaun (2006, 105) reports high satisfaction of Estonians with their FT.

[35] See, e.g., Alesina and Rodrik (1994) and Persson and Tabellini (1994).

[36] See Cajner et al. (2006, 129–130).

[37] Compare, e.g., Judd (1985) and Chamley (1986).

3. The German Disease

German workers and employees have long been pampered by high gross wages and salaries and by high standards of social security (high pensions, early retirement, high rates of social welfare, and good health care). This led to high social security contributions and high taxes which boosted labor costs in Germany [see Tables 3 and 4 in the Appendix] and kept net wages moderate. Thus, Germany is a high-impost country [see Graphs 5–8 in the Appendix, taken from Seidl (2006, 212–213)]. Note that the Graphs 5–8 contain only the employees' share of the social security contributions, not the employers' share. Table 3 in the Appendix shows that the employer's share of social security contributions accounts for 19.3% of labor costs. Taking all together, the ratio of labor cost and net wage is about three! The picture is analogous for the tax burden of joint stock companies. Table 9 in the Appendix shows the tax burden of German joint stock companies as compared with the new EU member countries [taken from Jacobs et al. (2004); see also Bundesverband der Deutschen Industrie (2006) for more data].

Germany has high standards of social welfare. Table 10 in the Appendix shows the rates of social welfare after the 2006 reform. Table 11 shows the percentages of social welfare in comparison to net disposable incomes for several sectors of the economy before the last reforms. This shows that work incentives are rather weak or altogether absent, in particular for single parents living in Eastern Germany. Due to the high standards of social welfare and extremely high withdrawal rates of social welfare in case of own earned income, German unemployed persons lack incentives to enter the labor force. For instance, harvest workers for asparagus and other crops have to be recruited from Eastern European countries (mostly Poland) because German unemployed refuse to do such hard work.

As the social security contributions for old-age pensions are insufficient to cover pension expenses, Germany's federal budget is burdened with some 80 billion € to subsidize old age pensions. In addition to that, the old age pensions for the civil servants have to be paid out of the budgets of the German federation, the German states, and the German communities. About one half of the federal budget of Germany is expended on pension subsidies, on the pensions of the civil servants of the federal government, and on interest payments for the federal debt.

Due to high labor costs and high taxes, many German firms have outsourced activities to low-wage and low-tax countries. Whenever possible, profits were shifted to low-tax countries; however, expenses were claimed in Germany. Consequently, many jobs in Germany disappeared and official unemployment has risen to some 10% of the labor force (counting also hidden unemployment the figure is about 14%). Unemployment is mostly concentrated among low-skilled

workers and older workers. Because of the high labor costs, older workers who are slightly less productive are sent to early retirement. This contributes another cost push for the German impost system. The German impost system is characterized by high complexity, high deadweight loss and severe distortions in the allocation of resources. This renders an impost reform of utmost importance.

It is true, there have been some improvements in Germany's economic position in the last few years. Due to the unemployment pressure, unions have held in with demands for wage increases in the last few years which had somewhat alleviated the labor market. (In April 2007, the number of unemployed fell under the figure of 4 million for the first time after four years. Yet some 5.2 million receive unemployment benefits, some 0.7 million among them because of insufficient own work income.) There are first signs of reduced shirking in the welfare sector due to a more restrictive legislation etc. But this cannot replace the need for a more fundamental reform. We shall see, however, that Germany moves in the wrong direction.[38]

4. The Present German Tax and Social Security System

The German impost system consists of indirect taxes, direct taxes, and social security contributions.

4.1. Indirect Taxes in Germany

The most important indirect tax in Germany is the *value added tax*. It has three rates, viz. 0% on rents and services of physicians, 7% on foodstuff and books, and a base rate of 19% on all other commodities and services. The value added tax which an enterprise has to pay is calculated as follows: First, the value added tax on all sales (except export sales) is computed, and, second, the value added tax paid on all inputs is deducted. The base rate of the value added tax[39] started originally with 10% (reduced rate: 5%) in January 1st, 1968. It was raised in July 1st, 1968, to 11% (5.5%), in 1978 to 12% (6%), in 1979 to 13% (6.5%), in 1983 to 14% (7%), in 1993 to 15% (7%), in April 1st, 1998 to 16% (7%) [allegedly to comply with the band of rates in the European Union, but truly to contribute to financing the old age pensions], and as of January 1st, 2007, it was raised to 19%. This last move became necessary because Germany had for years violated the Maas-

[38] In spite of the weak economic performance in Germany, other European countries seem to perform still worse. The Economist, No. 8427, Vol. 375 (May 21–27, 2005), has addressed Italy as "the real sick man of Europe".

[39] Before 1968, a gross turnover tax was in force.

tricht criteria that the deficit of the public sector should not exceed 3% of GDP. Interestingly enough, the general public in Germany did not fully grasp the implications of this move. For instance, the supermarkets, who mainly sell foodstuff being taxed at 7%, prided themselves on not having raised their prices. However, due to the tax deduction of now 19% on some of their inputs instead of 16% before, they could even have lowered their prices. Second, the business sector did not ask for a relief of the value added tax embedded in the stocks; the value added tax embedded in the stocks had be deducted from previous tax burdens only to the amount of 16%, whereas 19% would have been adequate in the period in which these inputs had actually been used. It seems that the business sector had overlooked to ask for a respective tax relief. According to my ad hoc calculations this (solitary) tax relief would have amounted to some 2 billion €.

Other important indirect taxes are the tax on petroleum products, the tax on tobacco, on insurance premiums, on cars, on profits of enterprises (the business tax), the property tax, the tax on electric current (to finance the subsidies on coal mining), and the tax on the purchase of property.

4.2. Direct Taxes in Germany

The most important direct tax in Germany is the personal income tax. Originally the schedule of the German income tax was a polynomial of the fifth degree. The tax reform 1986/90 introduced a linear marginal tax rate, i.e., a polynomial of the second degree as the tax schedule. After a basic personal allowance of 5,616 Deutschmarks, the marginal tax schedule jumped to a level of 19% at a taxable income between 5,617 and 8,100 Deutschmarks, and then moved with a slope of 0.0003038 from 19% to 53% at a taxable income of 120,000 Deutschmarks. Beyond taxable incomes of 120,000 the tax schedule ended at a constant marginal tax rate of 53%. Of course, the tax liability is the area under the marginal tax schedule, taken the actual taxable income as the upper limit of the integral of the marginal tax schedule.[40] Subsequent tax reforms endeavoured to impart the impression of major tax cuts without impairing the tax revenue too much. Hence, the most spectacular parameters of the tax schedule were changed without impairing the area under the marginal tax schedule too much. A reduction of the initial marginal tax rate was accompanied by a short interval of a very high slope of the marginal tax schedule to approximate the original marginal tax schedule very fast. This move would detract very little from the area under the original marginal tax schedule. A reduction of the maximum marginal tax rate was accompanied by a reduction of the taxable income at which the maximum marginal tax rate became effective, which also had helped to detract little from

[40] See Seidl and Kaletha (1987).

the area under the original marginal tax schedule (see Graph 12 in the Appendix). The reforms of the German income tax schedule mainly served the purpose of a window dressing by changing the most spectacular parameters of the tax schedule without relinquishing much tax revenue.

A particularity of the personal income tax in Germany is spouse tax splitting. The incomes of the spouses of married couples are added and the tax schedule is applied to the mean income. The income tax of the family is twice the tax on the mean income. It is obvious that tax splitting confers a boon for married couples for progressive tax schedules with non-decreasing marginal tax schedules. It disappears only when the individual incomes of both spouses equal their mean income. It is opposed by many politicians who disapprove of the benefits of tax splitting also for childless married couples. Moreover, they disapprove of the maximum boon of tax splitting being attained when one spouse does not work at all.[41]

The other important direct tax is the corporate income tax. Before 2001, corporate income was taxed at a rate of 45% [1999 and 2000: 40%] for withheld profits and 30% for distributed profits. Shareholders received a tax bonus of the 30% paid corporate income tax with their dividends. They had to include their gross dividends into their income tax return, but could then deduct the corporate income tax paid from their personal income tax. As of 2001, the corporate income tax was set at 25% both for withheld and distributed profits, and only half of the dividends received were subject to their personal income tax. The tax bonus of the corporate income tax was abolished. This reform was enforced by a sentence passed by the European Court in Luxembourg to terminate tax discrimination of foreign shareholders (who could not cash their corporate tax bonuses because they were not liable to the German personal income tax).

Following a proposal of the German Council of Economic Advisors [Sachverständigenrat (2003, 22–23)], the German government is presently preparing to introduce some kind of dual income tax.

Other direct taxes are the inheritance and donation tax and the personal wealth tax. However, the latter one hade been abolished following a sentence by the German Constitutional Court.

4.3. Social Security Contributions

In Germany, the social security contributions are roughly equally divided between employers and employees. There are five branches of social security con-

[41] Quite interestingly, poll data as collected by Seidl (2002) show that the great majority of German interviewees disapprove of the boon of spouse tax splitting, a view which is shared both by single and married interviewees alike, although the latter benefit from tax splitting.

tributions: the contributions for old age pensions amount to some 20% of wages and salaries, for health insurance there is a band ranging from 13% to 14.5%, nursery insurance is about 3%, and unemployment insurance is about 4.5%. All contributions are only levied up to certain limits which vary according to the type of social security, and vary also between Germany West and Germany East. In addition to that, there is also an accident insurance whose contributions are paid by employers alone. Taken all together, wages and salaries are burdened up to 40% with social security contributions which expire at different limits. The jigsaw pattern of the marginal impost schedule in Graphs 6 and 8 in the Appendix results from the different limits at which the respective social security contributions expire.

5. Germany's Actual Economic and Fiscal Problems: Stalemate for Reforms?

German finance ministers such as Hans Eichel and Peer Steinbrück have argued that high German tax rates are justified because the tax base in Germany is narrower than in other countries. However, what international investors understand and compare are national tax schedules rather than tax bases. Tax bases are more opaque and more susceptible to stealthy manipulations than the tax schedule.

The German income tax schedule has indeed been lowered several times in the past two decades. However, as was shown above, in the last decade lowering the income tax schedule has concentrated on the cognitively salient parameters (minimum and maximum tax rates), whereas the area under the marginal tax schedule (i.e., the tax burden) has not been much reduced. Moreover, lowering the tax schedule has been partly counterbalanced by broadening the tax base, primarily for higher incomes and irregular incomes [for the period 1998–2006 see Bhatti (2006); for the period 2006–2008 see Sachverständigenrat (2006, 284–286)]. This means that the lower income strata have gained more from lowering the tax schedule than they lost from broadening the tax base.

The current dilemma of tax reforms in Germany is that, because of the economic facts, the average burden of taxation cannot be much reduced. On the other hand, as the deadweight loss [excess burden] of taxation, tax compliance, and partly work incentives, are governed by the marginal tax rates, all that can be done to eliminate distortions is to reduce marginal tax rates and to broaden the tax base in order to prevent the revenues from falling. Now, given the history of German income tax reforms, all reform proposals only focussing on income tax reform cannot avoid now broadening the tax base for lower income strata *relatively* more than for higher income strata (partly because the possibilities of broadening the tax base for the high income strata have largely been exhausted,

and partly to prevent inducing them to shift profits abroad or leave the country altogether).

Many proposals for reforms of the German personal income tax were submitted [see Traub (2006)]. All envisage reducing the marginal tax schedule and broadening the tax base by eliminating deductions and exemptions of the current tax code. Some reform proposals can be viewed as close to FT systems. As virtually all authors of reform proposals are keen to promote their proposed tax system, most reform proposals violate revenue neutrality. Hence, many taxpayers gain, but such reforms cannot be financed.[42] Revenue neutral reform proposals have many losers. Hence, such reforms cannot attract a majority of the electorate.[43]

Most reform proposals of the German personal income tax imply that the lower income strata gain *relatively* less than the upper income strata. This means that scale invariant measures of income inequality (e.g., Gini, Theil, Atkinson) increase.[44] As regards revenue neutral flat tax reform proposals for Germany, the highest income strata will invariably win. As to other winners and losers, it depends on the tax threshold and on the FT rate. For a low tax threshold and a moderate FT rate, most other income strata lose. If the tax threshold and the FT rate rise, the losers accumulate among the middle income strata. Note, however, that the Theil and Gini income inequality indices rise also for all variants checked.[45]

Presently, the German government has no immediate plans at a major reform of the personal income tax. However, following a proposal of the German Council of Economic Advisors [Sachverständigenrat (2003, 22–23)], the German government is presently preparing a tax reform along the lines of a dual income tax according to the proposals of three German scientific institutions [Sachverständigenrat et al. (2006)], in spite of the earnest reservations expressed by the Scientific Advisory Board at the German Ministry of Finance [Wissenschaftlicher Beirat (2004, 11–18 and 23–27)]. Of course, different tax rates for different sources of income will give rise to tax arbitrage. In executing a dual income tax, Germany is, once again, on the wrong track.[46] Every sensible person who reads this bureaucratic monster [Sachverständigenrat et al. (2006)] will be shocked by the zeal with which some economists lead Germany into a disastrous tax system.

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[42] Even benevolent assumptions for the revenue effects show huge deficits of tax revenue; see Bach and Steiner (2006, 39).

[43] See Fuest et al. (2006, 10) and Bach and Steiner (2006, 46).

[44] See Bach and Steiner (2006, 44).

[45] See Fuest et al. (2006, 8),

[46] Fortunately, the German government seems not to follow the strict precepts of a dual income tax. Presently not too much is known how this reform will look like; see Sachverständigenrat (2006, 326–339) and the recent concise report by Boss (2007) on the referees' draft of the German Federal Finance Ministry. Reister et al. (2007) report that small self-employed taxpayers will gain from the tax reform, higher ones will lose.

Concerning the value added tax, we have already mentioned that it had been raised from 16% to 19% as of 2007. This increase is bound to intensify the evasion of the value added tax once more. It is estimated that some 250 billion € of value added tax are evaded in the European Union. The trick is that firms claim deductions of value added tax which were charged to them by their suppliers, but the respective tax was never paid because the supplying firm had meanwhile wound up, had gone bankrupt or had vanished. Therefore, Germany and Austria asked European Finance Ministers at the Berlin Meeting (April 20–21, 2007) to grant them permission to apply the "reverse-charge model" for the levying the value added tax. This model would ask the buyer to pay the value added tax on all inputs (bills received) exceeding 5000 € before being allowed to credit the value added tax against their own value added tax liability. As yet it is not quite clear how the reverse-charge model should smoothly work in all details. However, it might open up possibilities of curbing large-scale value added tax evasion throughout Europe.

The situation for social security is analogous to the situation for taxes. Social security contributions cannot be increased much further. In the recent past, there have, therefore, been reductions of social security benefits. Old-age pensions have stagnated in Germany now for three years without any hope that at least the impact of inflation will be compensated in the future. Recently, it was announced that old-age pensions should be raised in July 2007 by a half percentage point after three years without any increase and annual inflation rates of some 2%. This means a reduction of the real value of pensions by some 8% in the last four years. Medical services are being cut back, unemployment doles have been reformed, etc.

Many reform proposals were submitted in Germany for the health social security insurance [for a survey see Beske and Drabinski (2004); Drabinski (2006, 88)]. The final candidates for reform of the health insurance were a model of lump-sum payments [supported by the Christian Democrat Party and, in a somewhat different variety, also by the Council of Economic Advisors[47]] and a model with income-proportional contributions with a much widened base [supported by the Social Democrat Party]. The German Federal Ministry of Health and Social Affairs had established a committee to elaborate a proposal for reforming the German Health System [Rürup-Commission (2003)]. However, the members of this commission got into each others' hair and, hence, left it to the politicians which of the two models should be adopted. The politicians neither decided on one of the two reform candidates, but entered a compromise which focussed mainly on the disadvantages of both systems. The Council of Economic Advisors, showing this time much greater economic common sense than with respect to the dual income tax, raised unusually acid critique of the health insurance reform passed by the German government. It addressed the central part of the health reform, viz. the *central health fund*, a "monster" [Sachverständigenrat (2006, 217); for a detailed critique see Sachverständigenrat (2006, 216–236)]. The social nursery insurance, too, is in embarrassment. Consequently, its benefits were hardly increased since its introduction in 1995. Hence, a reform is overdue [see Häcker (2007)].

Reviewing the German tax and social security reform, we find that they suffer from their lack of comprehensiveness: they are either proposals for tax reform or for social security reform, but so far no proposal encompasses both tax and social security reforms. However, when partial systems are optimized, there is no guarantee that an optimum for the comprehensive problem can be attained when the partial optimum solutions are pieced together. The situation in Germany is aggravated further because the various reform proposals lack balance. Tax reforms are usually too generous without stating how the gap in tax revenue should be filled. Reforms of social security envisage better services and lower contributions, also without stating where the money should come from. Therefore, viable reform proposals must encompass both the tax side and the social security side. The only reform proposal for Germany which satisfies this goal was suggested by Seidl (2006). Its core elements are a TFT combined with a social component. This proposal is presented in the next section.

6. A Reform Proposal for Germany

6.1. Guidelines for Tax Reform

Let us develop desiderata of an efficient tax schedule taking the items discussed in Section 2.3 as guidelines:

(1) Optimum tax schedule: theory does not help us to state which functional form of a tax schedule is an optimum.

(2) Income redistribution and equity: virtually all FT reform proposals or other reform proposals which significantly reduce the marginal tax schedule increase income inequality.[48] This asks for a social component to render the income distribution of disposable incomes more equal.

(3) Deadweight loss: minimizing the deadweight loss of taxation under the constraint that the marginal tax rate should be non-decreasing asks for

[47] See Sachverständigenrat (2004, 397–408) and Sachverständigenrat (2005, 377–382).

[48] See, e.g., Bach and Steiner (2006, 44), Fuest et al. (2006, 7–9), Larsen (2006, 114).

a TFT. Social security contributions should be collected as lump-sum contributions which have a zero deadweight loss.[49]

(4) Work incentives: work incentives of reducing income taxes are, quite generally, rather weak.[50] Thus, a tax reform proposal should aim at decreasing the marginal impost rates and increasing the average impost rates, at least for the most productive group of income earners, such that the substitution effect and the income effect work in the same direction.

(5) Tax arbitrage: all sources of income should be burdened only once and by the same tax rate. It is, in particular, the corporation income tax rate which should be set equal to the personal income tax rate. This does not exclude that other tax loopholes of avoiding or evading taxation should be closed.[51]

(6) Tax compliance: a TFT with a low marginal tax rate reduces tax avoidance. Reducing tax evasion requires good tax auditing and efficient tax administration. For the United States it was shown that taxes which are withheld at source and reported by third parties have a close to 100% tax compliance. Sources of income which are neither withheld nor reported by third parties have the lowest tax compliance.[52] This is another argument in favor of a TFT.

(7) Administrative simplification: a TFT renders income tax returns for most taxpayers dispensable because most taxes can be withheld and sum up for most taxpayers to their overall tax liability.[53] The introduction of a FT provides a good reason to broaden the tax base and clean out many tax exemptions, special tax treatments, etc.

(8) Political sustainability: a tax and social security reform which unburdens the highest income deciles at the cost of the middle income classes (which represent the median voters) is endangered to lose political sustainability if democratization of the respective countries is on the advance. Political sustainability requires wooing of the middle income classes and not to forget the low income classes. This requires some kind of redistribution from the above-median-voter income earners to the middle and lower income classes.

(9) The corporation income tax should be set at the same rate as the personal income tax to encourage economic growth and allow high wages.

[49] It seems that the high proportional rate of 33% of social security contributions without upper ceiling in Estonia [see Vanasaun (2006, 104)] is perhaps the most objectionable feature of Estonia's impost system. It causes too big a deadweight loss.

[50] See, e.g, Goolsbee (1999), Bach and Steiner (2006, 47–49).

[51] This could encompass excessive interest payments, insurance payments, below-marked-rate loans, etc. Gaddy and Gale (2005, 985) report that such devices were used in Russia to shift firm profits to employers and, thereby, circumvent taxation. Closing tax loopholes depends very much on national particularities.

[52] See Gale and Holtzblatt (2002).

[53] This can also be achieved by electronic monitoring of taxpayers; see Larsen (2006, 113). It requires close supervision of the financial transactions of the whole population. As to the cost of filing tax returns for the taxpayers and for the economy as a whole for the United States see Forbes (2005). Very low costs of tax collection are reported for Estonia [see Vanasaun (2006, 103)].

6.2. The Structure of the Reform Proposal[54]

An escape from Germany's current economic problems would be a TFT supported by a social component (Guideline 2). Under this proposal, all sources of domestic income B are taxed at a proportional rate τ, such that the tax on most kinds of income can conveniently be deducted at source.

The *social component* S consists of three items: first, of the subsistence level E amounting to 700 € for the first adult in a family, 350 € for other adults in a family, and 300 € for a child; second, of the household's social security contributions; third, of investment in human capital, i.e., fees for kindergarten, school, and university tuition. Now, the excess of S over the rate σ of worldwide income B^* is subsidized by public funds. We call this the net social component or *social compensation*. It amounts to $\max\{0, (S - A - \sigma B^*)\}$, where A denotes alimonies and gifts received by the household, which render the household less needy. Thus, the reform proposal is driven by two parameters, by the proportional tax rate, τ, and by the proportion of worldwide income considered to be shouldered by a household, σ. Thus, the net income of a household, N, is given by:

$$(4) \quad N = (1-\tau)B - (S - E) + \max\{0,(S - A - \sigma B^*)\} + (B^* - B + A - T_A),$$

where T_A denotes the taxes paid to foreign fiscal authorities.

As compared to the status quo, several items have to be changed. First, the employer's share of social security contributions is paid out along with the wage or salary and is subject to tax. This increases the tax base. Second, all social security contributions (except unemployment insurance) are done by lump sum contributions (Guideline 3).[55] Third, the corporation income tax and the

[54] This is only a concise presentation of the reform proposal. For an elaborate version see Seidl (2006).

[55] The mandatory part of the contributions to old age pensions amounts to 600 € per month and household. This means that the size of the mandatory part of contributions to old age pensions is irrespective of the household's size. The old age pension system should consist of individual (and portable) capital accounts. A funded system would be preferable to a pay-as-you-go system, but it would require several decades to establish. [If it had been established in 1957, when Germany's federal chancellor Adenauer adopted a pay-as-you-

tax on the profits of enterprises are also set at the tax rate τ (Guidelines 5 and 9). Distribution of (taxed) profits is no more taxed; however, received (gross) profits form part of household income for purposes of the social component (Guideline 5). Fourth, many other measures will prove to become necessary to prevent misuse of the system. In other words, the benefit principle should be observed as far as possible as a safeguard against free riding, which it tantamount to drawing on the advantages of a social system without adequate participation in its financing.

Proposing a TFT has considerable advantages. First, a TFT minimizes deadweight loss of taxation given that the marginal tax rate should not decrease as income rises (Guideline 3). A TFT is, second, a functional equation such that the tax on a sum of items is equal to the sum of the individual taxes as applied to the items. This allows administering the greater part of taxation in terms of withholding at source, which can replace income tax returns for most taxpayers (Guidelines 6 and 7). Third, a TFT eliminates the boon of tax splitting, which is largely opposed in Germany. Note that the elimination of spouse tax splitting is another source of increase in tax revenue. Fourth, for the upper income strata tax progressiveness is shifted from the income-generation side (of the status quo tax system) to the income-spending side under a TFT with a social component because the social compensation is gradually phased out as income rises. This aims at increasing the cake rather than at dividing a smaller cake equitably (partly Guideline 4). Fifth, tax competition will sooner or later enforce the introduction of a TFT provided the FT club can sustain and refine their FT systems. Otherwise countries which fail to introduce a TFT will fall behind – at least in the long run.

As to the social security system, deadweight loss is completely eliminated (Guideline 3) with the exception of unemployment insurance (because the level of the unemployment dole is linked to the unemployed person's former income).[56] Pension claims in terms of individual capital accounts make it more difficult to smuggle in claims of persons who have not contributed (or insufficiently contributed) to the pension system. Inflation of claims is one of the plagues of the German old-age pension system.

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go system instead of the former funded system, the old age pension system now could do without federal subsidies.] Furthermore, the proposal envisages lump sum contributions to health insurance amounting to 190.80 € per adult and 78.44 € per child and month. [Private health insurance should be wholly replaced by social health insurance.] The lump sum contribution to nursing insurance should amount to 25 € per adult and month. Unemployment insurance should remain as it is.

[56] In case the upper limit of the base of unemployment insurance contributions is sufficiently low, it, too, works for the social component like a lump sum payment causing no deadweight loss.

6.3. Alternative Social Components

The above proposal concerns the social component **N**, which constitutes the normal case. Two other varieties of the social component are compatible with this reform proposal.

The social component **A** implies that all wages are negotiated as hourly wages for real work only. As compared with the status quo, this would allow an increase in gross wages amounting to some 68%. In return for that the employees would have to shoulder the costs of all social fringe benefits, such as the costs of sick leaves, the costs of taking holidays, and all other extra benefits (e.g. Christmas bonuses). In the past, unions have persuaded employees to believe that all social fringe benefits are paid out of employers' profits. Yet profits could never have covered the huge sums of fringe benefits which are customary in Germany. Instead, they have largely been paid out of increases in labor productivity, which could, alternatively, have been paid out in terms of higher wages. Thus, social component **A** means nothing else than returning the responsibility of making use of the proceeds of one's work again into the hands of the employees.

The social component **E** is more conservative than the social component **N**. It assumes that investments in human capital are not borne by the people individually, but continue to be covered by public funds (which is customary in Germany right now). Note that this does not benefit the lower income strata. For them, expenditure on investment in human capital is just a pass-through item under the social component **N**; it does not affect their disposable income. However, when human capital investments are borne by public funds, this means higher disposable incomes for the high income strata because they have not to pay for the education of their offspring. Therefore, τ or σ, or both have to be increased. However, with respect to model calculations the social component **E** allows more realistic comparisons with the status quo, simply because less counterfactual assumptions must be made. Moreover, as a first step, politicians may only be prepared to embark on the social component **E** to avoid upsetting the population too much. Hence, our model calculations are carried out for the social component **E** only.

6.4. The Reform Proposal Balances and Makes the Income Distribution More Equal

In order to check whether the proposed reform can be financed, we used the micro-data of the *Einkommens- und Verbrauchsstichprobe* [EVS; this is the German equivalent of an income and expenditure survey; the EVS surveys some 45,000 households in every fifth year for some 600 characteristics] of the year 1998. These data were updated for the year 2005 and were processed with the

micro-simulation model KiTs [Kiel Benefit and Tax Micro-simulation model], which was developed at the *Lorenz-von-Stein-Institut* at the University of Kiel [for details see Seidl et al. (2006)].

Next, we had to transform the data from the EVS structure to the items as required by the reform concept for social component **E** [see Seidl et al. (2006, Table 3, 225–228)]. Even for the social component **E** this proved to be no easy task because not all data were available in the required form. For instance, we had to assume that $B = B^*$ and, hence, that $T_A = 0$. This means that we have for our calculations:

$$(5) \quad N = (1 - \tau)B - (SSC) + \max\{0,(E + SSC - A - \sigma B)\} + A,$$

where SSC denotes the social security contributions.

As to old-age pensions, we had to mimic the prevailing system by the reform proposal; this proved to be at the same time an exercise of transforming the prevailing system into the reform system. Hence we assumed that the pensions up to the minimum pensions [equal to the subsistence level, i.e. 1,050 € for a couple per month] are fully subject to taxation. By the method of the computation of net income this means that the disposable income of a couple is higher than the minimum pension. All pensions in excess of the minimum pensions are treated as if contributions for them had been paid out of post-tax income, so that only the imputed interest on the extra pension is subject to taxation. We assumed that 17% of the excess pensions are liable to income tax.

Furthermore, the reform concept should also renounce the business tax [*Gewerbesteuer*] and the corporations tax [*Körperschaftsteuer*]. Calculations showed us that we need the parameter values $\tau = 0.3$ and $\sigma = 0.35$ to warrant revenue neutrality. Table 13 [taken from Seidl et al. (2006, Table 2, 229)] shows us the aggregate streams of the status quo and of the reform proposal.

Table 13 shows in its upper part that aggregate net income (disposable income) is higher under the reform concept than under the status quo (EVS). This is partly due to alimonies received which are considered as (non-taxable) income under the reform concept, but not under the status quo (EVS). Partly it is due to the increase in employee incomes caused by transferring the former employers' share of social security contributions to the wage bills. As our table rests on micro-data, the social security contributions in the status quo (EVS) do not include the employers' share of social security contributions. Note that income tax revenue in the status quo is somewhat higher than according to the financial statistics, because child benefits, housing premiums, and investment premiums are deducted from aggregate income tax revenue, whereas the respective items form part of income under the EVS approach, which means that the income tax as paid by the individuals is not reduced by these items.

In its lower part, Table 13 assumes, first, that income tax revenue and social security contributions [inclusive of the employers' share of social security contributions under the status quo (EVS)] are used to finance social expenses.[57] This gives a deficit of 39.5 billion € for the status quo as compared to a surplus of 7.9 billion € for the reform proposal. Since the reform proposal provides for renouncement of the business tax and the corporation tax, a good basis for comparing the financial effects of both systems is to assume that the revenues of the business tax and the corporation tax are used to cover the deficit under the status quo (EVS). This leads to a surplus just a bit smaller than the surplus under the reform concept. However, the reform concept – since it renounces business and corporation taxes – leaves 46.5 billion € more purchasing power in the private sector.

Table 13 conveys also an impression of the tremendous redistribution of incomes accomplished by the reform proposal (Guideline 8). The TFT collects 30% of all domestic incomes from all income strata, which can, under the reform proposal, rely on a much broader tax base. Moreover, the reform proposal does away with all items which are currently tax deductible, which also broadens the tax base. The social security contributions comprise also the employers' share under the reform concept and are, taking both parts together, a bit higher than under the status quo (in particular for the contributions to old age pensions). The social security contributions, too, are collected from all income strata. Table 13 shows a large component offsetting these payments, viz. the social compensation (net social component) amounting to 434.9 billion €. This amount goes wholly in the direction of the low income strata to alleviate their burden of social security contributions and to allow them to cash in their subsistence incomes.

Table 14 lists the social security expenses as taken from the current German statistics of social security (most recent entries from various sources). Note, first, that many items have no equivalents under the reform proposal because the social compensation covers many social security expenses which figure as separate payments under the status quo. Old age social security which is currently covered by some special systems (in particular civil servants and some professionals) is exempt from general old age security. These expenses are not included in Table 14. However, private health insurance is abrogated and transferred into social health insurance. This means higher revenue of social health insurance contributions under the reform regime. The same applies to civil servants' health assistance. Concerning social welfare, it might be that not all current items can be replaced by the compensation brought about by the reform. Unfortunately, we have no exact data to estimate that.

[57] These data are taken from the social security statistics and are enumerated in Table 14 [taken from Seidl et al. (2006, Table 3, 231)].

As we already concluded from the aggregate data in Table 13, the reform proposal has considerable distributional effects. Tables 15–18 show the aggregate post-tax and post-social-compensation incomes [i.e., disposable incomes] and their frequencies for various disposable income brackets [taken from Seidl et al. (2006, 233–237)]. Table 15 shows the situation for Germany as a whole, Tables 16–18 for three household types. Our micro-simulation results show that the number of households with annual disposable incomes between 20,000 € and 50,000 € increases under the reform proposal, whereas the number of households in all other income strata (except for the very highest incomes) decreases. This indicates substantial income redistribution from the upper income strata in the direction of the low income strata which pushes the more extreme income strata at the lower and the upper ends to the middle income strata.

Going into greater detail, Table 19 [taken from Seidl et al. (2006, 238–239)] shows us that double-earners are the losers of the reform, as are those in the 45–64 age groups, possibly because of their higher incomes. The winners of the reform are unmarried couples and households with children. For all groupings of households we see income inequality, as measured by the Theil and Gini inequality indices, decreasing for all income intervals: the Theil coefficients diminish partly by up to one half, the Gini coefficients diminish by up to one third. For instance, for Germany as a whole the Theil coefficient diminishes from 0.1832 (status quo) to 0.1145 (reform proposal), and the Gini coefficient diminishes from 0.32759 to 0.2587. Hence, Tables 15–19 demonstrate that the proposed reform strongly conforms to Guideline 2: the middle and the lower income strata gain and the distribution of disposable incomes becomes more equal, both for Germany as a whole and for all disposable-income cohorts.

If we make model calculations of the tax burden of the reform proposal as compared with the status quo, our results, a part of which is presented in Graphs 20–27 [taken from Seidl et al. (2006, 242–251)], show that virtually all household types gain under the reform proposal. At first sight this seems to be at variance with the result as derived from EVS that there are winners and losers of the reform. This is due to the fact that higher income strata enjoy considerable fringe benefits in taxation under the status quo. The reform proposal repeals the fringe benefits in taxation to the well-off taxpayers. This means that, although they have to face a higher tax burden under the reform proposal, they would have had to pay less taxes under the reform proposal, had their tax base been unaffected by fringe benefits in taxation. This effect is caused by the elimination of fringe benefits of taxation under the reform proposal. In other words, vertical equity is given more attention by the reform proposal. Note that this means that the higher income strata have to face a higher average and a lower marginal burden of impost as compared with the status quo. This works in the direction of higher work incentives for highly productive income earners (Guideline 4). We may assume that the incomes of this group of income earners are already beyond the incomes of the median voter group, so that political sustainability of the reform proposal is not endangered.

The Graphs 20–27 of the burden of taxation for different household types show also how the two parameters of the reform proposal govern the tax-cum-transfer system: higher τ shifts the net income curve down and the curve of average burden up; higher σ makes the tax-cum-transfer system more progressive for the lower and middle income strata. We expect that incentive effects, once the reform proposal is in force, will raise sufficient additional tax revenue so that both τ and σ can be reduced in the not so distant future.

Recall that these computations were only made for the social component **E** which implies that the expenditures for investment in human capital, i.e. fees for kindergarten, school, and university tuition, should be continued to be paid out of public funds, which is the situation in Germany right now (with the exception of moderate fees for university tuition which are collected by some German states). This compromise had to be made just to make the results of the computations more comparable to the status quo. However, the social component **N** would reinforce the above results in the following way: Because the well-to-do would have to pay for the education of their offspring, both the tax rate τ and the self-retention ratio σ can be decreased which lowers the tax burden and reduces progression of the tax-cum-transfer system for the lower and middle income strata. On the other hand, the tax-cum-transfer system would become more progressive for the higher income strata, which supports political sustainability. The distribution of disposable incomes would become still more equal under the social component **N**.

6.5. The Reform Proposal and FT Systems – A Comparison

Although the reform proposal has the basic features of a TFT and allows widespread taxation at source, in its joint operation with the social component its graph looks like a two-tier linear tax as it was proposed by Friedman (1962)[58] and which is superficially also similar to the conventional FT proposals. Now, what is the difference?

Basically the reform proposal is composed of a branch made up by a TFT proper and the social security contributions and the investment in human capital which has to be paid by the well-off, and of another branch for the less well-off, who receive payments from the social compensation. For a FT, the second tier starts after the tax threshold or personal allowance $\alpha > 0$. The first tier results from the continuation of the tax schedule trough α, whose cutting point

[58] Compare also Atkinson (1995).

of the ordinate marks Friedman's negative income tax. It is intended to replace all welfare payments. However, a FT of this kind leaves the well-off with a rather low tax burden.

In contrast to that, the second tier of the reform proposal does not even start at the origin, but due to the need to bear both the social security contributions and the human capital investments, the linear tax schedule is shifted up and starts from the ordinate at precisely the point which comprises the cost of the social security contributions and the human capital investments (SSC+HCI). The first tier starts at the negative point on the ordinate marked by the subsistence level E and increases at the slope $(\tau + \sigma)$ until this (first) tier cuts the second tier. Thus, the whole tax-cum-transfer schedule starts at the negative intercept E on the ordinate, increases at the slope $(\tau + \sigma)$ until it meets the second tier, and, after the kink, continues with the slope τ of the second tier (Graph 28). That is, after the tax-cum-transfer schedule crossed the abscissa, taxpayers have increasingly to bear (SSC+HCI) until they have to bear the whole of (SSC+HCI). Only then they can benefit from the low burden τ of the marginal tax rate only. Notice, therefore, that the second tier of the whole tax-cum-transfer schedule is much higher than under alternative FT reform proposals. This not only warrants higher tax revenue to finance the social compensation, but also gives rise to considerably less inequality of disposable incomes. This caused the results as shown in Tables 15–19.

6.6. Problems of the Reform Proposal

The above demonstration has shown that the reform proposal has considerable advantages and would contribute to making the German tax and social security system more efficient, reduce inequality of disposable incomes, increase GDP per capita, reduce deadweight loss of imposts, eliminate tax arbitrage, make the impost system much simpler, increase compliance, and foster work incentives. However, it may also lead to some problems which have to be closely controlled by appropriate measures when this reform proposal is to be introduced.

First, the reform proposal has a considerable marginal burden of taxation and withdrawal of the social compensation for the lower income strata. Households with a positive social compensation, $S - A - \sigma B^*$, have to face a marginal burden of 65% on each extra euro earned. This burden consists of a 30% tax rate and a 35% withdrawal rate of the social component. Although this is much lower than the going German marginal taxation and withdrawal rates for the low income strata, which reaches between 85% and 100%, the marginal rate of 65% is still rather high. On the other hand, the system provides an incentive to gain income in excess of the social compensation, $S - A - \sigma B^*$, because then households are attracted by the low marginal burden of only 30% on each extra euro. Higher income is, thus, highly desired because it allows overcoming the marginal burden of 65% in favor of merely 30%.

Furthermore, the social compensation may entice firms to wage sweating. As part of employee disposable income is paid out of their social compensation, firms may exert pressure on unskilled labor referring to their social compensation as a partial substitute for low wages. The social compensation may also undermine impost compliance. Firms may offer their employees say some 50% of their hourly wage for overtime work outside the official wage bill. Employees might agree to that, because they get a disposable income of 50% of the official hourly wage instead of 35% as under the official impost system. If a firm engages in the shadow economy, it may well afford such payments outside its accounting system.

There is also the general problem that generous welfare systems attract poor and low-skilled people from all over the world. This reform proposal forms no exception. As Germany, like other countries as well, is unable to lift all poor and unskilled people from all over the world onto a human standard of living, safeguards have to be taken to confine the proposed tax-cum-transfer system to long-term residents in Germany. This precaution, too, will raise considerable problems.

7. Conclusion

Germany is presently in a difficult situation. Taxes and labor costs are too high. The tax system is too complicated. Consequently, many German firms have outsourced activities to low-wage and low-tax countries. Germany's indirect taxes had experienced several increases. The reforms of direct taxes are tinged with the impression of window-dressing.

Virtually all German tax reform proposals either fail to raise the necessary tax revenue or make the majority of taxpayers worse off. The proposed introduction of a dual income tax will give rise to problems of tax arbitrage und will further complicate the tax system. The reform proposals of social security are too demanding concerning the services and raise insufficient contributions. The present reform of health insurance was even termed a monster by the Council of Economic Advisors.

Flat taxes were introduced as reform options by many countries, mostly in Eastern Europe, but recently also in Iceland. We considered the FT shapes, the FT community, and analyzed FT systems.

Then we presented a reform proposal for Germany consisting of a TFT supported by a social component. The social component provides that those income earners whose incomes are insufficient for covering their subsistence needs, their social security contributions and the education of their children, are entitled to public subsistence. Income insufficiency is calibrated as a share σ of worldwide

income. If these expenses are higher, the difference is granted as a social compensation. In other words, this means that upper income strata have to shoulder their own expenses for subsistence, for social security, and for human capital investment for their children. In return for that, they are compensated with lower taxes. Micro-simulations for Germany show that this reform proposal can be financed at a tax rate of 30% and at a self-retention ratio σ of 35%. Moreover, it would allow relinquishing both the business tax and the corporation tax and leaving the equivalent of 46.5 billion € in the private sector. On top of that, the reform proposal makes the majority of taxpayers better off and the distribution of disposable incomes considerably more equal.

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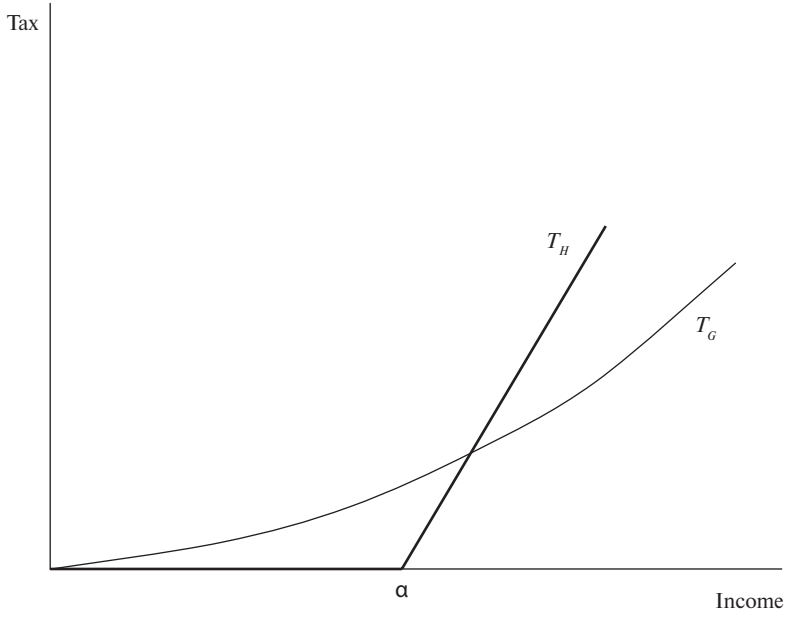
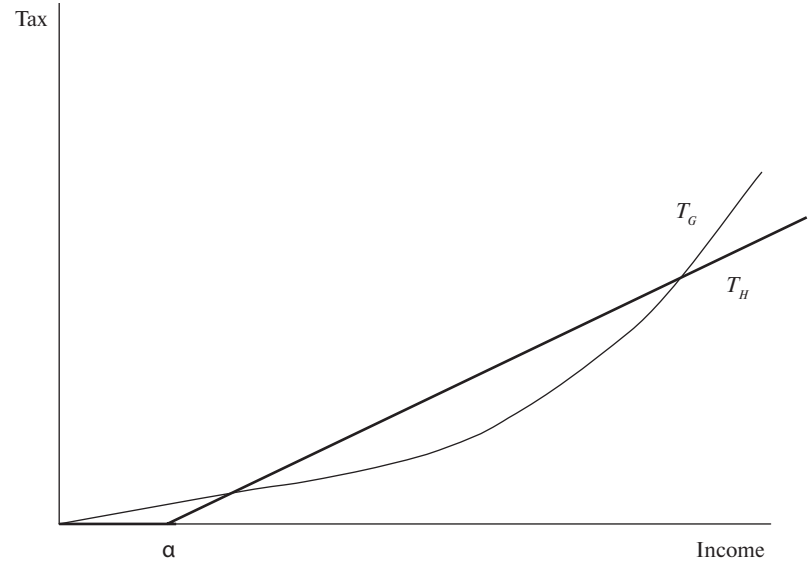
Appendix

Tables and Graphs



Graph 1: T_H crosses T_G once from below



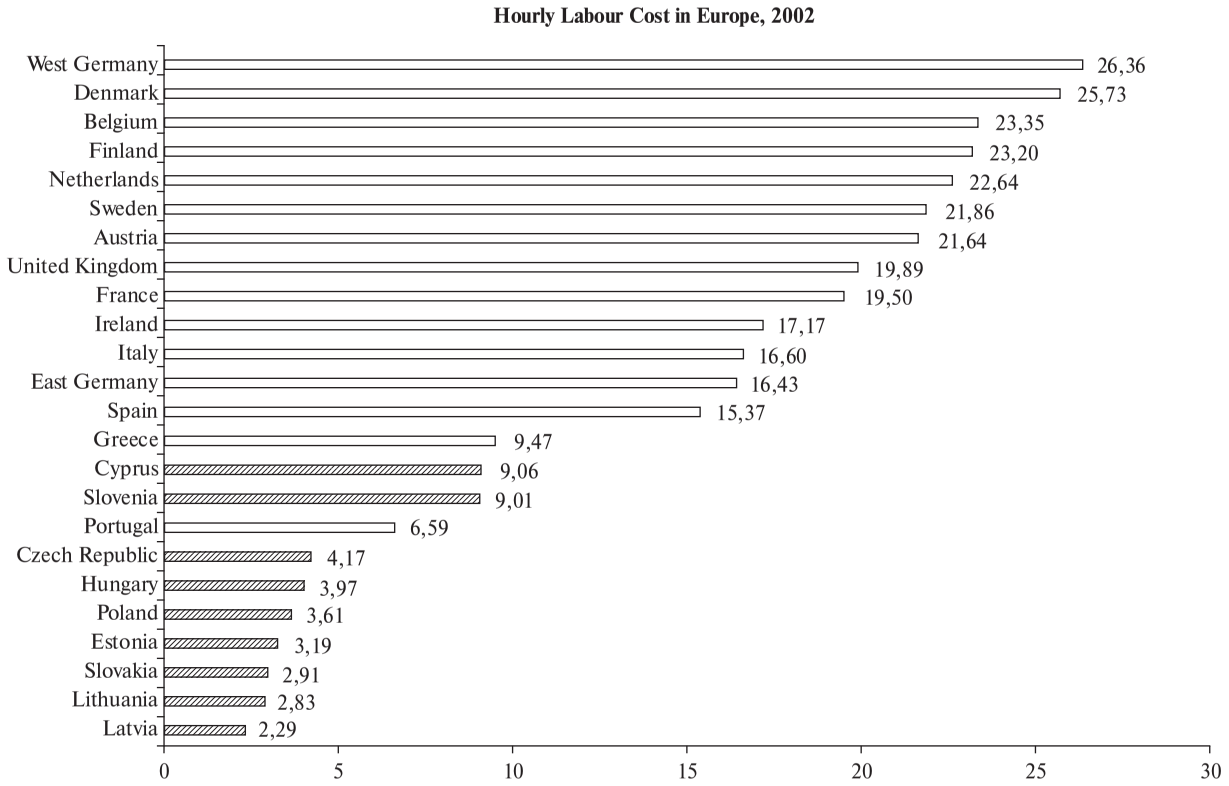
Graph 2: T_H crosses T_G twice

Table 3: Labor Cost per Full-Employed Worker/Employee in Productive Sectors (Germany West)

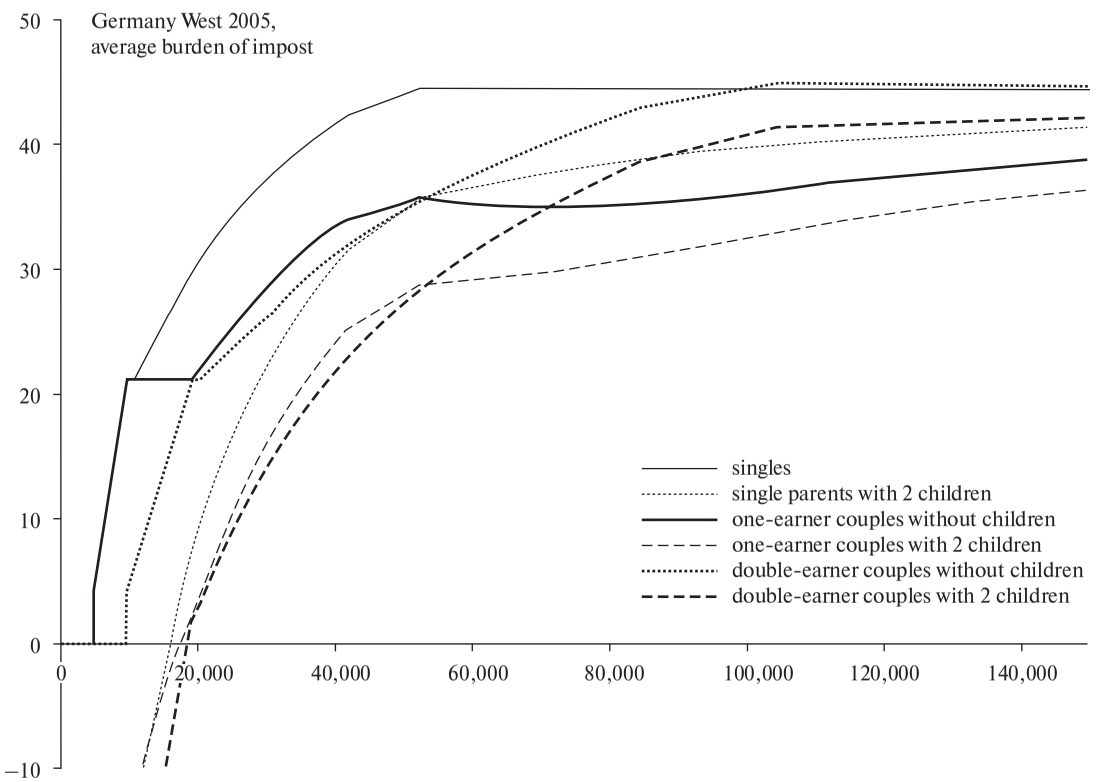
Category	Workers	Employees	Average
Gross wage/salary	56.0	56.8	56.4
Bonuses	7.2	8.7	7.9
Costs of holidays	13.5	12.2	12.9
Employers' share of social security contributions	19.6	18.8	19.3
Other extra costs	3.7	3.4	3.5
Labor costs per hour in €	25.10	37.28	29.52

Lines 2–6 in percentages, line 7 in €.
Source: Statistisches Bundesamt 2003.

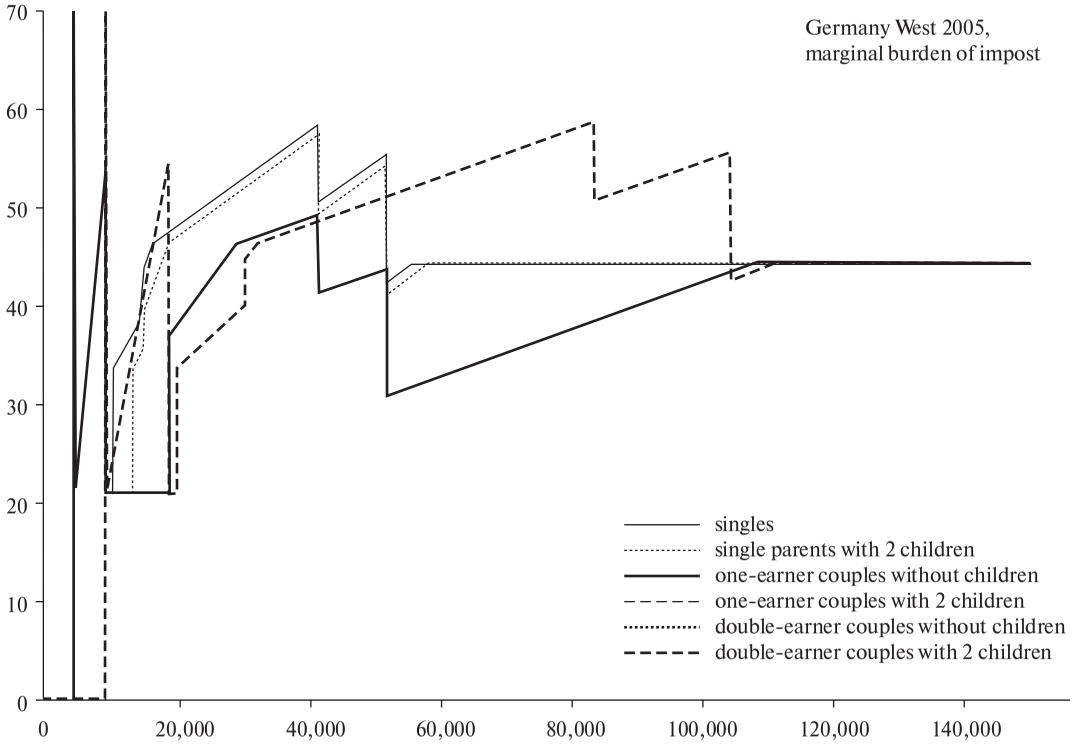
Table 4: Hourly Labor Cost in Europe 2002



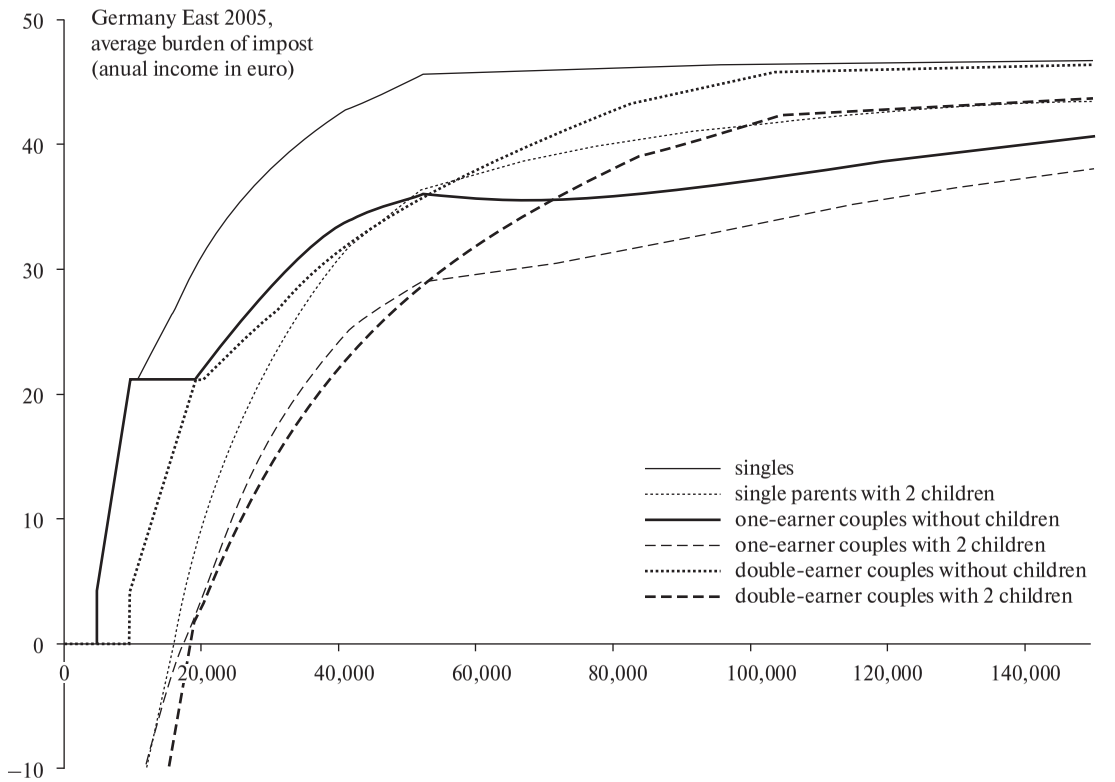
Source: Cologne Institute for Business Research: Deutschland in Zahlen 2004, Table 12.13; East Germany: Ifo Institute calculations.



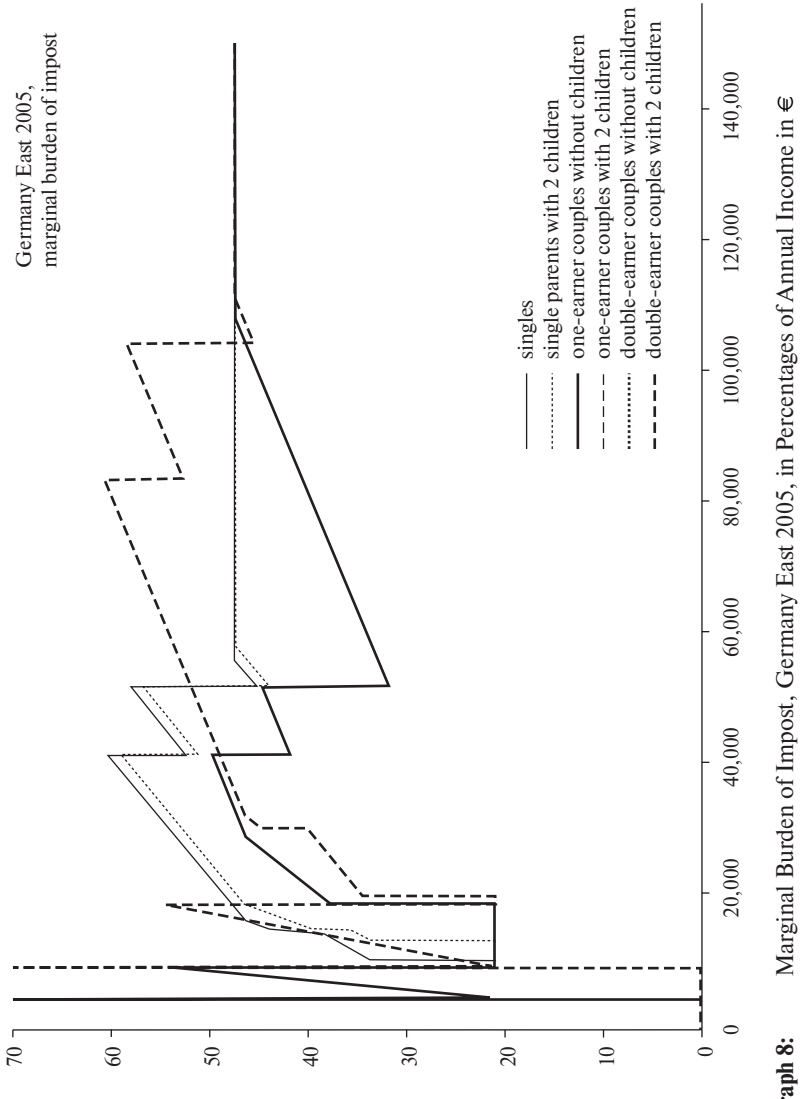
Graph 5: Average Burden of Impost, Germany West 2005, in Percentages of Annual Income in €



Graph 6: Marginal Burden of Impost, Germany West 2005, in Percentages of Annual Income in €



Graph 7: Average Burden of Impost, Germany East 2005, in Percentages of Annual Income in €



Graph 8:

Table 9: Tax Burden on Profits of Joint Stock Companies in the New EU Member States and in Germany

Country	Effective nominal tax rates	Effective average tax rates	Eff. ∅ tax rates + tax reliefs
Lithuania	15.0%	12.82%	6.65%
Latvia	15.0%	14.35%	7.64%
Estonia	26.0%	22.52%	16.83%
Malta	35.0%	32.81%	24.64%
Poland	19.0%	18.02%	17.34%
Slovakia	19.0%	16.67%	8.45%
Slovenia	25.0%	21.6%	19.44%
Czech Republic	28.0%	24.73%	16.3%
Hungary	17.6%	18.08%	12.45%
Cyprus	15.0%	14.52%	13.58%
Germany	39.35%	36.01%	36.01%

Source: Jacobs et al., Company Taxation in the New EU Member States, Frankfurt and Mannheim 2004.

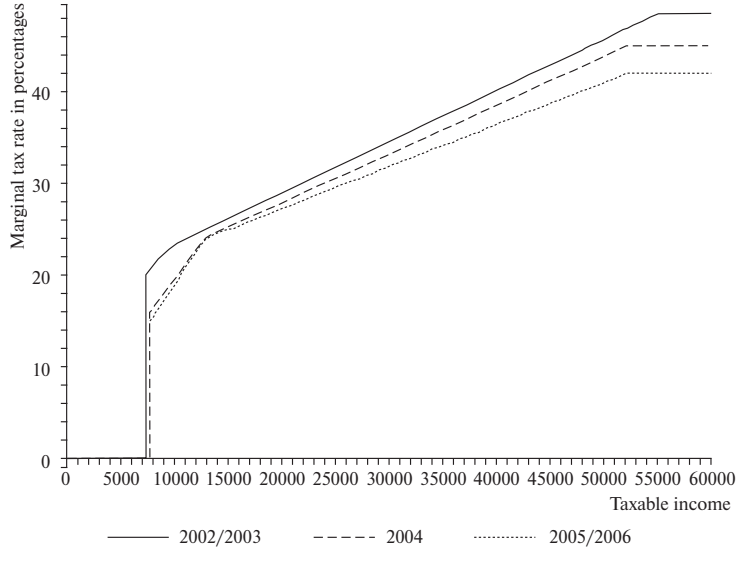
Table 10: Social welfare [Arbeitslosengeld II] (inclusive of lodging subsidy; in €; Germany West/East; children 7–14 years)

Household	Base rate	Lodg. Subs.	Sum
Single	345/331	320/250	665/581
Single 1 ch	539/569	384/300	977/869
Single 2 ch	883/847	448/350	1331/1197
Single 3 ch	1090/1046	512/400	1602/1446
Couple no ch	621/596	448/350	1069/946
Couple 1 ch	828/794	512/400	1340/1194
Couple 2 ch	1035/993	576/450	1611/1443
Couple 3 ch	1242/1192	640/500	1882/1691

Table 11: Social Welfare in Percentages of Disposable Income for 2001. Germany West above, Germany East below

	Single male	Couple no ch	Couple with			Single parent with		
			1 ch	2 ch	3 ch	1 ch	2 ch	3 ch
Prod. Sect.	41.7	56.7	68.5	76.0	81.5	70.0	84.3	86.1
	46.0	65.0	75.1	80.0	85.0	74.2	85.0	87.4
Text. Ind.	46.9	63.9	76.4	80.5	85.9	78.6	88.2	91.3
	57.5	84.6	93.0	96.8	100.5	85.3	96.2	97.4
Trade	44.2	60.3	72.4	78.1	83.6	78.3	88.1	91.1
	46.6	65.8	75.6	80.7	85.5	74.5	85.3	87.6
Craft	46.0	62.7	75.1	79.7	85.2	80.3	89.2	92.2
	50.6	73.1	83.2	87.6	91.9	85.8	96.7	97.8
Agric.	50.1	68.6	81.5	83.6	88.9	80.3	89.2	92.2
	49.6	71.2	81.8	86.3	90.7	75.3	86.3	88.6
Gard.	46.4	63.2	75.6	80.1	85.5	78.9	88.5	91.5
	58.0	84.9	93.3	97.1	100.9	92.4	103.3	103.8

Source: A. Boss, Sozialhilfe, Lohnabstand und Leistungsanreize, Springer-Verlag, Berlin 2002 (compiled from various tables).



Graph 12: Recent Reforms of the German Marginal Income Tax Schedule

Table 13: Aggregate Streams of Status Quo and Reform Proposal in Billion €

Aggregate	Status quo (EVS)	Reform $\tau = 30$, $\sigma = 35$
Gross income[a]	1,555.7	1,628.7
./. Income tax	165.0	430.0
./. Social security contributions[b]	211.0	429.4
+Social compensation		434.9
Net income	**1,179.7**	**1,204.2**
Financing social security		
Income tax + gross social security contributions [for reform: – social compensation]	541.0	424.5
./. Social expenses	580.5	416.6
Balance	–39.5	7.9
Business tax	30.0	–
Corporation tax	16.5	–
Surplus	**7.0**	**7.9**

[a] Inclusive of transfer income, distributed profits, exclusive non-distributed profits; for reform: inclusive of employers' share of social security contributions and inclusive of alimonies and gifts received.

[b] For the status quo: exclusive of employers' share of social security contributions and inclusive of premiums for private health insurance.

Table 14: Social Security Expenses in Billion €

Category	Status quo	Reform
Old age pensions (exclusive of civil servants)	251.6	188.7[a]
Agricultural social security	3.3	3.3
Social health insurance	145.1	165.1[b]
Civil servants' health assistance	9.9	9.9
Social nursing insurance	17.7	17.7
Labor market expenses	74.5	31.9[c]
Family (child) benefits	36.1	–
Social welfare[d]	26.4	–
Social lodging allowance	5.2	–
Social education allowance	3.6	–
Training & higher education allowance	1.5	–
Indemnities	6.6	–
Social security expenses	580.5	416.6

[a] Old age pension can be reduced by some 25% because of social compensation of the reform.
[b] Inclusive of expenditure of private health insurance companies.
[c] Unemployment benefit and related expenses; no unemployment help.
[d] Not all rehabilitation expenses for disabled persons might be covered by the reform.

Table 15: Aggregate Disposable Incomes and Numbers of Households for Household Disposable-Income Groups for Germany

Germany: net income group	Status quo		Reform	
	net income [billion €]	number of households	net income [billion €]	number of households
0–5,000	0.46	156,047	0.00	705
5,000–10,000	20.58	2,486,543	5.99	681,639
10,000–15,000	63.53	5,009,154	39.05	2,953,634
15,000–20,000	106.20	6,093,477	107.00	6,068,451
20,000–25,000	121.07	5,393,422	159.81	7,130,253
25,000–30,000	132.21	4,816,469	153.73	5,618,082
30,000–35,000	128.36	3,965,424	154.45	4,758,721
35,000–40,000	115.19	3,079,790	151.22	4,045,523
40,000–45,000	93.41	2,205,849	124.77	2,949,917
45,000–50,000	75.95	1,605,448	84.39	1,784,652
50,000–55,000	59.37	1,132,674	57.36	1,096,913
55,000–60,000	46.14	804,711	39.29	685,334
60,000–65,000	38.35	614,868	25.31	405,274
65,000–70,000	27.57	409,476	18.11	269,252
70,000–75,000	23.53	324,912	14.49	200,191
75,000–100,000	63.80	747,335	36.14	424,426
100,000–150,000	41.66	353,022	23.07	192,350
150,000–200,000	16.17	95,070	8.41	50,032
200,000–250,000	5.69	26,176	0.79	3,529
from 250,000	0.38	1,256	0.84	2,245
sum	1,179.62	39,321,123	1,204.20	39,321,123

Table 16: Aggregate Disposable Incomes and Numbers of Households for Household Disposable-Income Groups for Single Parents with two or more Children

single parents with 2 or more children: net income group	Status quo		Reform	
	net income [billion €]	number of households	net income [billion €]	number of households
0–5,000	0.00	358	0.00	0
5,000–10,000	0.04	4,740	0.00	0
10,000–15,000	0.60	44,375	0.00	0
15,000–20,000	2.59	148,884	1.85	106,175
20,000–25,000	3.56	159,973	3.35	146,472
25,000–30,000	2.35	86,064	3.71	135,810
30,000–35,000	1.57	48,319	3.17	98,042
35,000–40,000	1.31	35,077	1.64	43,965
40,000–45,000	0.59	14,016	1.24	29,301
45,000–50,000	0.65	13,793	0.97	20,419
50,000–55,000	0.43	8,227	0.51	9,948
55,000–60,000	0.41	7,126	0.08	1,447
60,000–65,000	0.33	5,252	0.11	1,683
65,000–70,000	0.68	10,185	0.13	1,842
70,000–75,000	0.10	1,393	0.05	727
75,000–100,000	0.73	8,762	0.08	991
100,000–150,000	0.03	278	0.08	544
150,000–200,000	0.09	544	0.04	245
200,000–250,000	0.06	245	0.00	0
from 250,000	0.00	0	0.00	0
sum	16.13	597,611	17.01	597,611

Table 17: Aggregate Disposable Incomes and Numbers of Households for Household Disposable-Income Groups for Double-Earner Couples with two Children

double-earner couples with 2 children: net income group	Status quo		Reform	
	net income [billion €]	number of households	net income [billion €]	number of households
0–5,000	0.00	1,577	0.00	0
5,000–10,000	0.03	4,313	0.00	0
10,000–15,000	0.10	7,898	0.00	0
15,000–20,000	0.38	21,911	0.00	0
20,000–25,000	2.55	112,144	0.58	24,462
25,000–30,000	7.55	272,570	1.47	51,965
30,000–35,000	13.68	421,220	11.03	335,320
35,000–40,000	15.26	407,722	21.38	568,973
40,000–45,000	12.75	300,999	23.58	556,386
45,000–50,000	10.82	228,869	16.73	353,511
50,000–55,000	8.20	156,646	11.55	221,063
55,000–60,000	7.97	138,381	8.28	144,590
60,000–65,000	6.29	100,661	3.99	64,016
65,000–70,000	4.50	66,908	2.77	41,259
70,000–75,000	3.83	52,981	1.65	22,823
75,000–100,000	9.32	109,013	4.76	55,881
100,000–150,000	6.09	51,625	3.26	26,318
150,000–200,000	2.34	13,883	0.74	4,662
200,000–250,000	0.56	2,544	0.14	636
from 250,000	0.00	0	0.00	0
sum	112.24	2,471,865	111.90	2,471,865

Table 18: Aggregate Disposable Incomes and Numbers of Households for Household Disposable-Income Groups for Double-Earner Couples without Children

double-earner couples without children net income group	Status quo		Reform	
	net income [billion €]	number of households	net income [billion €]	number of households
0–5,000	0.00	842	0.00	0
5,000–10,000	0.01	1,875	0.00	0
10,000–15,000	0.59	42,827	0.01	1,056
15,000–20,000	1.22	68,458	0.59	31,895
20,000–25,000	4.20	184,708	4.20	184,638
25,000–30,000	8.12	295,413	8.80	317,722
30,000–35,000	11.71	360,134	15.27	468,908
35,000–40,000	14.18	378,344	17.54	470,336
40,000–45,000	12.73	300,449	13.92	329,409
45,000–50,000	11.09	234,541	8.50	179,646
50,000–55,000	9.19	174,887	7.69	146,858
55,000–60,000	6.63	115,816	5.82	101,341
60,000–65,000	5.41	86,716	5.07	81,173
65,000–70,000	4.29	63,573	3.46	51,344
70,000–75,000	3.58	49,245	3.56	49,113
75,000–100,000	10.68	125,940	8.67	101,987
100,000–150,000	6.85	57,914	4.61	37,905
150,000–200,000	3.45	19,918	2.42	13,909
200,000–250,000	1.40	6,450	0.26	1,197
from 250,000	0.11	387	0.00	0
sum	115.43	2,568,437	110.39	2,568,437

Table 19: Avergage Incomes and Values of Inequalty Measures of Disposable Incomes for Various Household Types in Germany

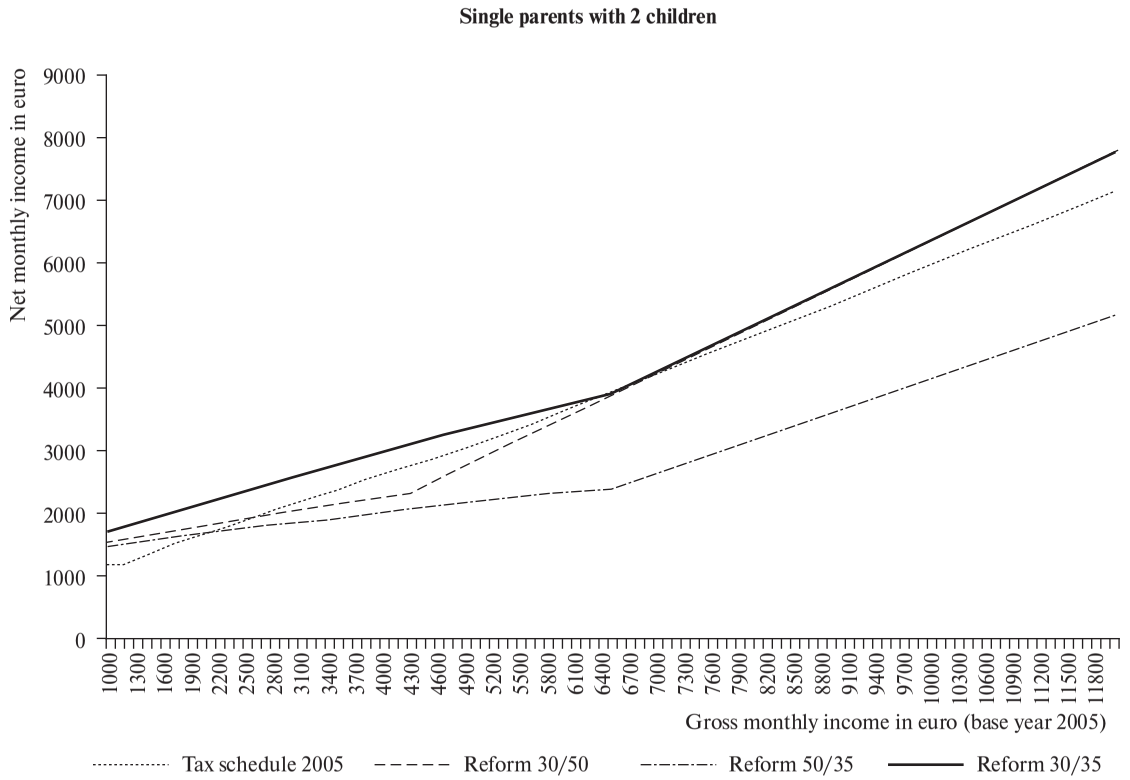
Households	average net income			Theil-measure			Gini-coefficient		
	EVS	reform		EVS	reform		EVS	reform	
Germany	29992	30624	+	0.1832	0.1145	+	0.32759	0.2587	
singles									
single women	17297	19656	+	0.1373	0.0684	+	0.27339	0.18838	+
single men	20614	21782	+	0.1889	0.1074	+	0.3229	0.24289	+
single parents with 1 children	22160	23699	+	0.1318	0.0758	+	0.25952	0.19499	+
single parents with 2 children	26982	28459	+	0.1156	0.056	+	0.25176	0.18039	+
couples									
without children, one-earner	29260	28535	–	0.1293	0.0658	+	0.26525	0.17779	+
without children, double-earner	44942	42978	–	0.1181	0.0902	+	0.25546	0.22127	+
1 child, one-earner	34341	34919	+	0.1117	0.0524	+	0.24824	0.16418	+
1 child, double-earner	42405	41877	–	0.0969	0.059	+	0.2311	0.167	+
2 children, one-earner	36718	38804	+	0.1012	0.04	+	0.23368	0.14016	+
2 children, double-earner	45371	45269	–	0.0936	0.0437	+	0.22785	0.14806	+
3 children, one-earner	40921	43237	+	0.0841	0.0329	+	0.21712	0.12686	+
3 children, double-earner	51776	50456	–	0.1188	0.0586	+	0.25155	0.16167	+

Table 19

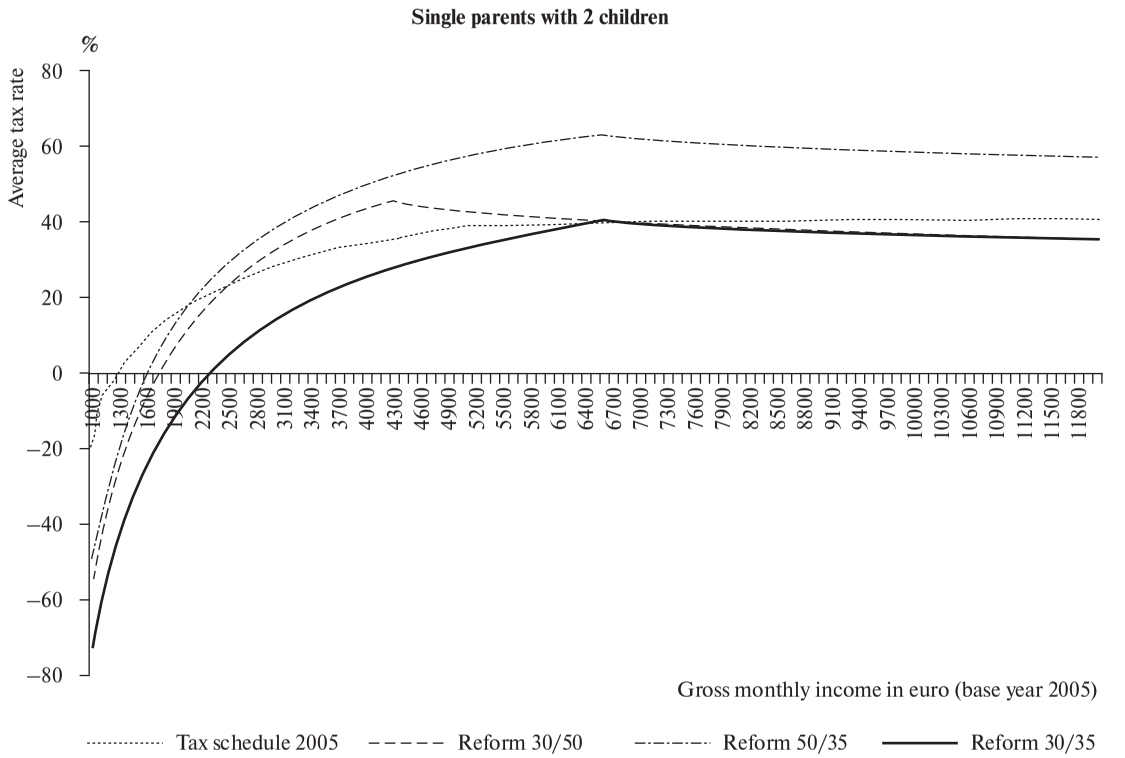
Households	average net income			Theil-measure			Gini-coefficient		
4 or more children, one-earner	44255	47258	+	0.1061	0.04	+	0.24218	0.14338	+
4 or more children, double-earner	55513	53848	–	0.1349	0.0533	+	0.27965	0.16491	+
other households	40152	39806	–	0.1246	0.074	+	0.27342	0.20919	+
singles									
without children, one-earner	27194	28819	+	0.1158	0.058	+	0.26073	0.18063	+
without children, double-earner	39689	39954	+	0.0856	0.0691	+	0.22284	0.19344	+
1 child, one-earner	27592	30754	+	0.1188	0.0647	+	0.23906	0.16144	+
1 child, double-earner	37823	38979	+	0.0885	0.0463	+	0.22433	0.15608	+
2 children, one-earner	30166	35792	+	0.0826	0.0274	+	0.20698	0.12416	+
2 children, double-earner	41971	43377	+	0.0761	0.0328	+	0.21521	0.14268	+
3 or more children, one-earner	30105	37105	+	0.0645	0.0217	+	0.19862	0.11773	+
3 or more children, double-earner	57855	56566	–	0.1441	0.0705	+	0.26254	0.17791	+

Table 19

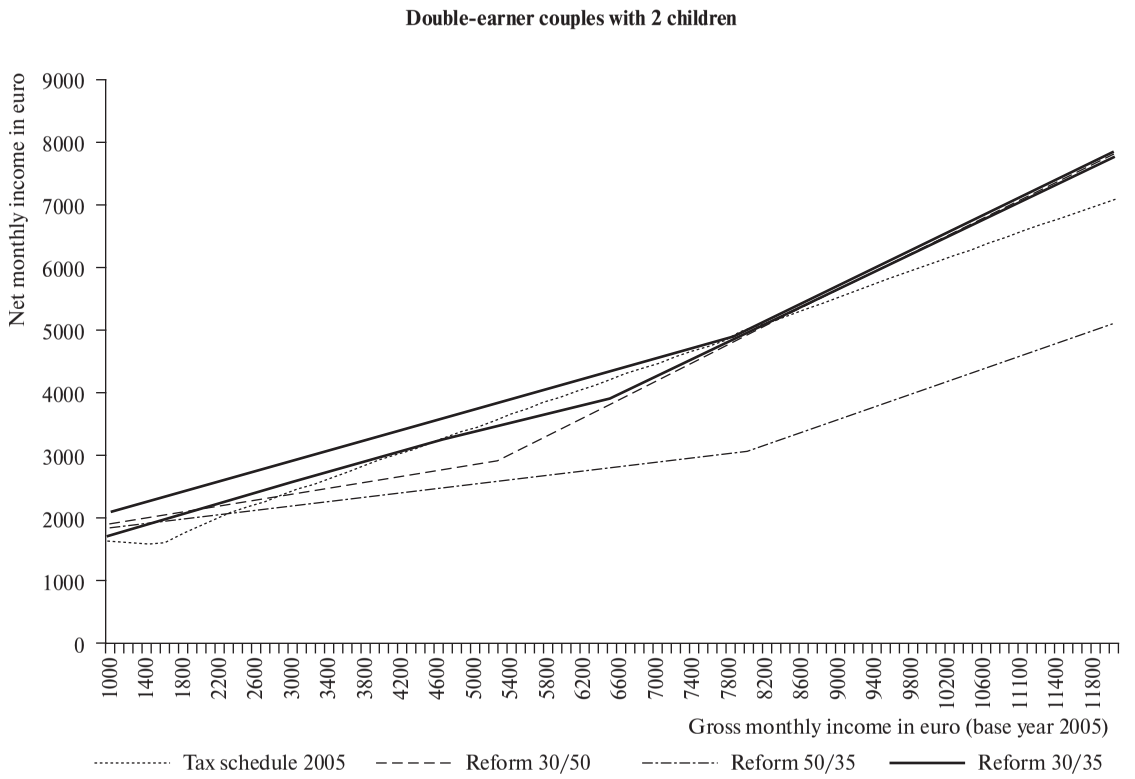
Households	average net income			Theil-measure			Gini-coefficient		
Age cohorts									
–24	18527	21023	+	0.1734	0.1039	+	0.32385	0.25094	+
25–29	25216	26780	+	0.1416	0.0874	+	0.29333	0.23218	+
30–34	30069	31362	+	0.1393	0.0927	+	0.2839	0.23283	+
35–39	32416	33714	+	0.1305	0.0855	+	0.27556	0.22257	+
40–44	34696	35572	+	0.1542	0.0984	+	0.30205	0.2402	+
45–49	37638	37297	–	0.1657	0.1059	+	0.31118	0.24808	+
50–54	37913	36947	–	0.185	0.1311	+	0.33053	0.27175	+
55–59	33865	32894	–	0.2111	0.1403	+	0.34913	0.28263	+
60–64	28635	28459	–	0.1919	0.1132	+	0.32881	0.24191	+
65–69	25503	25826	+	0.1624	0.0784	+	0.30393	0.20525	+
70–	21663	23396	+	0.1555	0.0696	+	0.29875	0.19579	+



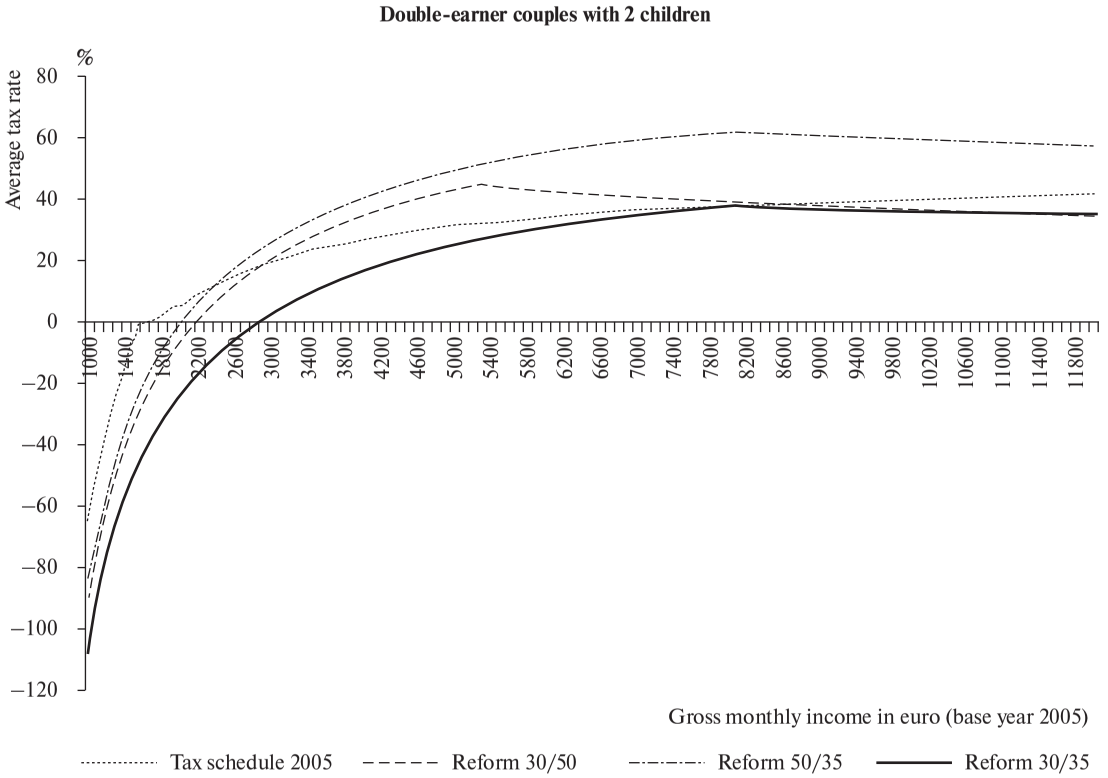
Graph 20: Disposable Monthly Incomes as a Function of Gross Monthly Incomes: Single Parents with two Children



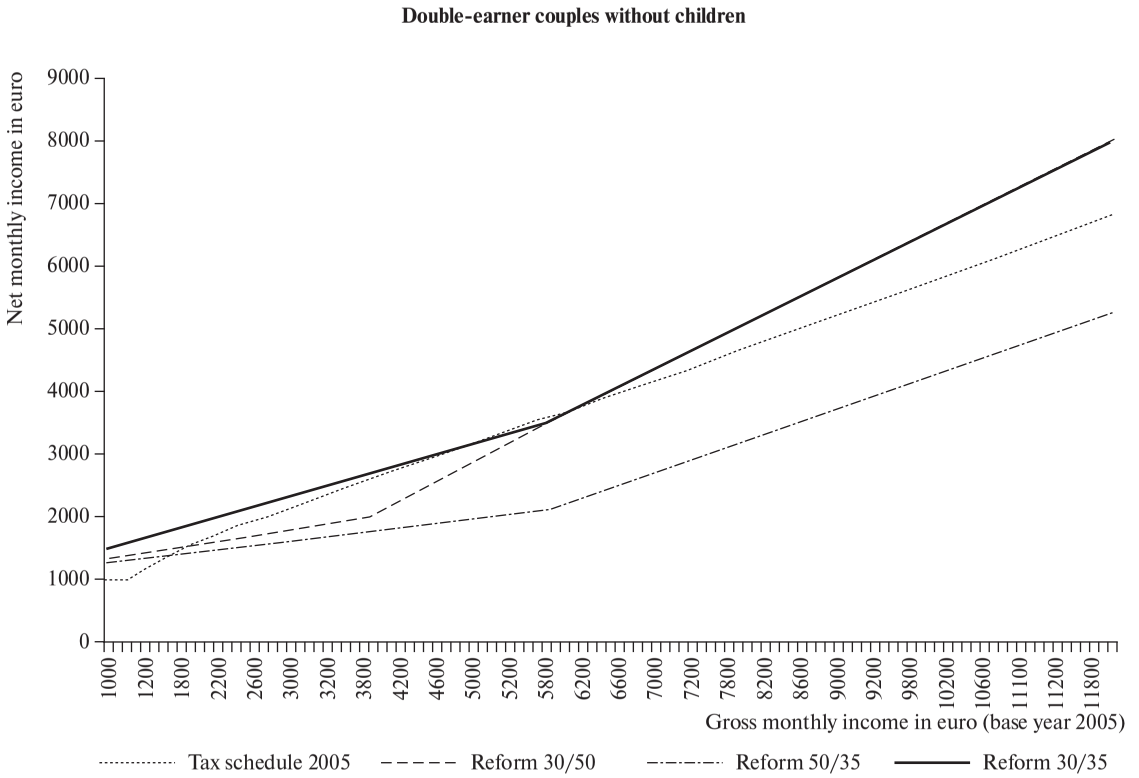
Graph 21: Average Impost Rate as a Function of Gross Monthly Incomes: Single Parents with two Children



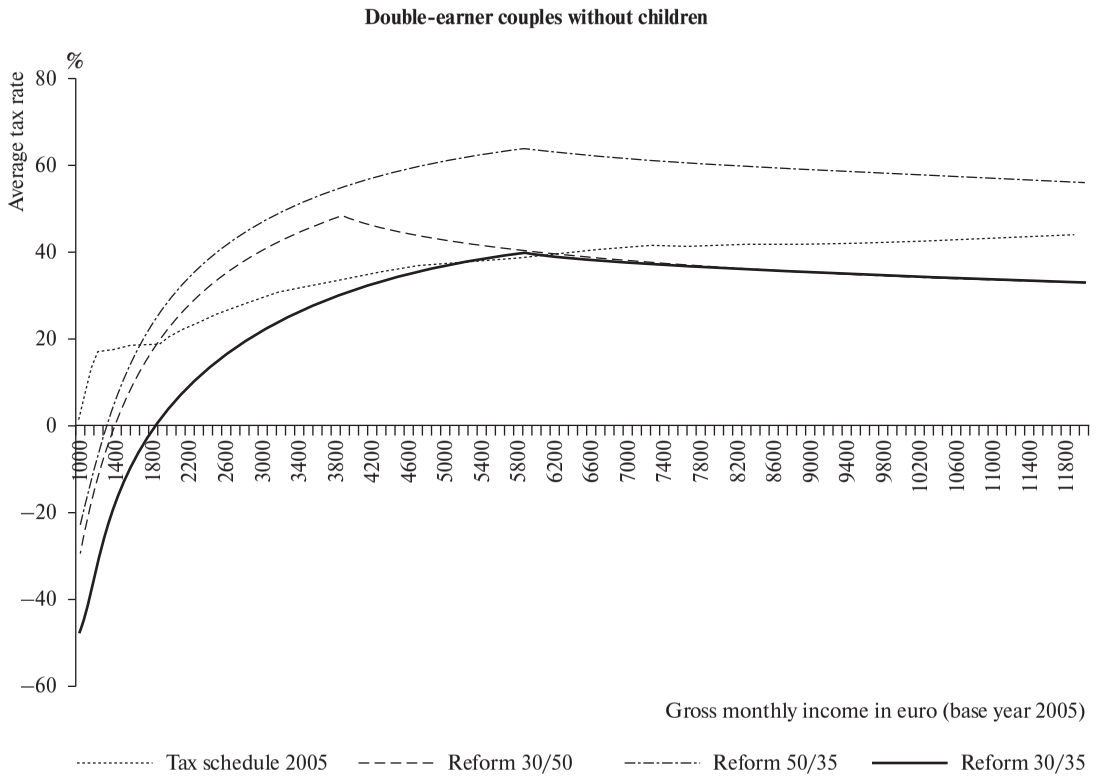
Graph 22: Disposable Monthly Incomes as a Function of Gross Monthly Incomes: Doub-le-Earner Couples with two Children



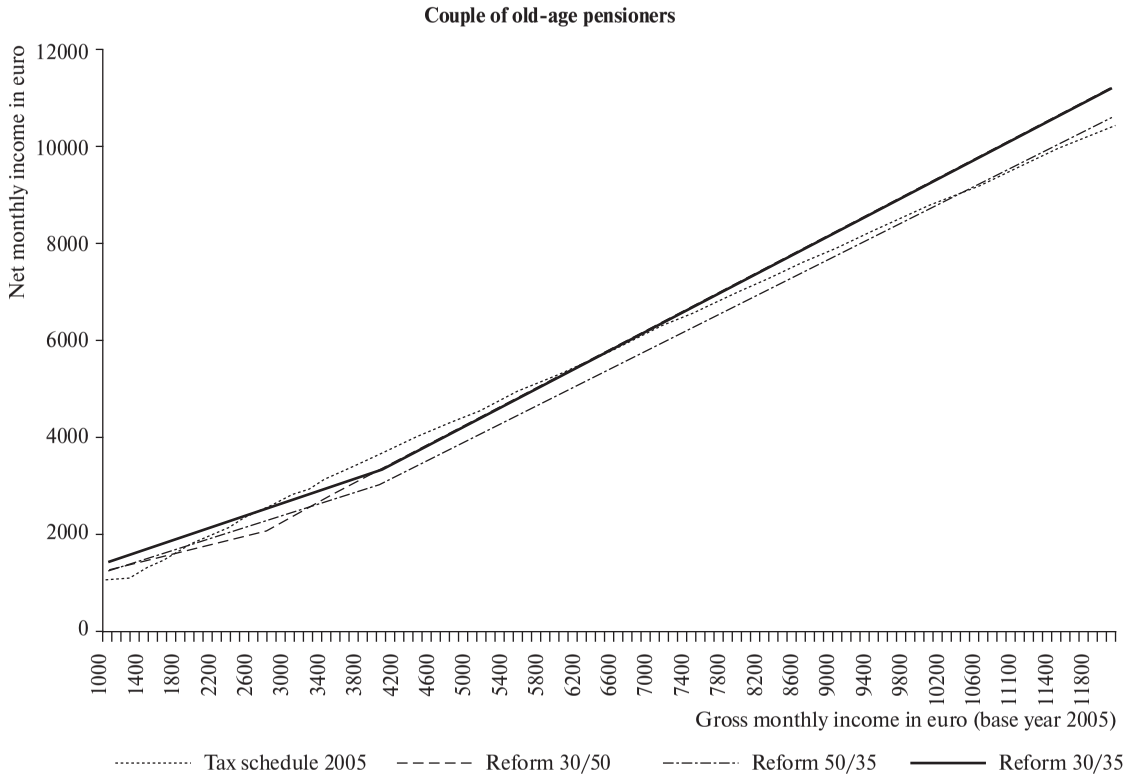
Graph 23: Average Impost Rate as a Function of Gross Monthly Incomes: Double-Earner Couples with two Children



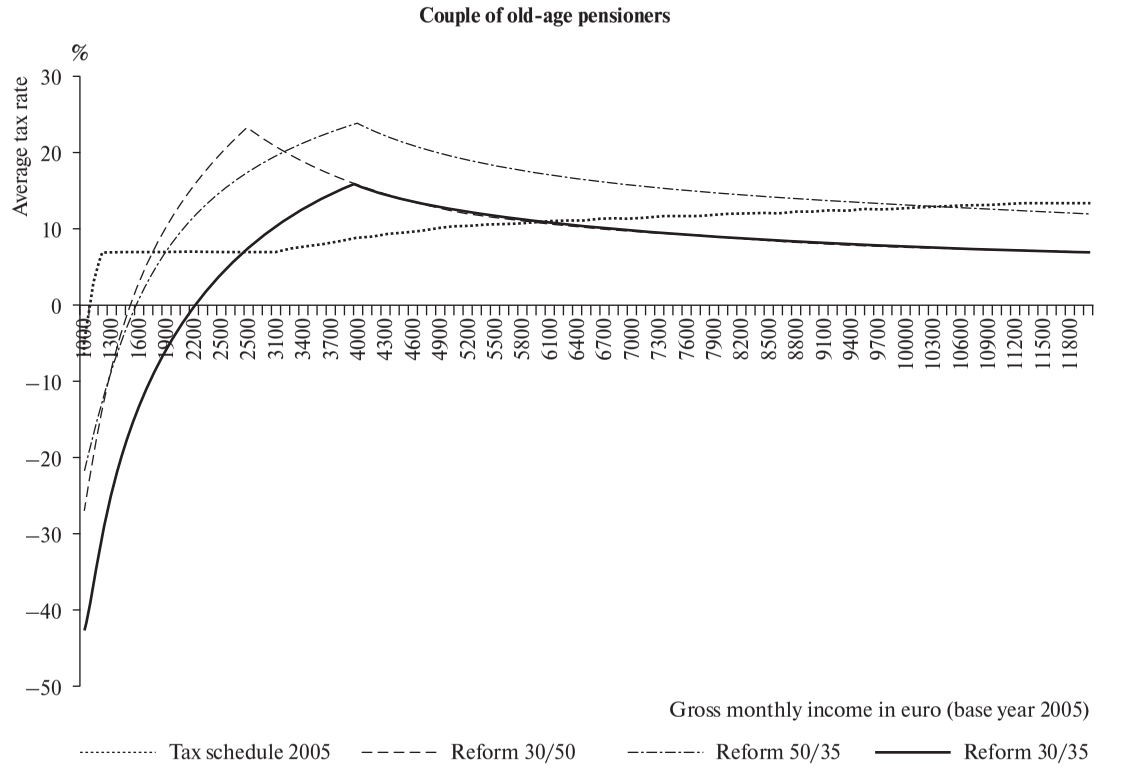
Graph 24: Disposable Monthly Incomes as a Function of Gross Monthly Incomes: Doub-le-Earner Couples without Children



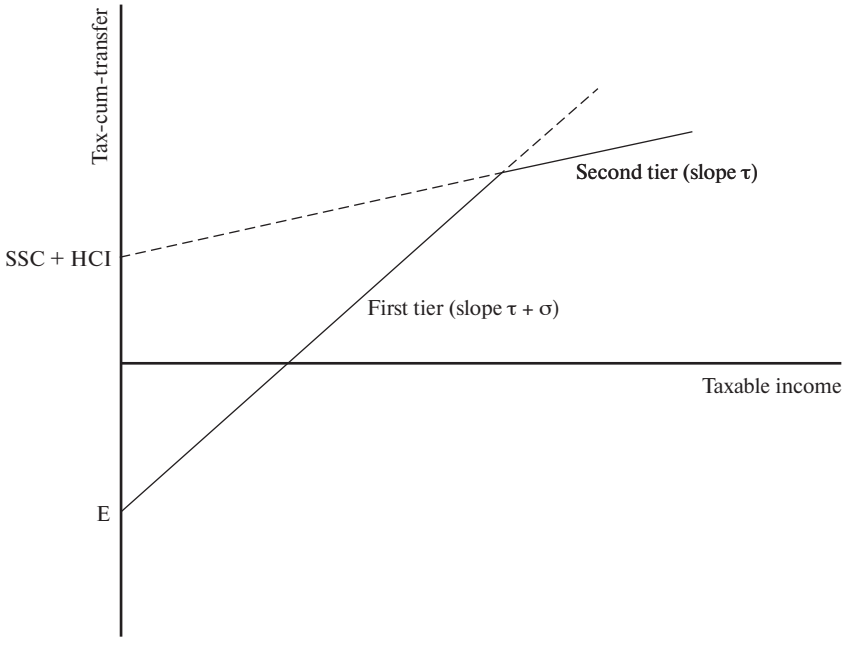
Graph 25: Average Impost Rate as a Function of Gross Monthly Incomes: Double-Earner Couples without Children



Graph 26: Disposable Monthly Incomes as a Function of Gross Monthly Incomes: Couples of Old-Age Pensioners



Graph 27: Average Impost Rate as a Function of Gross Monthly Incomes: Couples of Old-Age Pensioners



Graph 28: Diagrammatic Exposition of the Tax-cum-Transfer Reform Proposal

Зейдл К. Налог с плоской шкалой и социальной компонентой: Препринт WP7/2007/05. – М.: ГУ ВШЭ, 2007. – 72 с.

Журнал The Economist (16 апреля 2005 г.), комментируя реформы налогообложения доходов во многих странах бывшего социалистического блока, говорил о «революции налога с плоской шкалой». По-видимому, введение налога с плоской шкалой значительно увеличило эффективность налогового режима в этих странах. В статье предлагается режим налога с плоской шкалой для Германии, который позволит решить ее нынешние экономические проблемы. Германия в настоящее время находится в трудной экономической ситуации: очень высоки налоги и стоимость труда. Это вынуждает фирмы переводить производство в страны с низкой заработной платой и выводить прибыль в страны с низким уровнем налогов. Таким образом, плоский налог мог бы стать лучшей альтернативой для Германии. Из соображений равенства, т.е. для того чтобы избежать сильного неравенства располагаемых доходов, предлагается дополнить налог с плоской шкалой социальной компонентой. В статье анализируются налоговые системы с плоской шкалой. Затем предлагается налоговая система для Германии, в которой социальная компонента компенсирует людям с низким трудовым доходом их страховые платежи и оплату образования их детям. Используя имитационную микроэкономическую модель для Германии, показывается, что в новой налоговой системе нет необходимости в налогах на деловую активность и корпоративных налогах. Это позволяет оставить в частном секторе экономики 46,5 млрд евро. Более того, предлагаемая система приводит к гораздо большему равенству в распределении располагаемых доходов.

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