

Tax and Transfer Reform for Germany

A Microsimulation Study

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Reserach Question

- ▶ We study three budget neutral reforms of the German tax and transfer system
- ▶ Real flat tax with basic income scheme at the level of current Unemployment Benefit 2
- ▶ Reform with the aim of increasing full time employment
- ▶ Reform with the aim of increasing marginal employment
- ▶ Reforms are financed by increasing marginal tax rates at higher income levels
- ▶ All three reforms increase labor supply and welfare of households with low income and decrease labor supply and welfare of households with higher income.
- ▶ Flat tax induces highest welfare gains for low income households

Introduction: Characteristics of German tax and transfer system

- ▶ High withdrawal rates of current tax and transfer system make work unattractive for people with low wages receiving transfers.
- ▶ Means testing is perceived as degrading
- ▶ Minijobs induce strong incentives for secondary earners to work part-time
- ▶ Solution 1: Abolishment of Minijobs, Flat Tax with Basic Income Scheme
- ▶ Solution 2: Abolishment of Minijobs, Wage subsidy for low income workers

Introduction: Flat Tax

- ▶ Friedman (1962): Flat Tax of 25% of with basic income scheme and withdrawal rate of 50%
- ▶ Hall and Rabushka (2007) for US: Individuals (or households) are assessed a 19 percent flat-rate tax on wages and pension benefits above an exemption of \$25,500 for a family of four.
- ▶ Kirchhof (2011) for Germany:

Income in Euro	Marginal Tax Rate
0 - 10.000	0% (8000 basic tax allowance + 2000 deduction)
10.000 - 15.000	15% (60% * 25%)
15.000 - 20.000	20% (80% * 25%)
> 20.000	25%

- ▶ Many Eastern European countries have flat income taxes, e.g., Estonia and Russia, but Social Security Contributions lead to non-flat overall income taxes.

Introduction: Employment Subsidy

- ▶ Alternative solution to improve incentives for low income households to work more
- ▶ Belgian Bonus a l'emploi (see Haan and Steiner, 2007): Subsidy for workers who work full time up to a specific wage limit, phased out afterwards
- ▶ Earned Income Tax Credit (EITC) in the USA: Households with gross income exceeding specific threshold receive tax credit, which is phased out from a higher threshold onwards

Related Literature

▶ Flat Tax

- ▶ Fuest and Peichl (2008): two-step “flat tax” with MTR of .25 and withdrawal rate of .5 costs €30 bn; positive participation effect, negative hours effect. Budget neutral “flat tax” has negative participation and hours effect
- ▶ Fuest et al. (2008): Flat taxes (.269 or .319) with basic allowance (7664 10700) while keeping transfer withdrawals as in status quo. Either equity or efficiency loss compared to status quo

▶ Employment subsidy

- ▶ Haan and Steiner (2007): Employment subsidy of 1680 € for full time workers would lead to increase of employment by 100 000 full time equivalents.

Marginal Tax Rates (MTRs)

- ▶ Status quo (2011)
 - ▶ Basic allowance of € 8004
 - ▶ 1st progressive zone: increasing MTR starts with .14
 - ▶ 2nd progressive zone: increasing MTR starts with .24 (from 13,469 €)
 - ▶ 1st linear zone: MTR of .42 (from 52,881 €)
 - ▶ 2nd linear zone: MTR of .45 (from 250,730 €)
- ▶ Employment (changes w.r.t. status quo):
 - ▶ 1st progressive zone: increasing MTR starting with .2
 - ▶ 2nd progressive zone: increasing MTR starting with .28
 - ▶ 1st linear zone: MTR of .43 (from 52,881 €)
 - ▶ 2nd linear zone: MTR of .45 (from 70,000 €)
- ▶ Fulltime (changes w.r.t. status quo):
 - ▶ 1st progressive zone: increasing MTR starting with .165
- ▶ Flat Tax:
 - ▶ MTR of .675

Transfers and Withdrawal Rates (MWRs)

- ▶ Status quo (2011) and Full Time:
 - ▶ Allowance of 100 € / month
 - ▶ MWR of .8 up to monthly income of 1000€
 - ▶ MWR of .9 up to monthly income of 1200 € (1500 € with children in household)
 - ▶ MWR of 1 afterwards
- ▶ Employment:
 - ▶ MWR of .6 up to monthly income of 1200 € (1500 € with children in household)
 - ▶ MWR of 1 afterwards
- ▶ Flat Tax:
 - ▶ Citizen's income of 800 €/month for every working age adult and 400 €/ month for children under 16
 - ▶ MWR of .675
 - ▶ all other transfers for people under 65 are abolished

Employment Subsidy

- ▶ Employment:
 - ▶ Wage subsidy of 1680 €/year for people working at least 10 hours/week
 - ▶ Subsidy is withdrawn at rate of .18 starting at individual labor incomes of 22,000/year
- ▶ Full Time
 - ▶ Wage subsidy of 1680 €/year for people working at least 30 hours/week
 - ▶ Subsidy is withdrawn at rate of .18 starting at individual labor incomes of 20,000/year

Social Security Contributions / Mini-Jobs

- ▶ Social security contributions are unemployment insurance, old age insurance, health insurance and long term care insurance
- ▶ For all reform proposals the employer's contribution remains unchanged
- ▶ Status quo (2011):
 - ▶ Mini Jobs (up to 400 €/month) are exempted from income tax and social security contributions (SSC)
 - ▶ Midi Jobs (up to 800 €/month): Marginal SSC of .3
 - ▶ Afterwards marginal SSC of .2 up to specific income levels for different SSC components
- ▶ Employment and Fulltime:
 - ▶ Mini and Midi Job rules are abolished
- ▶ Flat Tax
 - ▶ SSC are contained in Flat Tax, Mini and Midi Jobs are abolished

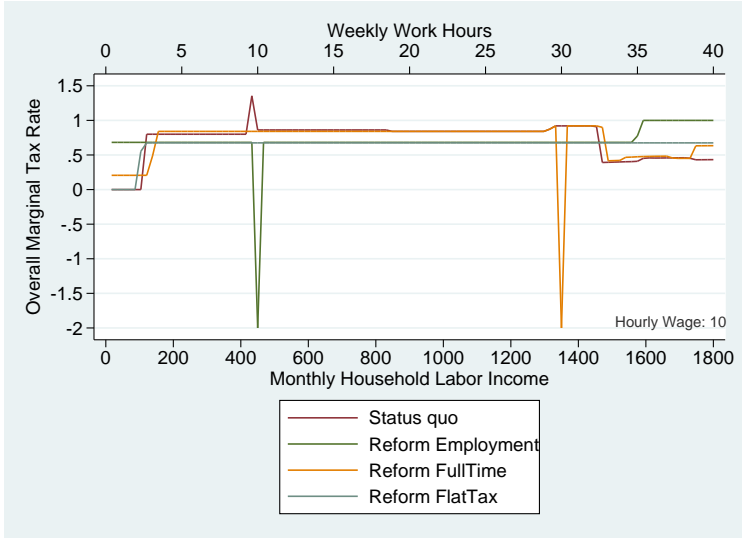
Change in Government Revenue

Changes in government revenue after labor supply responses in Bn €

Employment	Full Time	Flat Tax
.7	1.8	1.3

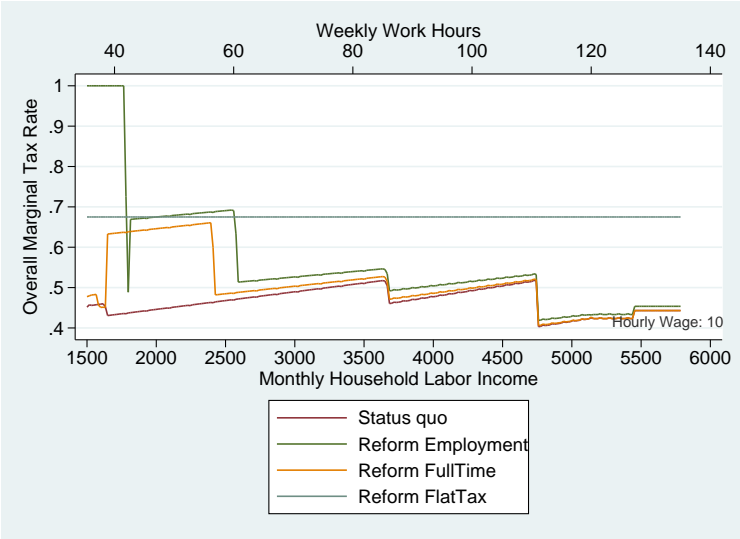
Marginal tax rates single 1

Single low income



Marginal tax rates single 2

Single higher income



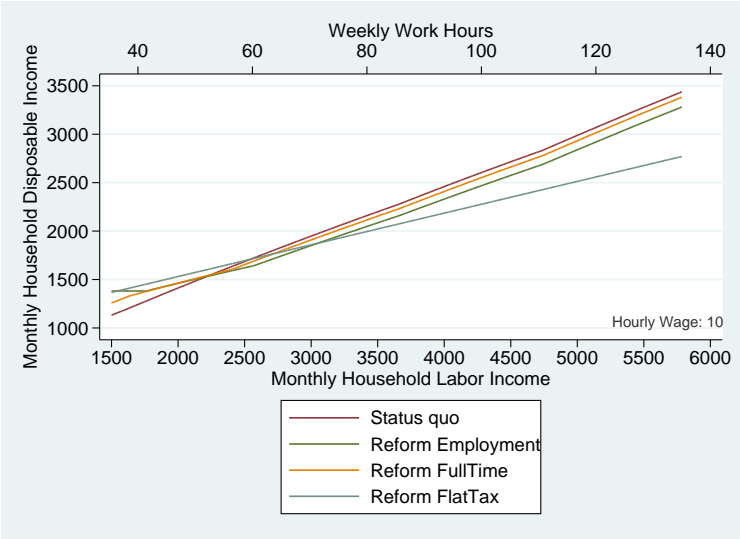
Budget constraint single 1

Single low income



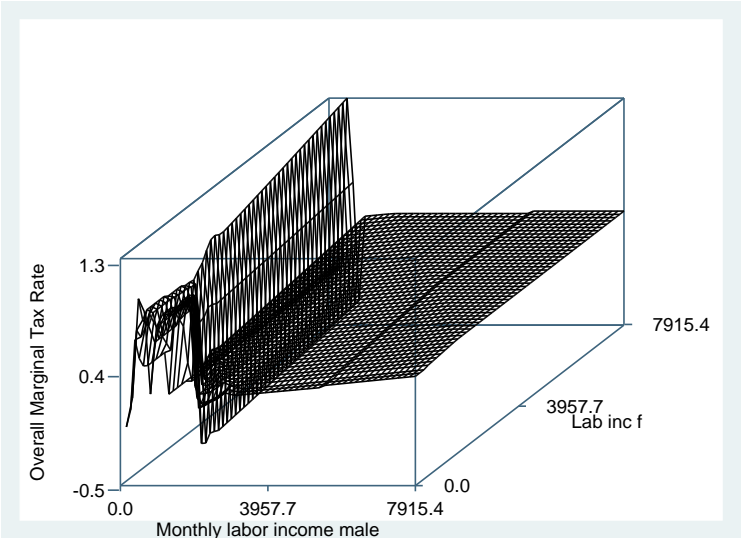
Budget constraint single 2

single higher income



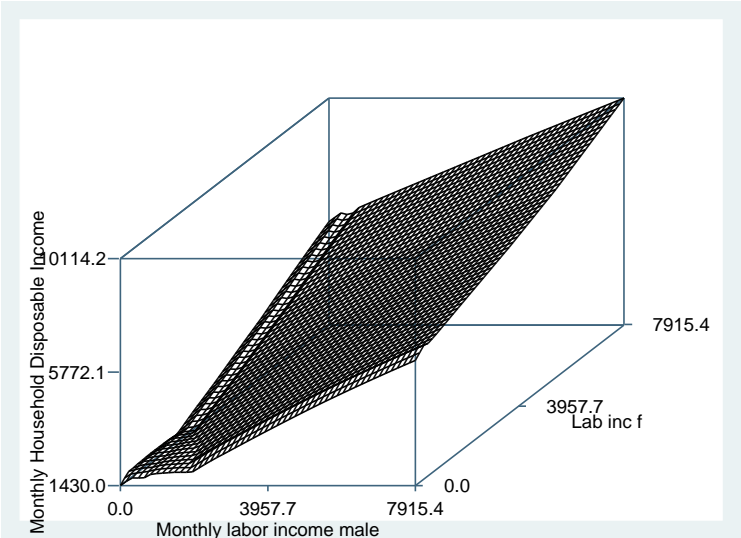
Marginal tax rates couple status quo

Married couple, 2 children, status quo



Budget constraint couple status quo

Couple status quo



Data and STSM

- ▶ Data: SOEP, v29l, with retrospective data for the year 2011
- ▶ Net incomes and government revenues of the reforms are calculated using the STSM (Steuer-Transfer-Mikrosimulationsmodell, see Steiner et al., 2012), a detailed tax and transfer calculator
- ▶ labor supply decisions are modelled following van Soest (1995)

The labor supply model 1/3

- ▶ LS model following van Soest (1995)
- ▶ Direct utility function:
- ▶ $V(v) = v'Av + b'v$
- ▶ $v = (\log(y), \log(lm), \log(lf))$
- ▶ $A_{3 \times 3}$ has entries a_{ij} ($i, j, = 1, 2, 3$); $b = (\beta_1 \beta_2 \beta_3)$
- ▶ $\beta_i = \sum_k \beta_{ik} x_k$, $i = 1, 2, 3$; $\alpha_{ij} = \sum_k \alpha_{ijk} x_k$, $i, j = 1, 2, 3$
- ▶ x_k family characteristics
- ▶ lf , lm : female and male leisure

The labor supply model 2/3

- ▶ Random utility model (Maddala, 1983):
- ▶ $U_j = V_j + \varepsilon_j, (j = 1, \dots, m)$
- ▶ $V_j = V(y_j, lm_j, lf_j); \varepsilon \sim EV(1), (j = 1, \dots, m), \varepsilon_1, \dots, \varepsilon_m$
independent
- ▶ Household chooses j with highest U
- ▶ $P[U_j > U_k \forall k \neq j] = P[\varepsilon_k - \varepsilon_j < V_j - V_k \forall k \neq j]$
- ▶ utilities associated with labor supply choices can be estimated via conditional logit

The labor supply model 3/3

- ▶ Non-worker wage rates are predicted using a Mincer wage regression correcting for selection using Heckman's method
- ▶ Discretize labor supply (m: 0 10 20 30 38 48, f: 0 10 20 30 38 45)
- ▶ We use the calibration method (see Creedy and Kalb, 2005) to predict chosen alternatives in counterfactual scenario
- ▶ changes in tax and transfer system change utility levels associated with labor supply choices

Labor Supply Effects

Changes in labor supply in percent

decile	m Empl	f Empl	m Flat	f Flat	m FT	f FT
1	9.40	9.04	42.70	20.79	2.99	3.60
2	0.29	0.71	1.95	1.53	0.12	1.46
3	0.08	0.27	0.69	0.53	0.13	0.18
4	-0.55	-1.62	-0.13	-2.84	-0.18	-0.55
5	-1.01	-1.40	-0.57	-3.80	-0.45	-0.64
6	-0.11	-1.44	-0.40	-4.61	-0.05	-0.33
7	-0.35	-0.27	-1.57	-5.77	-0.13	0.21
8	-0.78	-0.73	-1.55	-6.13	-0.10	-0.39
9	-0.63	-1.65	-3.37	-7.45	-0.26	0.12
10	-0.75	-2.05	-3.67	-9.17	-0.19	-0.25

By deciles of household income weighted by OECD equivalence scale. m: males, f: females

Welfare Effects

Compensating variations

Income Decile	Employment	Flat Tax	Full Time
1	-482.30	-8857.09	-0.02
2	-2570.73	-11017.22	-1132.72
3	-1683.75	-10685.36	-811.59
4	-1096.51	-8956.12	-580.05
5	-582.26	-6451.60	-225.41
6	-335.85	-4718.33	-214.69
7	317.27	-1868.79	219.43
8	1126.94	1251.58	495.14
9	1862.09	5520.49	915.08
10	3201.21	16212.41	1242.40

Median compensating variations by deciles of household income weighted by OECD equivalence scale

Conclusion

- ▶ All three studied reforms increases welfare and labor supply of lower income households and decrease welfare and labor supply of higher income households
- ▶ The effects are strongest for the Flat Tax reform, followed by the “Employment” reform, while the “Full Time” reform has modest effects
- ▶ Outlook: aggregate welfare changes in order to make normative comparisons of reforms

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