Introducing Family Tax Splitting in Germany: How Would It Affect the Income Distribution, Work Incentives and Household Welfare?

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On-going Discussion in Germany

- Joint taxation with income splitting is criticized because of its negative work incentives and the fact that it subsidizes **marriage** instead of **family**

- In the past months, a switch from income splitting for married spouses towards a family tax splitting such as practised in France has been proposed

- Family tax splitting means that income is not only divided between the two spouses but between all family members, which leads to an additional tax gain for families with children

- Aim of this study: Analyze how a switch to family taxation would influence the income distribution and work incentives

Outline

1. Motivation
2. What is Meant by Family Tax Splitting?
3. Methodology and Data
4. Effects on the Income Distribution
5. Labor Supply Effects
6. Effects on Household Welfare
7. Conclusion

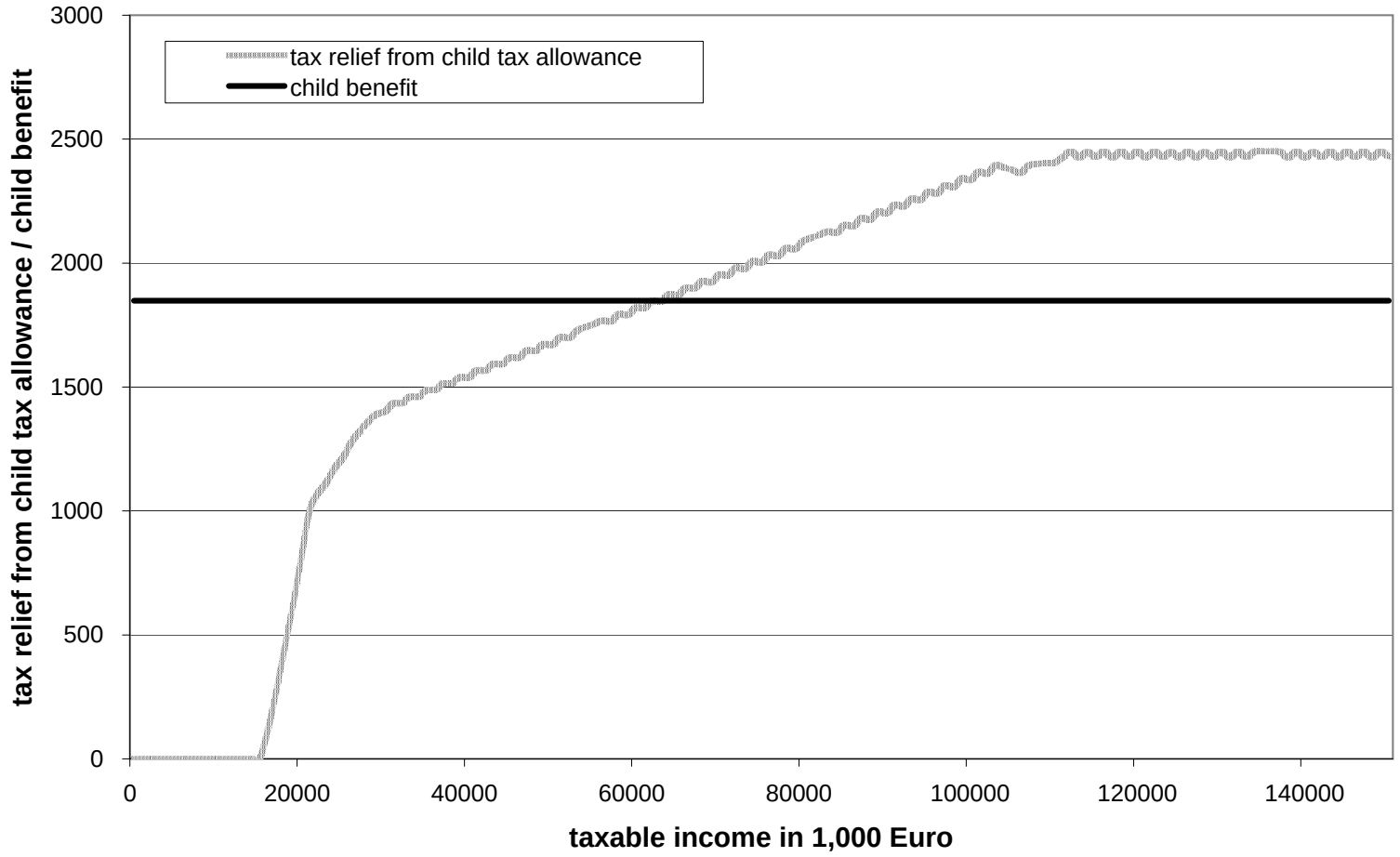
Tax treatment of children

- Child benefit of 1,848 Euro per year
- Child tax allowance of 5,848 Euro per year
- Higher-yield test: Families receive either the child benefit or the child tax allowance:

$$T(Y_M, Y_F) = min\Big\{2{*}t\Big(\frac{Y_M + Y_F - KFB * k}{2}\Big), 2{*}t\Big(\frac{Y_M + Y_F}{2}\Big) - KG{*}k\Big\}$$

fm: number of family members, k: number of children, β: splitting factor per child, C: ceiling per child, KFB: Kinderfreibetrag, KG: Kindergeld

Child Benefit and Child Tax Allowance



What is meant by family tax splitting?

So far, important parameters of a switch from the existing system to Family Tax Splitting have not been specified, in particular:

- What splitting factor shall be attributed to each child?
- What about the child benefit (Kindergeld) and the child tax allowance (Kinderfreibetrag)?
- Shall the tax gain be granted in addition to the child benefit instead of the child benefit such as it is now the case with the child tax allowance?
- Shall there be a limit to the tax gain for children resulting from Family Tax Splitting such as it is the case in France?

Formal Definitions

Pure form of family tax splitting:

$$T(Y_M, Y_F) = fm * t\Big(\frac{Y_M + Y_F}{fm}\Big)$$

Family tax splitting with ceiling:

$$T(Y_M, Y_F) = max\Big\{(2+\beta*k)*t\Big(\frac{Y_M + Y_F}{2+\beta*k}\Big), 2*t\Big(\frac{Y_M + Y_F}{2}\Big) - C*k\Big\}$$

fm: number of family members, k: number of children, β: splitting factor per child, C: ceiling per child, KFB: Kinderfreibetrag, KG: Kindergeld

Three Alternatives of Family Tax Splitting

	Reform 1 *French-style family splitting*	**Reform 2** *Full family splitting*	**Reform 3** *Full family splitting with ceilings*
Splitting factor for a married couple	2	2	2
Splitting factor for children	0.5 for 1st and 2nd child, 1 for the 3rd and every subsequent child	1	1
Splitting factor for single parents	1.5	1	1
Maximum amount of splitting gain for children (in Euro per year)	2,500 for the 1st and the 2nd child, 5,000 for the 3rd and every subsequent child	no limit	2,500 for each child
child tax allowance	abolished	abolished	abolished
child benefit	higher-yield test	higher-yield test	higher- yield test

Note: In the case of unmarried couples, each parent can apply half of the child splitting factors.

Data and Method

We use SOEP data from 2003 (extrapolated to 2005) and the micro simulation model STSM in order to evaluate

- Distributional effects: who gains, who looses, by how much, and how much does it cost?
- Labor Supply Effects
- Effects on Household Welfare

Modeling Fiscal Balance and Analysis of Household Welfare

- Results from the labor supply estimation are used in order to predict labor supply responses, that lead to a change in public revenues

- Based on this information, we calculate by how much the child benefit would need to be cut in order to obtain fiscal balance under all three reforms

- We calculate household incomes under the assumption of fiscal balance and predict labor supply changes again

- In addition, we use the estimated parameters of the household utility function in order to assess the change in household welfare as measured by the Compensating Variation (CV)

Results: Distributional Effects I

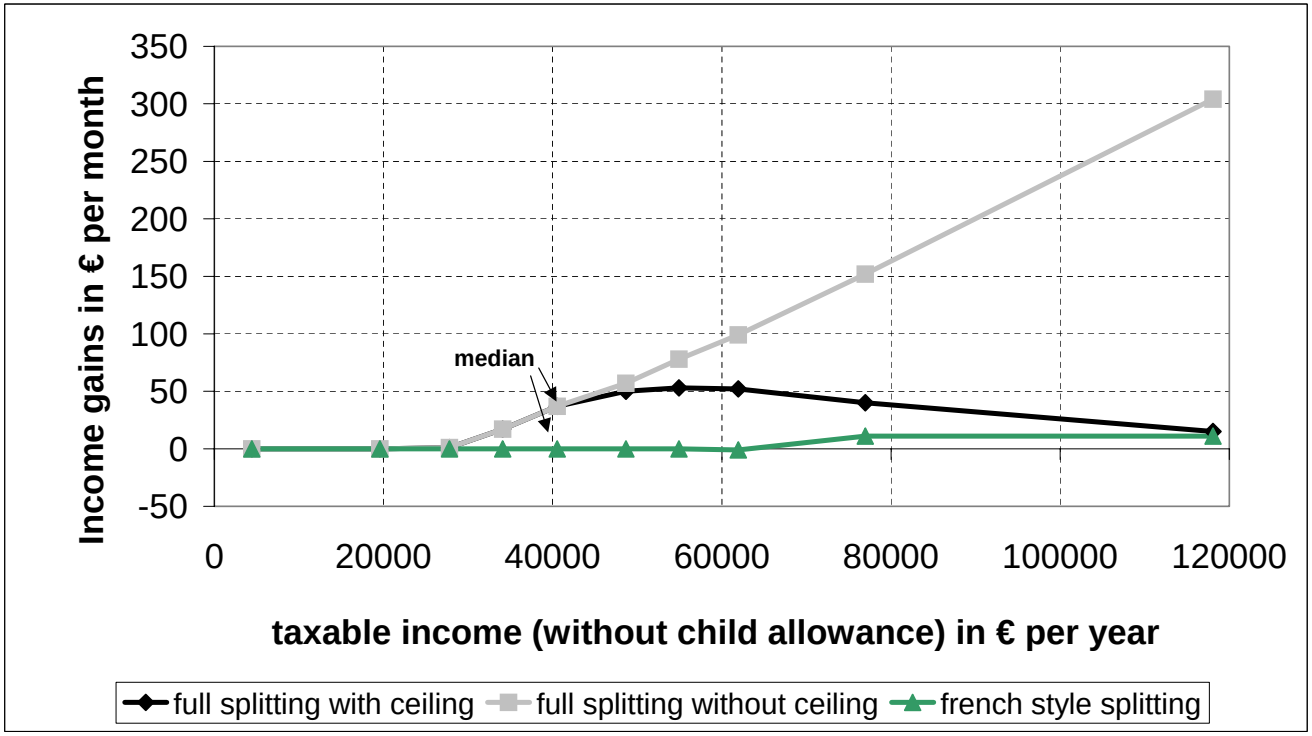


Figure 1: Income changes for married couples with 1 child

Results: Distributional Effects II

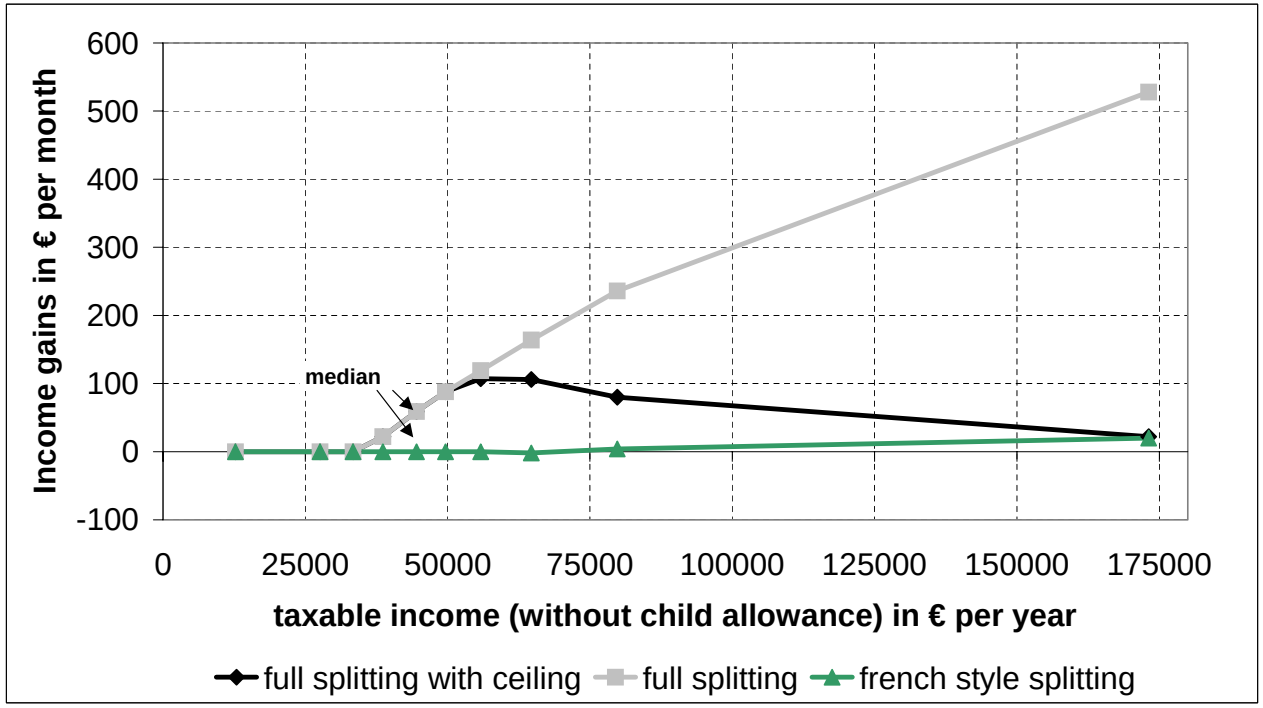


Figure 2: Income changes for married couples with 2 children

Results: Distributional Effects III

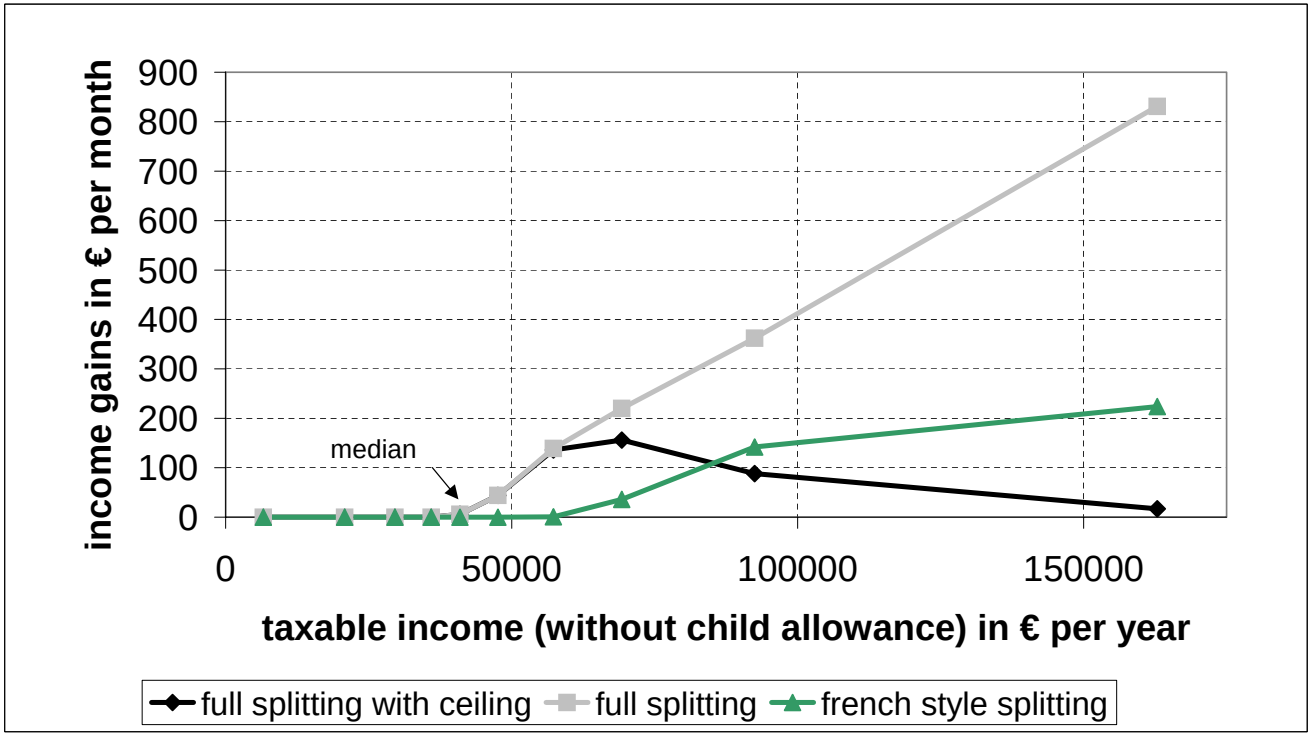


Figure 3: Income changes for married couples with 3 children

Results: Distributional Effects IV

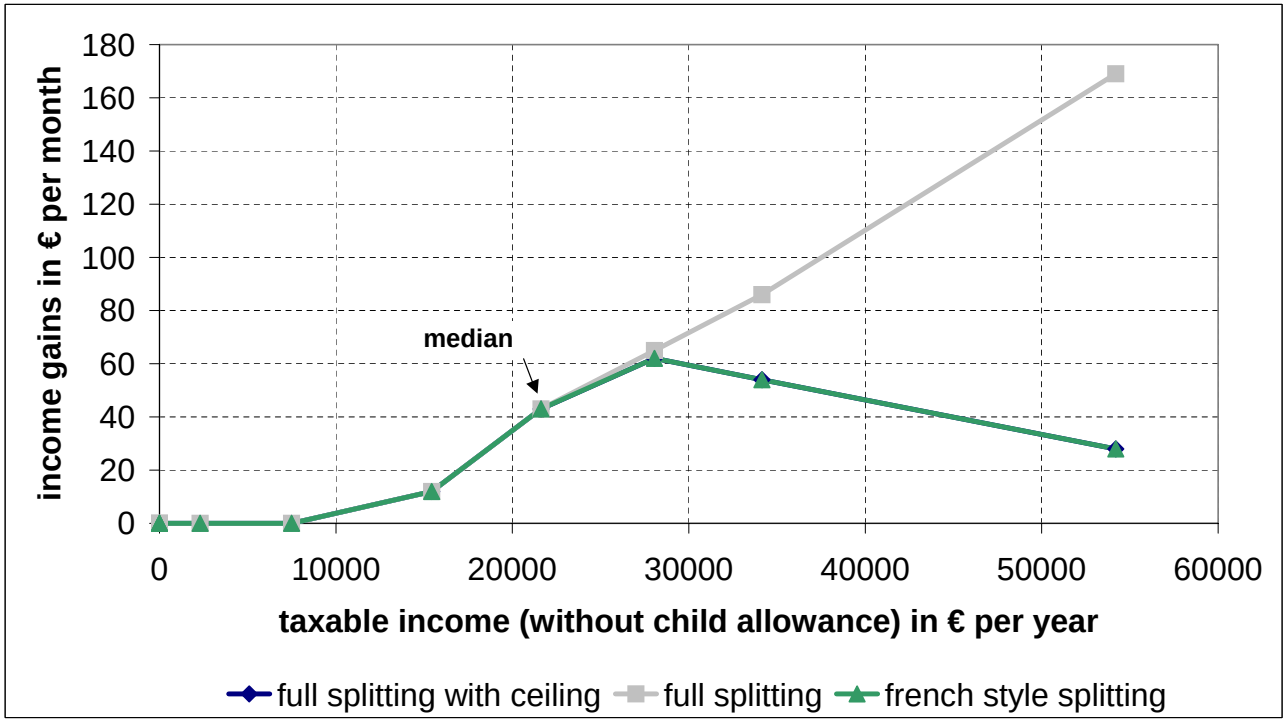


Figure 4: Income changes for single parents with 1 child

Table 1: Aggregate distribution effects by Income Deciles in Billion Euro per year (in %)

Deciles (Household income)	French-Style Family Splitting	Full Family Splitting	Full Family Splitting with ceiling
1	0 (0)	0 (0)	0 (0)
2	0 (0)	0 (0)	0 (0)
3	0.10 (7)	0.18 (1)	0.18 (3)
4	0.16 (11)	0.31 (2)	0.30 (6)
5	0.07 (5)	0.33 (3)	0.28 (5)
6	0.12 (8)	0.74 (6)	0.63 (12)
7	0.06 (4)	1.09 (9)	0.98 (18)
8	0.02 (1)	1.56 (12)	1.17 (22)
9	0.18 (12)	2.54 (20)	2.23 (23)
10	0.76 (52)	5.95 (47)	0.54 (10)
Overall average	1.48	12.74	5.33

Source: Calculations based on SOEP, waves 2001-2003.

Table 2: Aggregate distribution effects by Income Deciles in Billion Euro per year (in %)

Marital Status	French-Style Family Splitting	Full Family Splitting	Full Family Splitting with ceiling
Married Couples	0.79 (53)	10.5 (82)	3.76 (71)
Cohabiting Couples	0.22 (15)	1.09 (9)	1.00 (19)
Single Parents	0.47 (32)	1.15 (9)	0.57 (11)
Number of children			
1 child	0.51 (34)	4.49 (35)	2.04 (38)
2 children	0.15 (10)	5.61 (44)	2.37 (44)
3 children	0.57 (39)	2.13 (17)	0.67 (13)
4 or more children	0.25 (17)	0.48 (4)	0.25 (5)
Overall average	1.48	12.74	5.33

Source: Calculations based on SOEP, waves 2001-2003.

Table 3: Labor Supply Effects: Women

	French-Style Splitting	Full Family Splitting	Full Splitting w. Ceiling
	Change in Labor Force Participation rate (in percentage points)		
Mothers in couples	0.07	0.84	0.30
Single mothers	0.11	0.15	0.14
	Change in Working Hours (in percent)		
Mothers in couples	0.32	3.37	0.98
Single mothers	0.49	0.71	0.63
	Additional labor supply in 1,000 persons		
All Mothers	7	69	26
	Additional working hours in 1,000 full-time equivalents		
All Mothers	14	125	39

Source: Calculations based on SOEP, waves 2001-2003.

Table 4: Labor Supply Effects: Men

	French-Style Splitting	Full Family Splitting	Full Splitting w. Ceiling
	Change in Labor Force Participation rate (in percentage points)		
All Fathers	0.03	0.43	0.29
	Change in Working Hours (in percent)		
All Fathers	0.07	0.89	0.46
	Additional labor supply in 1,000 persons		
All Fathers	1	30	20
	Additional working hours in 1,000 full-time equivalents		
All Fathers	4	61	29

Source: Calculations based on SOEP, waves 2001-2003.

Welfare Analysis I

- In order to model fiscal balance, the monthly child benefit would need to be reduced by:
  - 6.6 Euro under Reform 1
  - 57.1 Euro under Reform 2
  - 23.9 Euro under Reform 3
- Taking this into account again leads to changes in household income, labor supply, and household welfare
- Labor supply reaction to this income effect is very small

Table 5: Income Changes and Welfare Changes in Euro per month

Deciles (Household income)	French-Style Family Splitting		Full Family Splitting		Full Family Splitting with ceiling	
	Income Change	Welfare Change	Income Change	Welfare Change	Income Change	Welfare Change
1	-1	-1	-51	-59	-10	-17
2	-10	-10	-63	-76	-12	-22
3	-10	-9	-50	-72	+1	-16
4	-10	-8	-25	-51	+16	-3
5	-7	-9	+9	-30	+34	+13
6	-6	-6	+14	-19	+33	+16
7	-5	-7	+33	0	+29	+18
8	+11	+4	+46	+10	+28	+15
9	+16	+8	+98	+47	+25	+14
10	+41	+27	+286	+179	+6	+4
Overall average	+3	-1	+36	-4	+14	+2

Source: Calculations based on SOEP, waves 2001-2003.

Welfare Analysis II

- Average welfare changes depend on the assumption of weights in the social welfare function
- Usually, weights w_i are assumed as some function of household income y_i, e.g.

$$w_i = \frac{1}{y_i^{\nu}}$$

- The parameter ν measures the degree of inequality aversion
- If $\nu = 0$, we have a Utilitarian social welfare function

Table 6: Welfare Changes in Euro per month

	French-Style Family Splitting	Full Family Splitting	Full Family Splitting with ceiling
$\nu = 0$	-1	-4	+2
$\nu = 0.5$	-4	-15	+1
$\nu = 1$	-5	-30	-3
$\nu = 2$	-8	-53	-10

Source: Calculations based on SOEP, waves 2001-2003.

Conclusion

- Under all three reforms, families in the upper part of the income distribution would gain most.
- There are large fiscal costs, in particular for the full family splitting without ceilings.
- Labor supply effects are moderate in all reforms.
- If these reforms were financed by a lump-sum reduction of the child benefit, household welfare would decrease except in Reform 3 (full splitting without ceilings).
- If a medium or high taste for redistribution is assumed in the social welfare function, none of the reforms would be welfare-improving. Families in the lower part of the income distribution would face considerable losses of welfare.

Tax Gain Resulting from Income Splitting vs. Individual Taxation