Child poverty, labour markets and public policy in rich countries

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Outline

Introduction

Literature

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    LIS
    Other data

Results
    Child living standards across rich countries
    Trends in children's living standards
    What drives children's living standards?

Concluding remarks

Introduction

- examine *level* of and *changes* in economic well-being of the worst off children in rich countries
- why?
  - children's living standards of great ethical interest
  - much social policy motivated and/or enhanced by presence of children
  - children *may* become "collaterally damaged" – e.g., workfare policies often directed at parents → short run [low consumption] and/or long-run [lower earnings potential as adult]
- how?
  - track needs-adjusted household *disposable income* of worst off *fifth*
  - examine the extent to which that income derives from markets / public sector transfers
  - examine the determinants of market / transfer income

Literature

- ▶ based on earlier work (Bradbury and Jäntti, 2001; Bradbury, Jäntti, and Lindahl, 2019)
- ▶ related to large literature on inequality and poverty in rich countries (e.g. Morelli, Smeeding, and Thompson, 2015; OECD, 2011)
- ▶ related to literature on what accounts for inequality and poverty (for a review, see e.g. Brady and Jäntti, 2016); our "model" of the labour market is inspired by the wage bargaining approach or a simple model of segmented labour markets (Heijdra, 2017) (e.g. Layard, Nickell, and Jackman, 1991; Nickell, 2003)
- ▶ related also to the literature on the elasticity of taxable income, (for a review, see Jäntti, Pirttilä, and Selin, 2015)

Income distribution: Luxembourg Income Study (LIS)

- ▶ LIS provides harmonized microdata on income, labour market attachment and demographic structure
- ▶ data on 53 countries, spanning 1967-2020 for a total of 677 country-years; after excluding a number of developing countries and a few other cases, include 34 countries and 523 datasets
- ▶ we exploit all LIS data but here, we focus on the last year of LIS data prior to the pandemic and changes after 2000 (for trends)
- ▶ the main variables of interest are *disposable income* and its *components* (esp. earnings, transfers and taxes) and *household structure* (lone mother, lone father, two parent, other households)
- ▶ when possible, we also distinguish between different parental labour market states ("weak", "medium", "strong")

Income and population

- incomes are measured in terms of 2017 PPP USD (constructed from OECD data on inflation and PPPs)
- assign each person in the household the equivalent household income (as well as components)
- focus on population of children
- measure disadvantage in terms of the income (or income relative to overall median) of the poorest 1/5 of children

Key identity: disposable income as sum of market income and net transfers

Dispoable income

	paid employment income (=E)		
+	self-employment income		
+	capital income (K)		
=	*factor income*		
+	private transfers	$\Rightarrow$	market income (M)
+	social transfers		
−	direct taxes	$\Rightarrow$	net social transfers (T)
		$\equiv$	**disposable income** (D)

Central identity

disposable income $\equiv$ market income + net social transfers

Based on ongoing research, but see Bradbury and Jäntti (1999) and Bradbury, Jäntti, and Lindahl (2019).

Results

- ▶ examine child living standards in latest cross section of LIS using multiple real and relative indicators
- ▶ decompose the disposable income indicators into parts due to (labour) markets and net social transfers (public transfers less direct taxes)
- ▶ examine changes in the indicators and decomposition
- ▶ estimate regression models to see what drives child living standards and its components

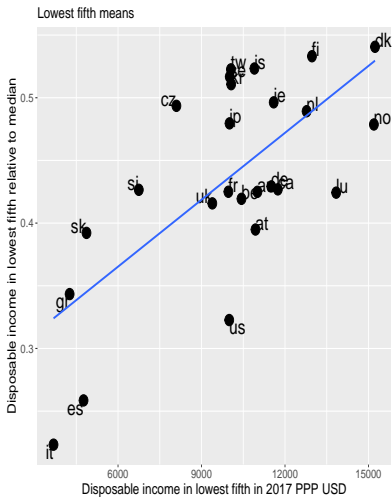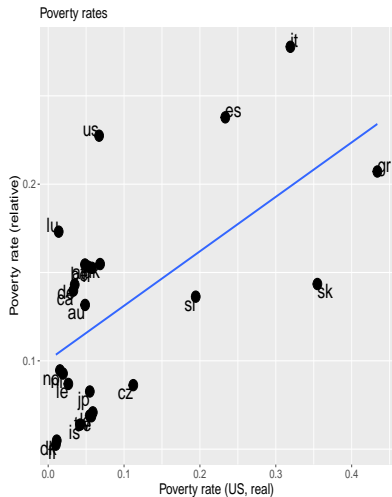# Poverty relative to US line and (real) income in lowest fifth (children)
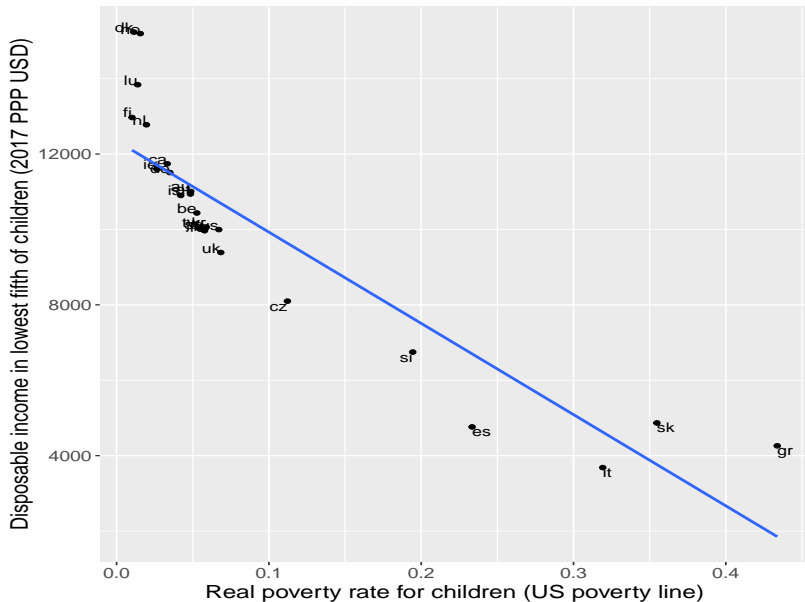
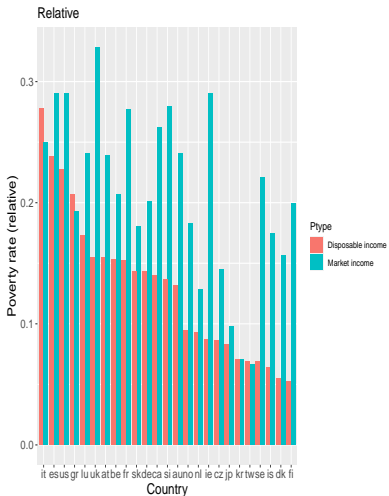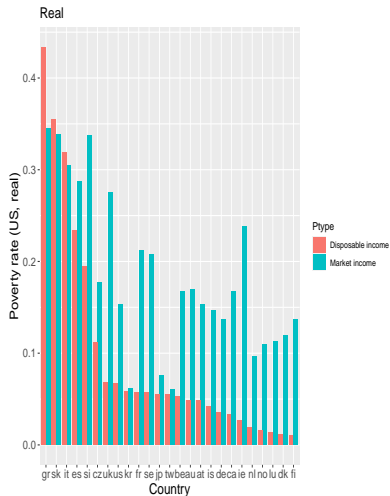# Relative poverty and income in lowest fifth of children

Disposable income in lowest fifth of children relative to overall median

Relative poverty rate for children (50 percent of median)
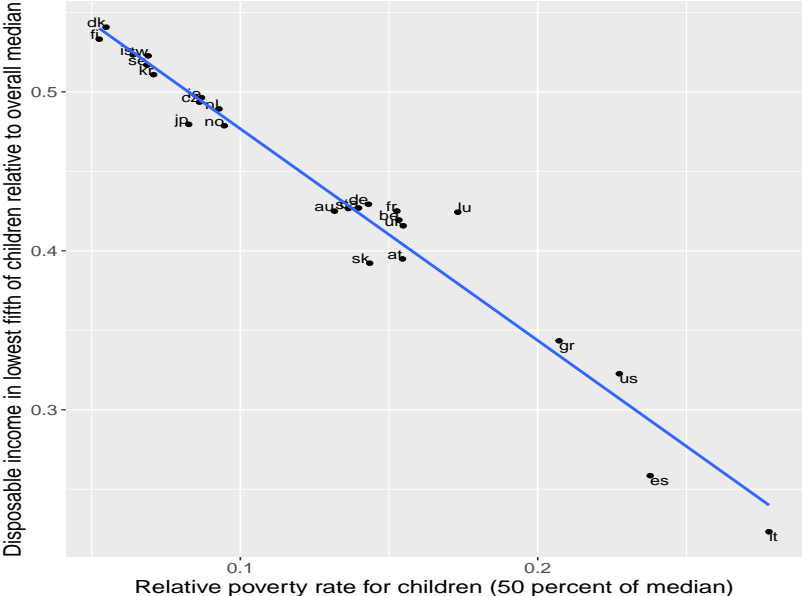
Real and relative child living standards
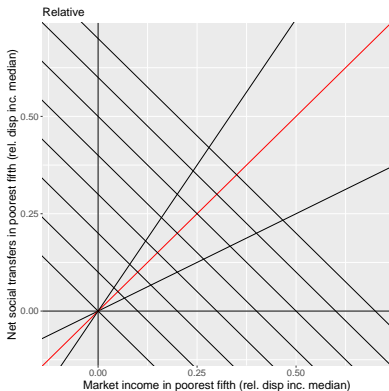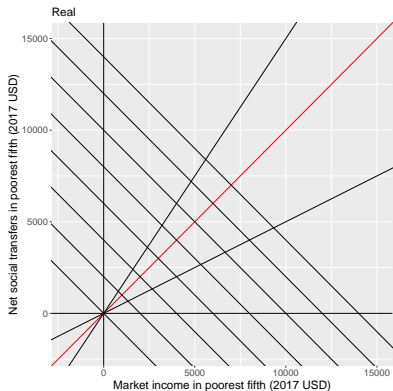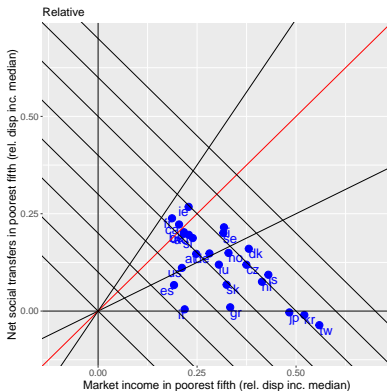
Poverty rates vs lowest fifth means

Redistribution and child poverty – the traditional view

The market income, net social transfer identity (disposable income)

Market income, net social transfers, and disposable income among lowest fifth of children
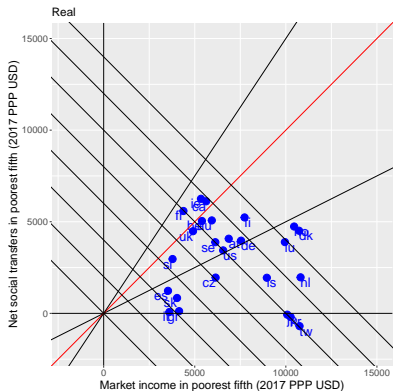
Market income, net social transfers, and disposable income among lowest fifth of children – Nordic Europe
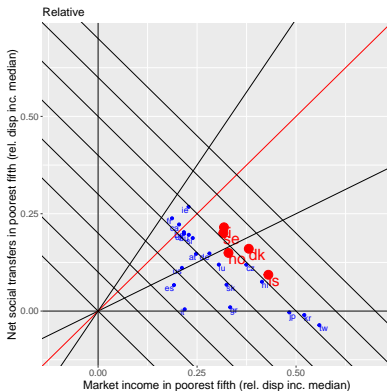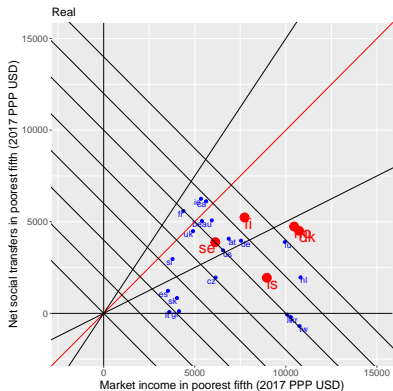
Market income, net social transfers, and disposable income among lowest fifth of children – Anglophone

Market income, net social transfers, and disposable income among lowest fifth of children – Southern Europe
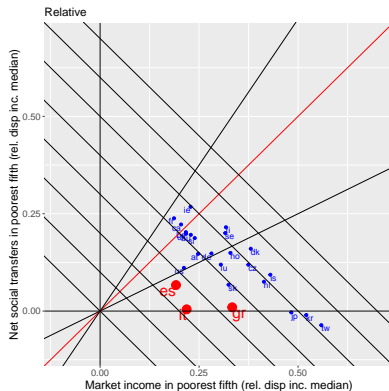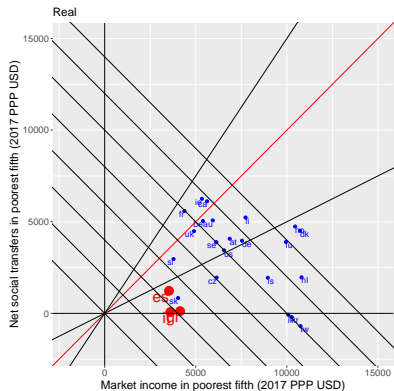
Market income, net social transfers, and disposable income among lowest fifth of children – Continental Europe
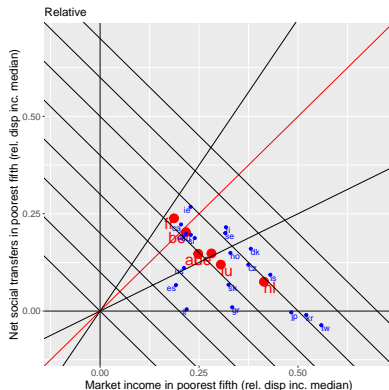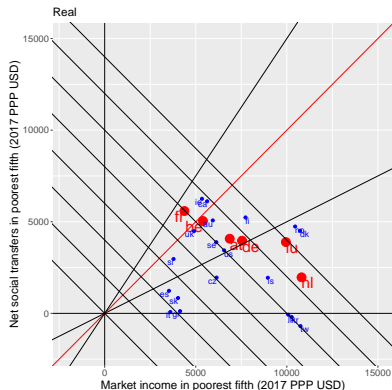
Market income, net social transfers, and disposable income among lowest fifth of children – Eastern Europe
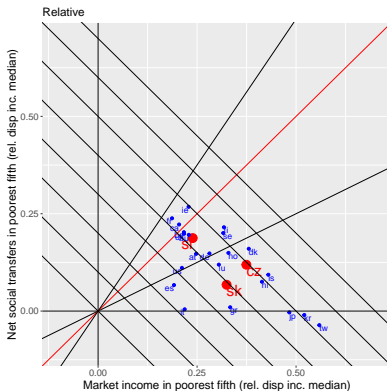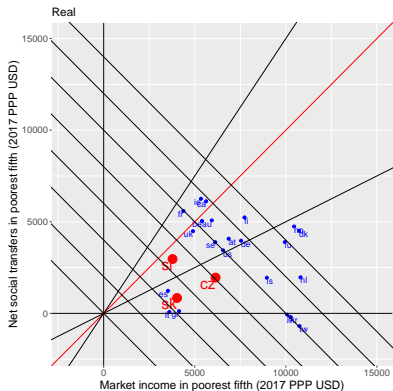
Market income, net social transfers, and disposable income among lowest fifth of children – Asia
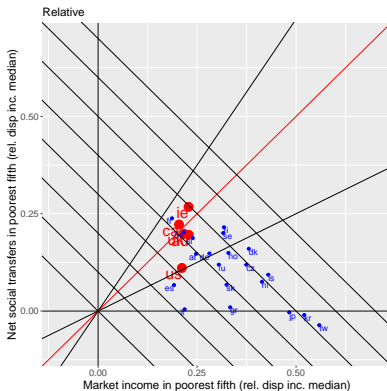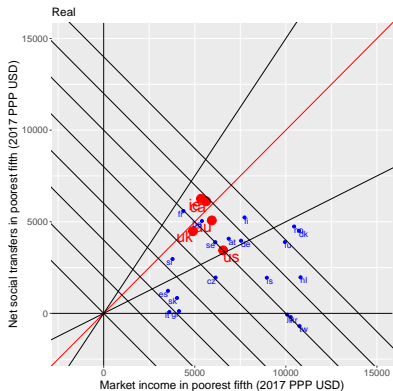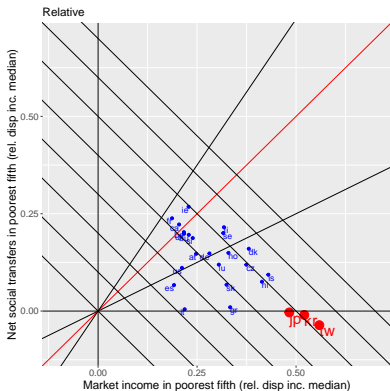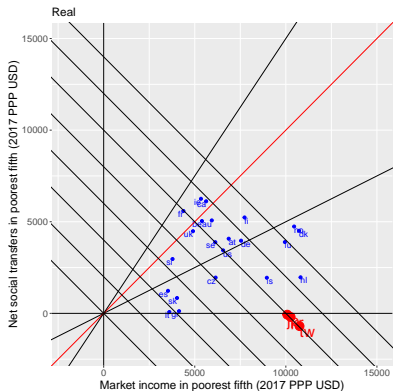
Market income, net social transfers, and disposable income among lowest fifth of children
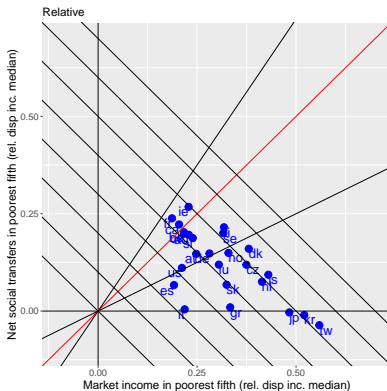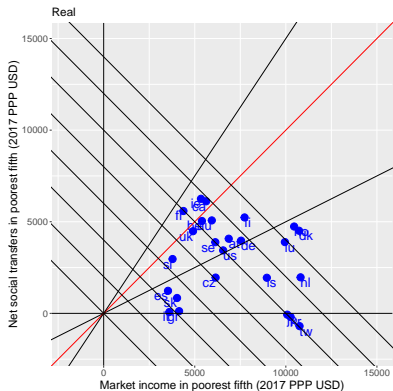
Decomposition of disposable income x among lowest fifth of children – lone mother (△) and two parent children (o)
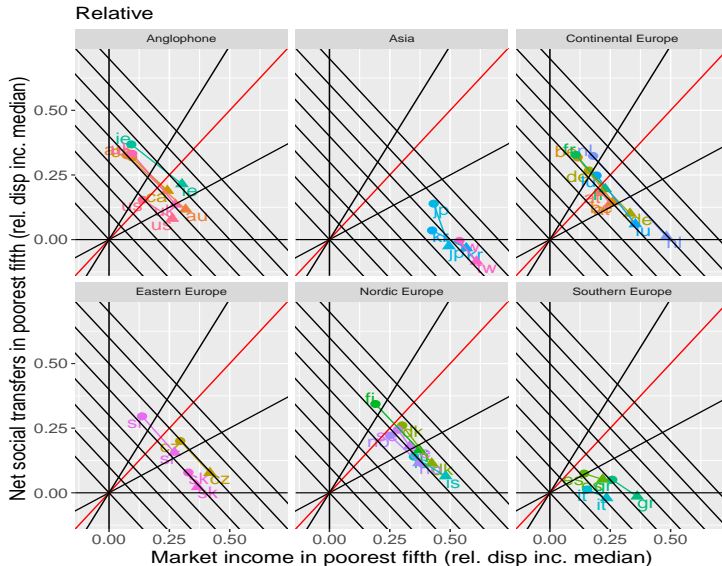
Trends in children's living standards

- changes over the full range of LIS data. . .
- . . . but focus on 2000-2019 (due to availability of central explanatory variables and the pandemic)

Disposable income in lowest fifth (2017 USD)
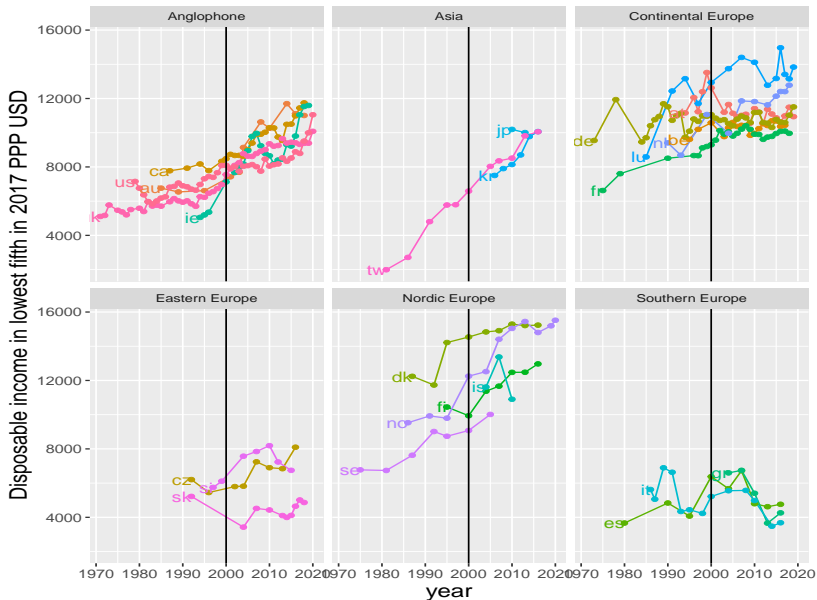
Disposable income in lowest fifth relative to median
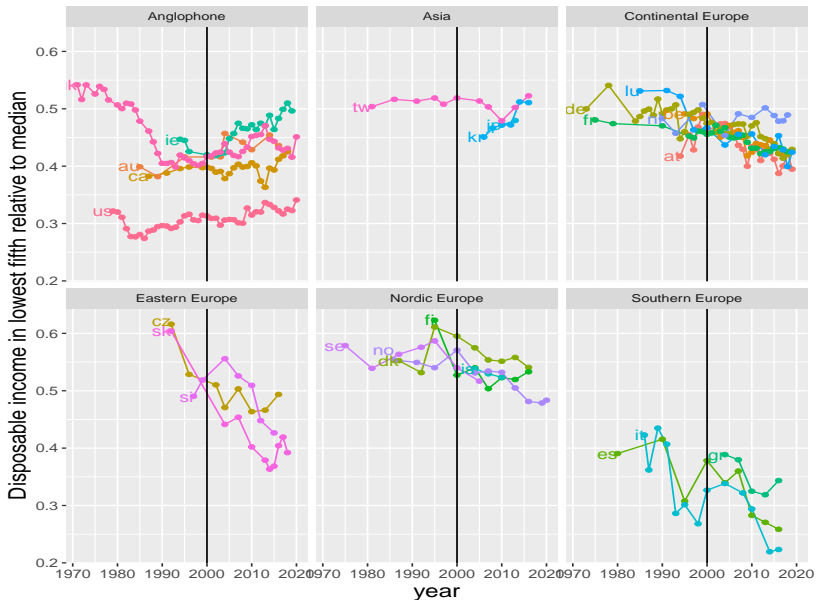
Changes in living standards – Nordic Europe
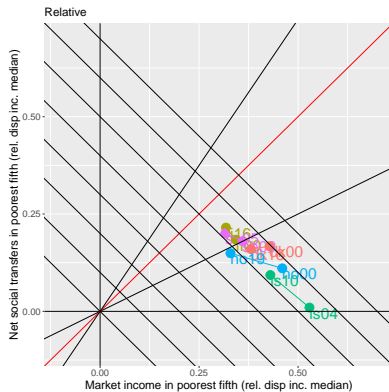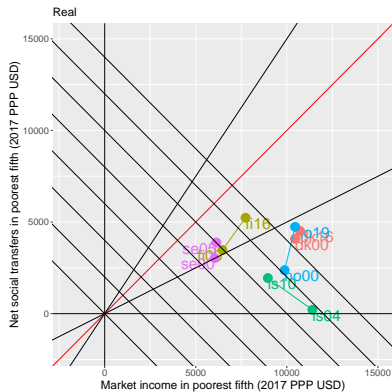
Changes in living standards – Anglophone
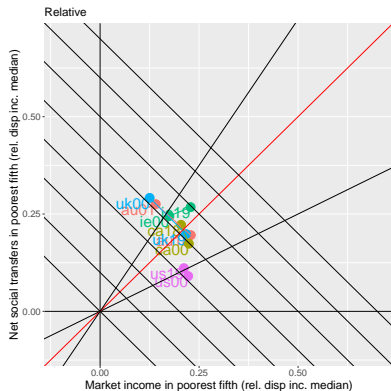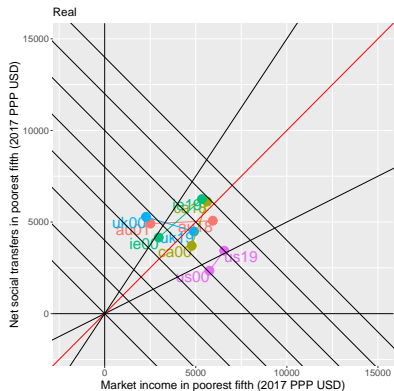
Changes in living standards – Southern Europe
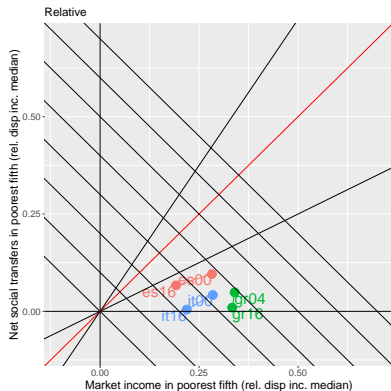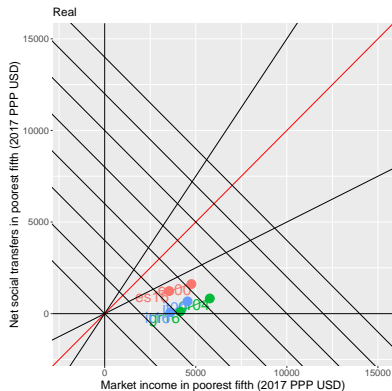
Changes in living standards – Continental Europe
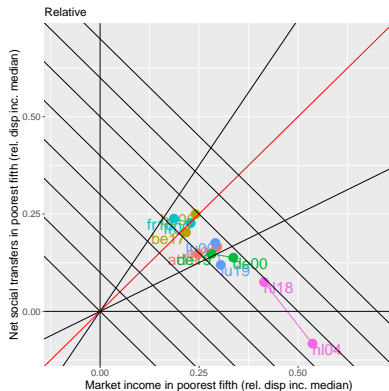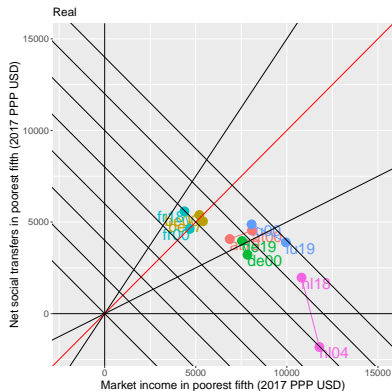
Changes in living standards – Eastern Europe
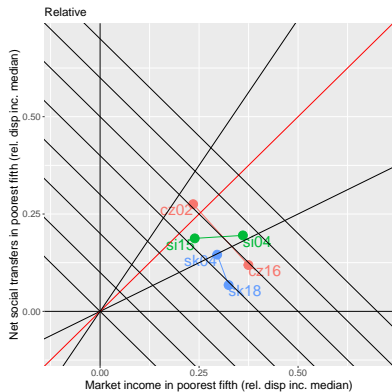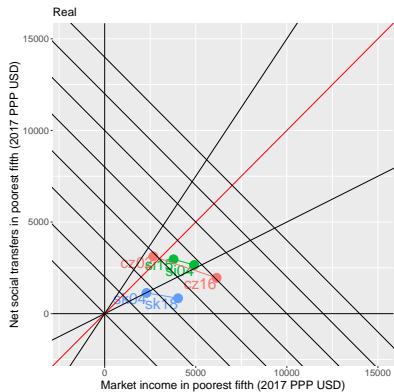
Changes in living standards – Asia
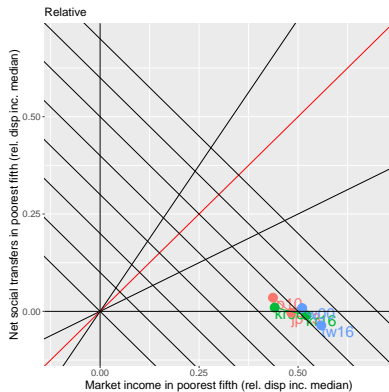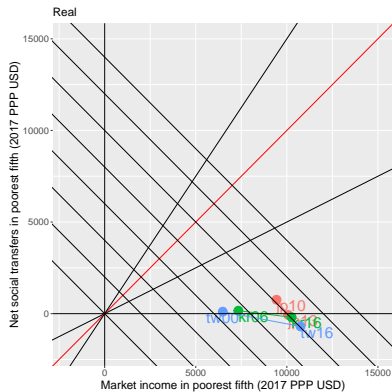
What drives children's living standards?

- ▶ to explore the drivers of children's living standard, we estimate regressions for disposable income, market income and net social transfers separately (and both in "real" (i.e., USD PPD) and relative (to overall median) terms

- ▶ regressions are estimated separately for all children and children in two-parent and lone-mother households, respectively

- ▶ the main regressions include country fixed effects (we also estimate regressions without fixed effects)

- ▶ our interest here centers on the importance of the impact of tax variables, controlling for several other macro variables

Explanatory variables

All explanatory variables used here stem from OECD

- ▶ macro controls:
  - ▶ GDP per capita [in 2017 USD PPP] (OECD, 2021a)
  - ▶ GDP above trend [business cycle indicator] (OECD, 2021c)
  - ▶ social expenditures per capita [in 2017 USD PPP] (OECD, 2016)
  - ▶ inactivity rate [1 - employed/population for men and women combined(all and two parent children); women (lone mother children)]
  - ▶ earnings inequality [ln(p50/p10)*100 for men and women combined (all and two parent children); for women (lone mother children)] (OECD, 2022a)
- ▶ tax variables:
  - ▶ overall average and marginal income taxes as a % of gross earnings (OECD, 2021d)
  - ▶ marginal effective tax rates [for two parent families (all and two parent children); for lone parents (lone mother children)] (OECD, 2021b)
  - ▶ participation tax rates [from social assistance benefits, for two parent, two child families (all and two parent children); for lone parent, two child families (lone mother children)](OECD, 2022b)
  - ▶ the participation and marginal effective tax rate is for employment at 2/3 of the average wage

Inequality and child living standards
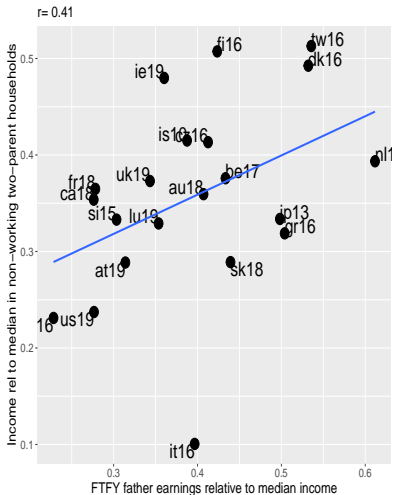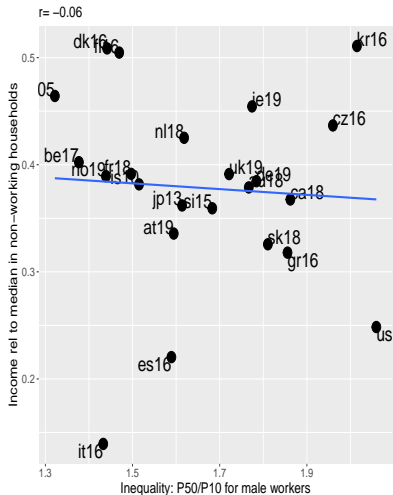
Relative living standards and participation tax rates
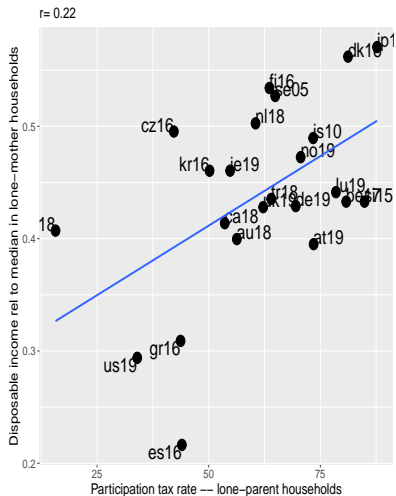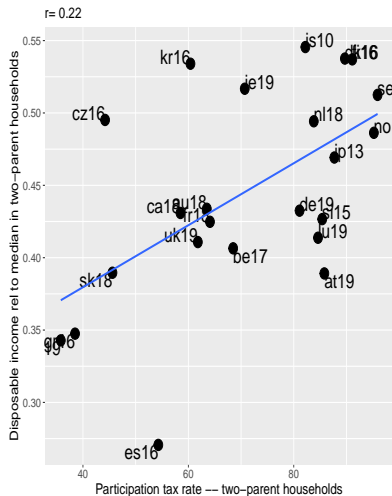
Within- and between-decomposition
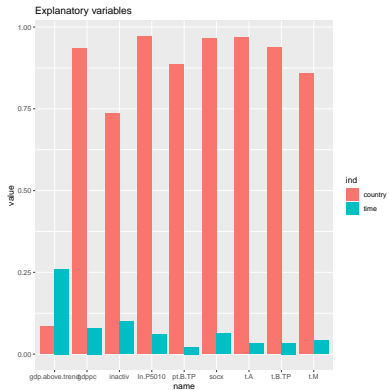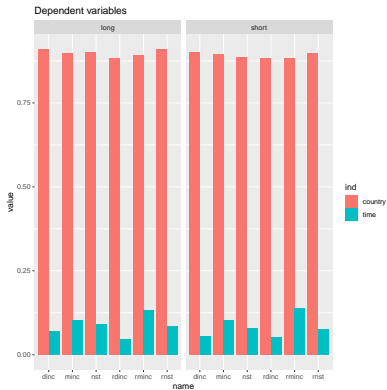
Regression results – real, all children (OLS)

Estimated without country fixed effects panel regressions

	Dependent income variable:					
	Disposable	Market	Net transfer	Disposable	Market	Net transfer
Intercept	13956.4	10903.3	3053.1	10797.1	12257.2	−1460.0
	(901.7)	(1230.9)	(1164.3)	(1428.6)	(1645.0)	(1247.0)
GDP per capita	74.9	56.2	18.7	59.8	66.5	−6.7
	(8.4)	(11.5)	(10.9)	(13.3)	(15.4)	(11.6)
GDP above trend	445.0	448.9	−3.9	443.1	488.6	−45.5
	(193.8)	(264.6)	(250.3)	(169.5)	(195.1)	(147.9)
Social expenditure per capita	0.0	−0.0	0.1	0.1	−0.3	0.4
	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Inactivity rate	−250.9	−239.3	−11.6	−190.7	−223.3	32.6
	(26.4)	(36.0)	(34.0)	(25.1)	(29.0)	(22.0)
Earnings inequality [ln(p50/p10)*100]	−54.7	−53.0	−1.7	−41.9	−57.9	16.1
	(9.9)	(13.5)	(12.8)	(9.2)	(10.6)	(8.0)
Average tax rate				−14.3	7.1	−21.4
				(25.9)	(29.8)	(22.6)
Marginal tax rate				−22.5	2.1	−24.7
				(14.8)	(17.0)	(12.9)
Marginal effective tax rate				1.3	−71.9	73.3
				(4.8)	(5.5)	(4.2)
Participation tax rate				52.4	54.5	−2.0
				(7.3)	(8.4)	(6.4)
Wald tests				14.1	39.6	130.3
Countries	22	22	22	22	22	22
R^2	0.7	0.4	0.0	0.7	0.7	0.7
Adj. R^2	0.6	0.4	0.0	0.7	0.7	0.7
Num. obs.	223	223	223	223	223	223

Note: Wald test χ^2-test statistics that all tax coefficients are zero, critical value at 5%-level is 9.5

Regression results – real, all children

Estimated as country fixed effects panel regressions

	Disposable	Market	Net transfer	Disposable	Market	Net transfer
			Dependent income variable:			
GDP per capita	87.5	48.1	39.3	88.4	27.3	61.1
	(13.1)	(15.9)	(13.9)	(13.5)	(16.0)	(12.9)
GDP above trend	139.9	198.7	−58.8	120.6	199.0	−78.4
	(79.2)	(95.5)	(83.4)	(76.9)	(91.0)	(73.6)
Social expenditure per capita	0.4	−0.0	0.4	0.4	0.0	0.3
	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Inactivity rate	−71.9	−158.1	86.3	−53.3	−173.4	120.1
	(25.0)	(30.1)	(26.3)	(24.5)	(29.0)	(23.5)
Earnings inequality [ln(p50/p10)*100]	−24.3	−49.6	25.3	−35.4	−37.0	1.6
	(18.5)	(22.4)	(19.5)	(18.1)	(21.4)	(17.3)
Average tax rate				−101.1	74.8	−175.9
				(25.4)	(30.1)	(24.3)
Marginal tax rate				6.6	−18.3	24.9
				(9.6)	(11.3)	(9.2)
Marginal effective tax rate				2.7	−8.4	11.1
				(7.5)	(8.9)	(7.2)
Participation tax rate				−12.6	−36.1	23.5
				(6.7)	(8.0)	(6.4)
Wald tests				11.0	31.7	64.7
Countries	22	22	22	22	22	22
R^2	0.5	0.4	0.2	0.6	0.5	0.4
Adj. R^2	0.4	0.3	0.1	0.5	0.4	0.3
Num. obs.	223	223	223	223	223	223

Note: Wald test χ^2-test statistics that all tax coefficients are zero, critical value at 5%-level is 9.5

Regression results – relative, all children (OLS)

	Disposable	Market	Net transfer	Disposable	Market	Net transfer
	Dependent income variable:					
Intercept	72.487	55.629	16.858	60.953	64.520	−3.567
	(8.543)	(13.603)	(15.770)	(11.666)	(15.010)	(8.371)
GDP per capita	0.080	0.038	0.042	−0.008	0.107	−0.115
	(0.072)	(0.141)	(0.179)	(0.080)	(0.106)	(0.062)
GDP above trend	0.153	1.061	−0.908	0.402	1.400	−0.998
	(0.443)	(0.680)	(0.656)	(0.427)	(0.634)	(0.552)
Social expenditure per capita	−0.001	−0.001	−0.000	−0.001	−0.003	0.001
	(0.000)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)
Inactivity rate	−0.510	−0.634	0.124	−0.417	−0.702	0.285
	(0.290)	(0.469)	(0.624)	(0.239)	(0.316)	(0.234)
Earnings inequality [ln(p50/p10)*100]	−0.298	−0.260	−0.038	−0.230	−0.285	0.055
	(0.102)	(0.106)	(0.104)	(0.069)	(0.095)	(0.056)
Average tax rate				−0.279	−0.036	−0.243
				(0.168)	(0.273)	(0.132)
Marginal tax rate				0.228	0.215	0.013
				(0.078)	(0.123)	(0.103)
Marginal effective tax rate				−0.003	−0.349	0.346
				(0.046)	(0.061)	(0.045)
Participation tax rate				0.137	0.159	−0.022
				(0.052)	(0.091)	(0.062)
Wald tests				27.3	54.2	100.4
Countries	22	22	22	22	22	22
R^2	0.384	0.166	0.008	0.574	0.600	0.688
Adj. R^2	0.370	0.147	−0.014	0.556	0.584	0.675
Num. obs.	223	223	223	223	223	223

Note: Wald test χ^2-test statistics that all tax coefficients are zero, critical value at 5%-level is 9.5

Regression results – relative, all children

Estimated as country fixed effects panel regressions

	Dependent income variable:					
	Disposable	Market	Net transfer	Disposable	Market	Net transfer
GDP per capita	0.166	0.153	0.013	0.147	0.043	0.104
	(0.048)	(0.070)	(0.061)	(0.051)	(0.068)	(0.059)
GDP above trend	0.460	0.776	−0.316	0.453	0.814	−0.361
	(0.288)	(0.419)	(0.367)	(0.291)	(0.387)	(0.338)
Social expenditure per capita	−0.001	−0.002	0.001	−0.001	−0.002	0.001
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
Inactivity rate	0.245	−0.397	0.643	0.252	−0.490	0.742
	(0.091)	(0.132)	(0.116)	(0.093)	(0.124)	(0.108)
Earnings inequality [ln(p50/p10)*100]	−0.171	−0.207	0.036	−0.174	−0.134	−0.039
	(0.068)	(0.098)	(0.086)	(0.068)	(0.091)	(0.080)
Average tax rate				−0.051	0.460	−0.511
				(0.096)	(0.128)	(0.112)
Marginal tax rate				0.054	−0.043	0.097
				(0.036)	(0.048)	(0.042)
Marginal effective tax rate				−0.007	−0.056	0.049
				(0.028)	(0.038)	(0.033)
Participation tax rate				−0.035	−0.172	0.137
				(0.025)	(0.034)	(0.030)
Wald tests				11.7	40.7	74.7
Countries	22	22	22	22	22	22
R^2	0.114	0.264	0.242	0.139	0.398	0.385
Adj. R^2	−0.003	0.166	0.141	0.004	0.304	0.289
Num. obs.	223	223	223	223	223	223

Note: Wald test χ^2-test statistics that all tax coefficients are zero, critical value at 5%-level is 9.5

Regression results – real, two parent children

Estimated as country fixed effects panel regressions

	Dependent income variable:					
	Disposable	Market	Net transfer	Disposable	Market	Net transfer
GDP per capita	101.1	59.9	41.1	98.3	37.0	61.3
	(13.6)	(18.6)	(15.4)	(14.1)	(18.7)	(14.9)
GDP above trend	93.0	106.4	−13.4	74.6	104.8	−30.2
	(82.2)	(112.4)	(93.3)	(80.4)	(106.8)	(85.4)
Social expenditure per capita	0.4	−0.1	0.5	0.3	−0.1	0.4
	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Inactivity rate	−63.9	−195.3	131.4	−49.0	−210.0	161.0
	(25.8)	(35.4)	(29.3)	(25.6)	(34.0)	(27.2)
Earnings inequality [ln(p50/p10)*100]	−34.7	−37.2	2.5	−42.9	−23.5	−19.4
	(19.2)	(26.3)	(21.8)	(18.9)	(25.1)	(20.0)
Average tax rate				−82.7	74.9	−157.6
				(26.5)	(35.2)	(28.1)
Marginal tax rate				7.1	−26.6	33.7
				(10.0)	(13.3)	(10.6)
Marginal effective tax rate				0.8	−12.1	12.9
				(7.8)	(10.4)	(8.3)
Participation tax rate				−17.5	−44.0	26.4
				(7.0)	(9.3)	(7.5)
Wald tests				10.3	61.1	69.4
Countries	22	22	22	22	22	22
R^2	0.5	0.4	0.3	0.6	0.5	0.4
Adj. R^2	0.5	0.3	0.2	0.5	0.4	0.3
Num. obs.	222	222	222	222	222	222

Note: Wald test χ^2-test statistics that all tax coefficients are zero, critical value at 5%-level is 9.5

Regression results – relative, two parent children

Estimated as country fixed effects panel regressions

	Disposable	Market	Net transfer	Disposable	Market	Net transfer
			Dependent income variable:			
GDP per capita	0.228	0.183	0.046	0.192	0.059	0.133
	(0.051)	(0.080)	(0.069)	(0.054)	(0.078)	(0.068)
GDP above trend	0.265	0.350	−0.085	0.263	0.374	−0.111
	(0.311)	(0.484)	(0.418)	(0.310)	(0.447)	(0.391)
Social expenditure per capita	−0.001	−0.003	0.001	−0.001	−0.003	0.001
	(0.000)	(0.001)	(0.001)	(0.000)	(0.001)	(0.000)
Inactivity rate	0.278	−0.531	0.809	0.267	−0.627	0.894
	(0.098)	(0.152)	(0.131)	(0.099)	(0.142)	(0.124)
Earnings inequality [ln(p50/p10)*100]	−0.213	−0.144	−0.069	−0.203	−0.063	−0.140
	(0.073)	(0.113)	(0.098)	(0.073)	(0.105)	(0.092)
Average tax rate				0.032	0.485	−0.454
				(0.102)	(0.147)	(0.129)
Marginal tax rate				0.059	−0.082	0.141
				(0.038)	(0.055)	(0.049)
Marginal effective tax rate				−0.013	−0.066	0.053
				(0.030)	(0.044)	(0.038)
Participation tax rate				−0.058	−0.208	0.151
				(0.027)	(0.039)	(0.034)
Wald tests				10.4	57.0	100.2
Countries	22	22	22	22	22	22
R^2	0.146	0.281	0.268	0.187	0.413	0.385
Adj. R^2	0.032	0.185	0.170	0.059	0.321	0.288
Num. obs.	222	222	222	222	222	222

Note: Wald test χ^2-test statistics that all tax coefficients are zero, critical value at 5%-level is 9.5

Regression results – real, lone mother children

Estimated as country fixed effects panel regressions

	Disposable	Market	Net transfer	Disposable	Market	Net transfer
			Dependent income variable:			
GDP per capita	88.1	39.7	48.5	96.4	28.4	68.0
	(14.5)	(14.2)	(14.8)	(14.6)	(15.3)	(14.7)
GDP above trend	170.1	151.8	18.4	142.2	139.7	2.5
	(88.4)	(86.9)	(90.8)	(84.1)	(88.1)	(84.8)
Social expenditure per capita	0.5	−0.0	0.5	0.4	−0.1	0.5
	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Inactivity rate	10.1	−50.1	60.2	11.5	−55.1	66.7
	(25.9)	(25.4)	(26.5)	(24.4)	(25.6)	(24.6)
Earnings inequality [ln(p50/p10)*100]	−42.4	−7.6	−34.8	−31.6	−5.0	−26.7
	(18.5)	(18.1)	(18.9)	(17.5)	(18.3)	(17.6)
Average tax rate				−149.5	6.2	−155.7
				(27.5)	(28.8)	(27.7)
Marginal tax rate				0.3	6.4	−6.1
				(10.2)	(10.7)	(10.3)
Marginal effective tax rate				2.9	5.6	−2.7
				(6.4)	(6.7)	(6.5)
Participation tax rate				5.2	−17.7	22.9
				(8.9)	(9.3)	(8.9)
Wald tests				18.3	5.9	15.1
Countries	22	22	22	22	22	22
R^2	0.4	0.2	0.2	0.5	0.2	0.3
Adj. R^2	0.3	0.1	0.1	0.4	0.1	0.2
Num. obs.	222	222	222	222	222	222

Note: Wald test χ^2-test statistics that all tax coefficients are zero, critical value at 5%-level is 9.5

Regression results – relative, lone mother children

Estimated as country fixed effects panel regressions

	Disposable	Market	Net transfer	Disposable	Market	Net transfer
	Dependent income variable:					
GDP per capita	0.057	0.103	−0.045	0.098	0.058	0.040
	(0.055)	(0.069)	(0.065)	(0.059)	(0.075)	(0.069)
GDP above trend	0.431	0.597	−0.165	0.406	0.559	−0.153
	(0.335)	(0.423)	(0.400)	(0.338)	(0.429)	(0.396)
Social expenditure per capita	−0.000	−0.001	0.001	−0.000	−0.002	0.001
	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)
Inactivity rate	0.219	−0.177	0.396	0.240	−0.192	0.432
	(0.098)	(0.124)	(0.117)	(0.098)	(0.124)	(0.115)
Earnings inequality [ln(p50/p10)*100]	−0.003	0.086	−0.088	0.004	0.092	−0.088
	(0.070)	(0.088)	(0.084)	(0.070)	(0.089)	(0.082)
Average tax rate				−0.213	0.061	−0.274
				(0.110)	(0.140)	(0.129)
Marginal tax rate				0.019	0.071	−0.052
				(0.041)	(0.052)	(0.048)
Marginal effective tax rate				0.003	0.024	−0.021
				(0.026)	(0.033)	(0.030)
Participation tax rate				0.066	−0.058	0.124
				(0.036)	(0.045)	(0.042)
Wald tests				8.6	2.8	6.0
Countries	22	22	22	22	22	22
R^2	0.043	0.076	0.108	0.076	0.096	0.171
Adj. R^2	−0.084	−0.047	−0.011	−0.069	−0.046	0.040
Num. obs.	222	222	222	222	222	222

Note: Wald test χ^2-test statistics that all tax coefficients are zero, critical value at 5%-level is 9.5

Concluding remarks

- ▶ LIS data allow for the examination of children's living standard across most rich countries for long time periods
- ▶ real and relative living standards are cross-sectionally correlated but over long time period can move in quite different directions
- ▶ the "income packages" of disadvantaged children reveal variation both between and within countries in the relative important of markets and social transfers
- ▶ our regressions reveal dramatic differences in the impact of taxes, esp participation tax rates, on both living standards and the composition of disposable income (depending on whether country fixed effects are removed or not)
- ▶ the tax variables have little net effect on children's living standards; rather they change the composition

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