

**ECONOMICS DEPARTMENT  
ECONOMIC POLICY COMMITTEE**

**Cancels & replaces the same document of 9 March 2018**

**Working Party No. 1 on Macroeconomic and Structural Policy Analysis**

**Robustness test for the results presented in ECO/CPE/WP1 (2018)2, ‘An empirical investigation on the drivers of income redistribution across OECD countries’**

**22-23 March 2018 at the OECD Conference Centre (Room CC12), Paris, France.**

*The cancel and replace corrects one error regarding the data on net unemployment benefit replacement rates for long-term unemployed couples. Robustness results are not affected.*

This document is the annex of paper ECO/CPE/WP1 (2018)2, prepared for the Working Party No. 1 of the Economic Policy Committee. It contains additional robustness tests of the results presented in the main paper. It is part of the Inclusive Growth and Well-Being Workstream of the Economics Department.

**JT03428437**

## *Table of contents*

<b>Annex A.....</b>	<b>4</b>
<b>References .....</b>	<b>6</b>

### **Tables**

Table A A.1. Redistribution: the effects of labour market conditions and the socio-demographic composition of working-age households - baseline results without country fixed effects.....	7
Table A A.2. Redistribution: the effects of technological change and globalisation - baseline results without country fixed effects.....	8
Table A A.3. Redistribution: the effects of social spending and tax revenues - controlling for GDP growth.....	9
Table A A.4. Taxes and redistribution: a focus on the overall progressivity of personal income taxes on wage earnings - controlling for GDP growth .....	10
Table A A.5. Taxes and redistribution: a focus on top tax rates and on the taxation of capital income - controlling for GDP growth.....	11
Table A A.6. The tax structure and income redistribution - controlling for GDP growth .....	12
Table A A.7. Transfers and redistribution: a focus on unemployment-related transfers - controlling for GDP growth.....	13
Table A A.8. Transfers and redistribution: a focus on public policies for families and children - controlling for GDP growth.....	14
Table A A.9. The effects of old-age pension systems and early retirement incentives on redistribution to the working-age population - controlling for GDP growth .....	15
Table A A.10. Redistribution: the effects of social spending and tax revenues - IV estimation.....	16
Table A A.11. Taxes and redistribution: a focus on the overall progressivity of personal income taxes on wage earnings - IV estimation .....	17
Table A A.12. Taxes and redistribution: a focus on top tax rates and on the taxation of capital income - IV estimation .....	18
Table A A.13. The tax structure and income redistribution - IV estimation .....	19
Table A A.14. Transfers and redistribution: a focus on unemployment-related transfers - IV estimation.....	20
Table A A.15. Transfers and redistribution: a focus on public policies for families and children - IV estimation .....	21
Table A A.16. The effects of old-age pension systems and early retirement incentives on redistribution to the working-age population - IV estimation.....	22
Table A A.17. Redistribution: the effects of social spending and tax revenues - Median regressions..	23
Table A A.18. Taxes and redistribution: a focus on the overall progressivity of personal income taxes on wage earnings - Median regressions.....	24
Table A A.19. Taxes and redistribution: a focus on top tax rates and on the taxation of capital income - Median regressions.....	25
Table A A.20. The tax structure and income redistribution - Median regressions.....	26

---

Table A A.21. Transfers and redistribution: a focus on unemployment-related transfers - Median regressions .....	27
Table A A.22. Transfers and redistribution: a focus on public policies for families and children - Median regressions .....	28
Table A A.23. The effects of old-age pension systems and early retirement incentives on redistribution to the working-age population - Median regressions .....	29

## Annex A.

This Annex contains additional results from a set of robustness tests that have been performed to check the stability of the results presented in the main paper (ECO/CPE/WP1 (2018)2). These robustness tests range from controlling for additional variables in fixed effects regressions to alternative estimation methods. These are summarized as follows:

- Controlling for potential common cyclical movements between redistribution and policy variables using additional explanatory variables:
  - Output gap
  - GDP growth
- Lagging different sets of explanatory variables:
  - All explanatory variables lagged
  - Policy variables (tax revenue, social spending and policy parameters) lagged
  - Policy variables (tax revenue, social spending and policy parameters) and earnings inequality lagged
- Instrumental variables (IV) regressions: using first lags of different sets of explanatory variables as instruments for their contemporaneous values in fixed effects regressions:
  - Instrumenting all explanatory variables
  - Instrumenting policy variables (tax revenue, social spending and policy parameters)
  - Instrumenting policy variables (tax revenue, social spending and policy parameters) and earnings inequality
- Quantile (median) regressions, estimated with country fixed effects.

The first three tests address endogeneity concerns associated with the explanatory variables. The last test addresses outlier i.e. influential observations: in the case of a skewed conditional distribution, median regressions provide more robust inference on the slope parameters compared to the usual conditional expectation regression.

This battery of robustness tests indicate that the results presented in the main paper are largely robust. In this Annex only a subset of these tests are reported, the rest being available upon request. The reported tests are: i) controlling for GDP growth (Tables 3-9), ii) instrumenting policy variables (Tables 10-16) and, iii) median regressions (Tables 17-23). IV regressions are reported with two diagnostic tests: Kleibergen and Paap (KP)<sup>1</sup> to

---

<sup>1</sup> Kleibergen and Paap (2006).

check the validity of the lagged policy variables as instruments, and difference-in-Sargan as a measure of the distance between fixed effects and IV estimates. If the KP test validates the instruments by rejecting the null hypothesis of under identification, the choice between fixed effects and IV estimates can be done using difference-in-Sargan statistics. The null hypothesis of this test states that the policy variables are exogenous. Hence rejecting this hypothesis can be interpreted as evidence against the fixed effects regressions.

The results reported in the main paper are overall strongly robust to controlling for cyclical variables, lags and influential observations. In terms of statistical significance, a few policy variables can be identified as having a less robust effect than others, especially in IV regressions. Those variables are:

- Total social spending as a share of GDP,
- Overall structural progression of personal income taxes on wage earnings,
- Share of overall tax rate on dividend income collected through the use of PIT,
- Women minimum retirement age and replacement rate from the old-age pension system at age 69.

In the case of total social spending, adding GDP growth results in a slightly smaller slope estimate and higher variance. GDP growth is never statistically significant in the regressions, an indication that this variable may introduce some noise in the estimates. KP and Difference-in-Sargan tests indicate that the fixed effect regressions are preferred over the IV regressions. In median regressions, the estimated effect of total social spending is similar to that of the fixed effect regressions, in most cases even of higher magnitude. Hence, the results on total social spending reported in the main paper can be considered confirmed by the robustness tests.

The fact that the effect of the overall structural progression of personal income taxes on wage earnings is relatively sensitive to the robustness tests should not dismay the paper's finding of strong redistributive effects from tax progressivity. Indeed, all the other complementary measures of progressivity (e.g. top statutory personal income tax rates, top marginal tax rates, dividend income taxation) exhibit very robust effects. The less robust effect of the overall structural progression of personal income taxes on wage earnings may reflect measurement issues associated with that indicator, as suggested in the main text. Furthermore, as with total social spending, diagnostic tests conclude in favour of the fixed effects regressions.

The effect of the share of overall tax rate on dividend income collected through the use of PIT becomes statistically insignificant in IV regressions. However, again diagnostic tests point to the superiority of fixed effects results over IV regressions. Furthermore, there is still evidence of a statistically significant effect in median regressions. A similar pattern emerges for the effects of women minimum retirement age and that of replacement rates from the old-age pension system at age 69.

## *References*

Kleibergen, F. and Paap, R. 2006. Generalized Reduced Rank Tests Using the Singular Value Decomposition. *Journal of Econometrics*, Vol. 133, pp. 97-126.

**Table A A.1. Redistribution: the effects of labour market conditions and the socio-demographic composition of working-age households - baseline results without country fixed effects**

Dependent variable is ln(redistribution)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<b>Labour market conditions</b>																	
ln (Unemployment rate)	<b>0.29*</b> (0.14)	0.09 (0.14)	<b>0.51*</b> (0.25)	0.26 (0.17)	<b>0.23*</b> (0.13)	0.22 (0.13)	<b>0.32**</b> (0.15)	<b>0.24*</b> (0.13)	<b>0.29*</b> (0.14)	<b>0.32***</b> (0.11)	<b>0.37***</b> (0.12)	<b>0.28**</b> (0.12)	<b>0.32**</b> (0.14)			<b>0.23**</b> (0.09)	<b>0.23**</b> (0.09)
Long-term unemployment		<b>0.86**</b> (0.39)															
Employment rate			2.14 (1.58)														
<b>Demographic and socioeconomic conditions</b>																	
Youth dependency rate				-1.48 (1.03)		-0.36 (1.07)											
Old-age dependency rate					<b>3.28**</b> (1.60)	3.07 (1.82)											
Share of lone parents among working-age households							1.78 (1.95)										
Share of families with children among working-age households								<b>-2.83**</b> (1.22)									
Share of workless families with children among working-age households									0.65 (1.40)	2.99 (1.97)	2.56 (1.94)	2.43 (2.00)	0.98 (1.92)	3.42 (2.36)	0.26 (1.86)	1.11 (1.94)	0.89 (1.85)
<b>Income inequality before taxes and transfers</b>																	
Earnings inequality: ln (d9d1)										<b>-0.96***</b> (0.23)				<b>-0.92***</b> (0.27)		-0.19 (0.32)	
ln (d9d5)											<b>-1.76***</b> (0.51)						
ln (d5d1)												<b>-1.01**</b> (0.38)					
Gini market income													-0.61 (2.52)		1.26 (2.45)		
<b>Government partisanship and union power</b>																	
Left-wing gov. parties' seat share																5.98 (8.93)	7.21 (8.70)
Union density																0.40 (0.30)	<b>0.49*</b> (0.25)
Voter turnout																0.13 (0.40)	0.25 (0.32)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Observations	380	371	380	380	380	380	380	380	380	362	362	362	380	362	381	300	311
R squared	0.23	0.34	0.27	0.26	0.34	0.34	0.24	0.38	0.23	0.44	0.48	0.31	0.23	0.35	0.17	0.31	0.30

*Note:* Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level.

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01

Bold highlights significant coefficients

**Table A A.2. Redistribution: the effects of technological change and globalisation - baseline results without country fixed effects**

Dependent variable is ln(redistribution to working-age population)	1	2	3	4	5	6	7
<b>Globalisation &amp; technological change</b>							
ln (openness)	<b>0.32***</b> (0.08)				<b>0.28***</b> (0.07)	<b>0.30***</b> (0.07)	<b>0.32***</b> (0.07)
ln (exports)		<b>0.29***</b> (0.07)					
ln (imports)			<b>0.34***</b> (0.08)				
ln (imported value added to final demand )				<b>0.46***</b> (0.14)			
ln (inflows of migrants relative to of working-age population)					0.01 (0.05)		
ln (stock of migrants relative to of working-age population)						0.01 (0.03)	
ln (MFP change)	-0.53 (0.49)	-0.52 (0.52)	-0.53 (0.48)	-0.38 (0.53)	-0.63 (0.52)	-0.33 (0.43)	-0.31 (0.43)
<b>Changes in the nature of work</b>							
Share of temporary employment in total employment							-0.71 (0.87)
<b>Labour market, sociodemographic conditions and earnings inequality</b>							
ln (Unemployment rate)	<b>0.31***</b> (0.10)	<b>0.32***</b> (0.10)	<b>0.29***</b> (0.11)	<b>0.27**</b> (0.12)	<b>0.33***</b> (0.12)	<b>0.30**</b> (0.11)	<b>0.31***</b> (0.11)
Earnings inequality: ln (d9d1)	<b>-0.93***</b> (0.24)	<b>-0.89***</b> (0.24)	<b>-0.97***</b> (0.24)	<b>-0.97***</b> (0.23)	<b>-0.94***</b> (0.25)	<b>-0.89***</b> (0.24)	<b>-0.97***</b> (0.23)
Share of workless families with children among working-age households	<b>3.08**</b> (1.42)	<b>2.98**</b> (1.40)	<b>3.17**</b> (1.46)	<b>2.52*</b> (1.35)	<b>3.91**</b> (1.41)	<b>3.63**</b> (1.49)	<b>2.93**</b> (1.37)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	No	No	No	No	No	No	No
Observations	357	357	357	254	345	302	319
R squared	0.55	0.54	0.55	0.46	0.51	0.61	0.55

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level.

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01

Bold highlights significant coefficients



**Table A A.3. Redistribution: the effects of social spending and tax revenues - controlling for GDP growth**

Dependent variable is ln(redistribution)	1	2	3	4	5	6	7	8	9	10	11
<b>Social spending (in% of GDP)</b>											
Social spending on cash support to working-age population	<b>4.12**</b> (1.55)						<b>3.29**</b> (1.47)		<b>3.16**</b> (1.42)		<b>3.27**</b> (1.49)
Total Social spending on working-age population		<b>2.47**</b> (1.10)									
Total Social spending on old-age population		-0.24 (2.26)									
Total Social spending			1.54 (0.98)					1.49 (0.94)		1.26 (0.89)	
<b>Tax revenues (in% of GDP)</b>											
Tax revenues from PIT and employees' SSC				<b>2.88***</b> (0.70)			<b>1.94**</b> (0.76)		<b>2.05**</b> (0.77)		<b>2.03**</b> (0.75)
Tax revenues from PIT					<b>3.23***</b> (1.02)						
Tax revenues from employees' SSC					1.19 (1.41)						
Total Tax revenues						0.64 (0.75)		0.13 (0.68)		0.23 (0.70)	
<b>Interaction between openness and (*):</b>											
Tax revenues from PIT and employees' SSC									<b>-1.90***</b> (0.60)		
Total tax revenues										<b>-0.98*</b> (0.53)	
Social spending on cash support to working-age population											-1.69 (1.15)
<b>Technological change &amp; Globalisation</b>											
Ln (openness)	<b>0.21**</b> (0.087)	<b>0.23*</b> (0.11)	<b>0.19*</b> (0.098)	0.086 (0.074)	0.081 (0.074)	0.18 (0.12)	0.091 (0.077)	0.19 (0.12)	0.085 (0.067)	0.17 (0.12)	0.082 (0.071)
Ln (MFP change)	<b>-0.41**</b> (0.17)	<b>-0.40**</b> (0.19)	<b>-0.32*</b> (0.18)	<b>-0.38**</b> (0.17)	<b>-0.34**</b> (0.15)	<b>-0.40**</b> (0.19)	<b>-0.36**</b> (0.16)	-0.31 (0.19)	<b>-0.37**</b> (0.15)	-0.29 (0.19)	<b>-0.31*</b> (0.17)
<b>Labour market, sociodemographic conditions and earnings inequality</b>											
ln(Unemployment rate)	<b>0.074*</b> (0.039)	<b>0.090**</b> (0.039)	<b>0.11**</b> (0.043)	<b>0.13***</b> (0.024)	<b>0.13***</b> (0.025)	<b>0.15***</b> (0.027)	<b>0.067*</b> (0.038)	<b>0.11***</b> (0.041)	<b>0.072*</b> (0.036)	<b>0.12***</b> (0.039)	<b>0.069*</b> (0.037)
Earnings inequality: ln (d9d1)	<b>-0.51***</b> (0.18)	<b>-0.59***</b> (0.21)	<b>-0.44**</b> (0.16)	<b>-0.36**</b> (0.15)	<b>-0.36**</b> (0.15)	<b>-0.43***</b> (0.15)	<b>-0.42**</b> (0.18)	<b>-0.43**</b> (0.16)	<b>-0.35*</b> (0.18)	<b>-0.41**</b> (0.16)	<b>-0.39**</b> (0.17)
Share of workless families with children among working-age households	1.33 (0.91)	1.52 (0.92)	1.12 (0.90)	1.09 (0.88)	1.07 (0.87)	1.32 (0.98)	<b>1.38*</b> (0.78)	1.13 (0.90)	<b>1.56**</b> (0.74)	1.15 (0.92)	<b>1.63*</b> (0.86)
GDP growth	-0.18 (0.23)	-0.18 (0.27)	-0.15 (0.28)	-0.21 (0.19)	-0.17 (0.20)	-0.31 (0.24)	-0.100 (0.20)	-0.15 (0.29)	-0.097 (0.20)	-0.14 (0.29)	-0.13 (0.19)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	328	328	356	344	344	357	318	356	318	356	318
R squared	0.543	0.535	0.512	0.524	0.528	0.491	0.561	0.512	0.574	0.519	0.566

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. (\*) Every variable in the interactions is demeaned. R squared does not incorporate the effect of country fixed effects.

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01

Bold highlights significant coefficients

**Table A A.4. Taxes and redistribution: a focus on the overall progressivity of personal income taxes on wage earnings - controlling for GDP growth**

Dependent variable is ln(redistribution)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<b>Tax parameters</b>																	
<i>Progressivity of personal income taxes (1)</i>																	
Overall structural progression of personal income taxes on wage earnings	<b>0.35**</b> (0.14)	<b>0.38**</b> (0.17)	<b>0.36**</b> (0.14)	<b>0.37**</b> (0.14)													
<i>Average effective tax rates across the distribution (1)</i>																	
Average effective tax rate at 67 % of the AW		1.11 (1.08)		0.22 (1.06)	0.13 (1.10)	0.22 (0.96)	0.39 (0.99)	0.49 (0.99)	0.57 (1.00)	0.62 (1.02)	0.67 (1.03)	0.73 (1.04)	0.77 (1.05)	0.80 (1.05)	0.83 (1.06)	0.85 (1.07)	0.87 (1.07)
Average effective tax rate at 100% the AW			1.39 (0.95)	<b>1.22*</b> (0.66)	<b>1.27*</b> (0.73)												
Average effective tax rate at 133% of the AW						<b>1.33*</b> (0.67)											
Average effective tax rate at 167% of the AW							<b>1.20*</b> (0.61)										
Average effective tax rate at 200% of the AW								<b>1.20*</b> (0.59)									
Average effective tax rate at 233% of the AW									<b>1.13*</b> (0.57)								
Average effective tax rate at 267% of the AW										<b>1.05*</b> (0.53)							
Average effective tax rate at 300% of the AW											<b>1.03*</b> (0.52)						
Average effective tax rate at 333% of the AW												<b>1.02**</b> (0.49)					
Average effective tax rate at 367% of the AW													<b>0.95*</b> (0.47)				
Average effective tax rate at 400% of the AW														<b>0.90*</b> (0.46)			
Average effective tax rate at 433% of the AW															<b>0.86*</b> (0.45)		
Average effective tax rate at 467% of the AW																<b>0.85*</b> (0.44)	
Average effective tax rate at 500% of the AW																	<b>0.83*</b> (0.44)
<b>Tax revenues</b>																	
Total Tax revenues (% of GDP)	0.35 (0.81)	0.10 (0.85)	0.074 (0.79)	0.058 (0.83)	0.17 (0.79)	0.053 (0.81)	0.057 (0.81)	0.050 (0.81)	0.065 (0.81)	0.099 (0.80)	0.089 (0.80)	0.058 (0.81)	0.062 (0.81)	0.066 (0.81)	0.065 (0.81)	0.054 (0.81)	0.045 (0.81)
<b>Technological change &amp; Globalisation</b>																	
Ln (openness)	<b>0.27**</b> (0.13)	<b>0.21**</b> (0.10)	<b>0.19*</b> (0.100)	<b>0.19*</b> (0.099)	<b>0.18*</b> (0.098)	<b>0.18*</b> (0.092)	<b>0.19**</b> (0.091)	<b>0.18**</b> (0.089)	<b>0.19**</b> (0.089)	<b>0.19**</b> (0.089)	<b>0.19**</b> (0.089)	<b>0.19**</b> (0.088)	<b>0.19**</b> (0.088)	<b>0.19**</b> (0.088)	<b>0.19**</b> (0.088)	<b>0.19**</b> (0.088)	<b>0.20**</b> (0.088)
Ln (MFP change)	-0.35* (0.20)	-0.30 (0.22)	-0.34 (0.21)	-0.33 (0.22)	-0.29 (0.21)	-0.29 (0.21)	-0.29 (0.21)	-0.29 (0.21)	-0.28 (0.21)	-0.28 (0.22)	-0.28 (0.22)	-0.27 (0.22)	-0.27 (0.22)	-0.27 (0.22)	-0.26 (0.22)	-0.26 (0.22)	-0.26 (0.22)
<b>Labour market, sociodemographic conditions and earnings inequality</b>																	
ln(Unemployment rate)	<b>0.15***</b> (0.034)	<b>0.14***</b> (0.031)	<b>0.13***</b> (0.027)	<b>0.13***</b> (0.028)	<b>0.14***</b> (0.028)	<b>0.14***</b> (0.027)	<b>0.14***</b> (0.026)	<b>0.14***</b> (0.026)	<b>0.14***</b> (0.025)	<b>0.13***</b> (0.025)	<b>0.13***</b> (0.026)	<b>0.13***</b> (0.026)	<b>0.13***</b> (0.026)	<b>0.13***</b> (0.026)	<b>0.13***</b> (0.026)	<b>0.13***</b> (0.026)	<b>0.13***</b> (0.027)
Earnings inequality: ln (d9d1)	<b>-0.40**</b> (0.17)	<b>-0.40**</b> (0.17)	<b>-0.47***</b> (0.17)	<b>-0.46**</b> (0.18)	<b>-0.47**</b> (0.18)	<b>-0.45**</b> (0.18)	<b>-0.44**</b> (0.17)	<b>-0.43**</b> (0.17)	<b>-0.43**</b> (0.17)	<b>-0.42**</b> (0.17)	<b>-0.42**</b> (0.17)	<b>-0.42**</b> (0.17)	<b>-0.41**</b> (0.17)	<b>-0.41**</b> (0.17)	<b>-0.41**</b> (0.17)	<b>-0.41**</b> (0.17)	<b>-0.41**</b> (0.17)
Share of workless families with children among working-age households	1.20 (0.97)	1.30 (0.98)	1.40 (0.93)	1.39 (0.94)	1.34 (0.98)	1.21 (0.95)	1.08 (0.95)	0.93 (0.97)	0.84 (0.98)	0.82 (0.98)	0.81 (0.98)	0.84 (0.96)	0.83 (0.97)	0.82 (0.98)	0.82 (0.99)	0.81 (0.99)	0.81 (0.99)
GDP growth	-0.33 (0.27)	-0.38 (0.29)	-0.34 (0.26)	-0.34 (0.28)	-0.30 (0.27)	-0.33 (0.27)	-0.35 (0.27)	-0.37 (0.27)	-0.38 (0.27)	-0.37 (0.27)	-0.38 (0.26)	-0.40 (0.26)	-0.40 (0.26)	-0.40 (0.26)	-0.40 (0.27)	-0.40 (0.27)	-0.41 (0.27)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	318	318	318	318	322	322	322	322	322	322	322	322	322	322	322	322	322
R squared	0.465	0.483	0.492	0.492	0.487	0.495	0.495	0.497	0.497	0.496	0.496	0.499	0.497	0.496	0.495	0.496	0.496

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. R squared does not incorporate the effect of country fixed effects. (1) Data refer to single taxpayers without children.

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01

Bold highlights significant coefficients

**Table A A.5. Taxes and redistribution: a focus on top tax rates and on the taxation of capital income - controlling for GDP growth**

Dependent variable is ln(redistribution)	1	2	3	4	5	6	7	8	9
<b>Tax parameters</b>									
<b>Top tax rates</b>									
Top statutory personal income tax rates	<b>0.67**</b> (0.30)	<b>0.63**</b> (0.27)							
Top marginal tax rates - PIT			0.28 (0.25)						
Top marginal tax rates - PIT & employee SSC				<b>0.41**</b> (0.20)	<b>0.37*</b> (0.20)				
<b>Taxation of capital income</b>									
Net personal tax on dividend income						<b>0.31*</b> (0.16)	<b>0.34**</b> (0.15)		
Share of overall tax rate on dividend income collected through the use of PIT								<b>0.20*</b> (0.099)	<b>0.21**</b> (0.091)
<b>Average effective tax rates controls(1)</b>									
Average effective tax rate at 67 % of the AW		0.45 (1.00)			0.52 (1.00)		0.094 (0.97)		0.15 (1.02)
Average effective tax rate at 100% the AW		0.79 (0.52)			0.78 (0.56)		<b>1.43***</b> (0.50)		<b>1.31**</b> (0.61)
<b>Tax revenues</b>									
Total Tax revenues (% of GDP)	0.076 (0.76)	-0.096 (0.77)	0.20 (0.81)	0.22 (0.75)	0.016 (0.78)	0.40 (0.73)	0.14 (0.74)	0.47 (0.74)	0.21 (0.75)
<b>Technological change &amp; Globalisation</b>									
Ln (openness)	<b>0.26**</b> (0.11)	<b>0.20**</b> (0.085)	<b>0.26**</b> (0.12)	<b>0.26**</b> (0.12)	<b>0.19**</b> (0.091)	<b>0.26*</b> (0.13)	0.17 (0.11)	<b>0.25*</b> (0.13)	0.17 (0.10)
Ln (MFP change)	-0.30 (0.22)	-0.27 (0.24)	-0.31 (0.22)	-0.38* (0.21)	-0.34 (0.23)	-0.24 (0.18)	-0.21 (0.19)	-0.22 (0.17)	-0.20 (0.19)
<b>Labour market, sociodemographic conditions and earnings inequality</b>									
ln(Unemployment rate)	<b>0.13***</b> (0.028)	<b>0.12***</b> (0.025)	<b>0.15***</b> (0.031)	<b>0.15***</b> (0.028)	<b>0.13***</b> (0.024)	<b>0.17***</b> (0.033)	<b>0.14***</b> (0.026)	<b>0.17***</b> (0.033)	<b>0.15***</b> (0.026)
Earnings inequality: ln (d9d1)	<b>-0.39**</b> (0.16)	<b>-0.42**</b> (0.17)	<b>-0.45**</b> (0.18)	<b>-0.45**</b> (0.17)	<b>-0.48**</b> (0.18)	<b>-0.39**</b> (0.16)	<b>-0.46**</b> (0.17)	<b>-0.35*</b> (0.17)	<b>-0.41**</b> (0.19)
Share of workless families with children among working-age households	0.52 (0.91)	0.66 (0.88)	0.91 (0.94)	0.68 (0.88)	0.83 (0.88)	1.06 (0.94)	1.22 (0.89)	1.19 (0.97)	1.36 (0.95)
GDP growth	-0.37 (0.24)	-0.38 (0.26)	-0.30 (0.26)	-0.26 (0.25)	-0.28 (0.27)	-0.23 (0.25)	-0.23 (0.26)	-0.21 (0.25)	-0.22 (0.27)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	326	322	326	326	322	326	322	326	322
R squared	0.497	0.517	0.470	0.484	0.505	0.485	0.516	0.478	0.506

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. R squared does not incorporate the effect of country fixed effects. (1) Data refer to single taxpayers without children.

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01

Bold highlights significant coefficients

**Table A A.6. The tax structure and income redistribution - controlling for GDP growth**

Dependent variable is ln(redistribution)	1	2	3	4	5	6
<b>Tax structure (% of Total Tax revenue)</b>						
Tax revenue share from PIT and employees' SSC	<b>0.90***</b> (0.32)					
From PIT		<b>1.00**</b> (0.43)				
From employees' SSC		0.58 (0.54)				
Tax revenue share from goods and services			<b>-1.52**</b> (0.63)	<b>-1.48**</b> (0.55)		
From production, sale transfer					<b>-1.19**</b> (0.54)	<b>-1.20**</b> (0.54)
From use of goods and perform					<b>-5.15**</b> (2.36)	<b>-4.98**</b> (2.21)
Tax revenue share from property			0.97 (1.26)			0.45 (1.08)
From Recurrent taxes on immovable property				1.64 (2.13)		
From Recurrent taxes on net wealth				4.15 (4.43)		
From Estate, inheritance and gift taxes				1.08 (5.38)		
From taxes on financial and capital transactions				-1.16 (2.22)		
From Non-recurrent taxes on property				3.41 (3.50)		
<b>Tax revenues (% of GDP)</b>						
Total Tax revenues	<b>1.36***</b> (0.49)	<b>1.30***</b> (0.44)	0.23 (0.60)	0.38 (0.72)	0.32 (0.46)	0.31 (0.45)
<b>Technological change &amp; Globalisation</b>						
Ln (openness)	0.067 (0.083)	0.068 (0.083)	<b>0.23**</b> (0.11)	<b>0.20**</b> (0.089)	<b>0.19**</b> (0.083)	<b>0.20**</b> (0.084)
Ln (MFP change)	<b>-0.33*</b> (0.18)	<b>-0.31*</b> (0.17)	<b>-0.52**</b> (0.21)	<b>-0.48**</b> (0.21)	<b>-0.48**</b> (0.20)	<b>-0.47**</b> (0.20)
<b>Labour market, sociodemographic conditions and earnings inequality</b>						
ln(Unemployment rate)	<b>0.13***</b> (0.025)	<b>0.13***</b> (0.026)	<b>0.14***</b> (0.024)	<b>0.12***</b> (0.034)	<b>0.14***</b> (0.024)	<b>0.14***</b> (0.024)
Earnings inequality: ln (d9d1)	<b>-0.34**</b> (0.15)	<b>-0.34**</b> (0.15)	<b>-0.47***</b> (0.15)	<b>-0.45***</b> (0.16)	<b>-0.51***</b> (0.16)	<b>-0.50***</b> (0.16)
Share of workless families with children among working-age households	1.13 (0.94)	1.10 (0.95)	0.72 (0.97)	0.55 (0.95)	1.02 (1.00)	0.99 (0.99)
GDP growth	-0.14 (0.21)	-0.14 (0.21)	-0.29 (0.21)	-0.30 (0.22)	-0.25 (0.22)	-0.27 (0.22)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	344	344	357	357	357	357
R squared	0.526	0.527	0.542	0.555	0.555	0.555

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. R squared does not incorporate the effect of country fixed effects.

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01

Bold highlights significant coefficients

**Table A A.7. Transfers and redistribution: a focus on unemployment-related transfers - controlling for GDP growth**

Dependent variable is ln(redistribution)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<b>Transfer parameters</b>														
<b>Net unemployment benefit replacement rate (1)</b>														
Over 5 years - at 100% of the AW, married couple	<b>0.72*</b> (0.36)							0.26 (0.24)			<b>0.74***</b> (0.20)			
Over 5 years - at 150% of the AW, married couple		0.65 (0.49)												
Over 5 years - at 67% of the AW, married couple			<b>0.55**</b> (0.24)						0.25 (0.17)			<b>0.56***</b> (0.12)		
Initial - at 100% of the AW, married couple				0.35 (0.24)										
Initial - at 67% of the AW, married couple					0.11 (0.16)									
Long-term- at 100% of the AW, married couple						<b>0.59*</b> (0.32)								
Long-term- at 67% of the AW, married couple							<b>0.47*</b> (0.24)			0.19 (0.16)			<b>0.37***</b> (0.13)	<b>0.29**</b> (0.13)
Unemployment insurance coverage (2)											<b>0.74**</b> (0.33)	<b>0.77**</b> (0.32)	<b>0.70*</b> (0.38)	<b>0.98***</b> (0.31)
<b>Social spending (in% of GDP)</b>														
Spending on active labour market policies (3)								<b>-11.9*</b> (6.50)	<b>-12.2*</b> (6.08)	<b>-12.6**</b> (6.02)				<b>-13.8**</b> (5.92)
Total Social spending	-0.13 (1.03)	-0.069 (1.09)	-0.13 (1.02)	0.094 (1.03)	0.12 (1.07)	-0.036 (1.05)	-0.017 (1.01)	1.25 (0.80)	1.20 (0.78)	1.28 (0.81)	0.59 (1.36)	0.44 (1.36)	0.68 (1.43)	0.40 (1.07)
<b>Technological change &amp; Globalisation</b>														
Ln (openness)	<b>0.22***</b> (0.072)	<b>0.24***</b> (0.082)	<b>0.21***</b> (0.069)	<b>0.24***</b> (0.086)	<b>0.26**</b> (0.099)	<b>0.22***</b> (0.072)	<b>0.20***</b> (0.067)	<b>0.14***</b> (0.048)	<b>0.13**</b> (0.047)	<b>0.14***</b> (0.046)	<b>0.18**</b> (0.073)	<b>0.15*</b> (0.076)	<b>0.18**</b> (0.071)	<b>0.15**</b> (0.058)
Ln (MFP change)	-0.15 (0.22)	-0.15 (0.21)	-0.15 (0.22)	-0.12 (0.19)	-0.12 (0.20)	-0.12 (0.21)	-0.098 (0.21)	-0.097 (0.25)	-0.089 (0.25)	-0.10 (0.24)	-0.31 (0.30)	-0.30 (0.31)	-0.30 (0.30)	-0.084 (0.27)
<b>Labour market, sociodemographic conditions and earnings inequality</b>														
ln (Unemployment rate)	<b>0.17***</b> (0.036)	<b>0.16***</b> (0.037)	<b>0.17***</b> (0.036)	<b>0.17***</b> (0.037)	<b>0.17***</b> (0.039)	<b>0.17***</b> (0.036)	<b>0.17***</b> (0.036)	<b>0.14***</b> (0.030)	<b>0.14***</b> (0.031)	<b>0.14***</b> (0.031)	0.096 (0.071)	0.10 (0.072)	0.11 (0.074)	<b>0.18***</b> (0.048)
Earnings inequality: ln (d9d1)	<b>-0.52***</b> (0.19)	<b>-0.51***</b> (0.18)	<b>-0.51**</b> (0.19)	<b>-0.54***</b> (0.19)	<b>-0.50***</b> (0.18)	<b>-0.51***</b> (0.19)	<b>-0.52***</b> (0.19)	<b>-0.47**</b> (0.22)	<b>-0.47**</b> (0.22)	<b>-0.48**</b> (0.22)	<b>-0.75**</b> (0.34)	<b>-0.74**</b> (0.34)	<b>-0.75**</b> (0.36)	-0.59 (0.35)
Share of workless families with children among working-age households	1.17 (1.32)	1.40 (1.36)	1.13 (1.30)	1.83 (1.24)	1.75 (1.25)	1.13 (1.33)	1.06 (1.37)	1.25 (1.27)	1.15 (1.26)	1.21 (1.27)	1.80* (1.06)	1.85* (1.05)	1.85 (1.09)	1.52 (0.96)
GDP growth	-0.29 (0.24)	-0.31 (0.24)	-0.29 (0.24)	-0.21 (0.24)	-0.28 (0.25)	-0.27 (0.23)	-0.25 (0.23)	-0.011 (0.25)	-0.0028 (0.25)	-0.0063 (0.25)	-0.32 (0.31)	-0.29 (0.31)	-0.26 (0.34)	-0.29 (0.37)
Time fixed effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country fixed effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	304	304	304	304	304	304	304	272	272	272	152	152	152	142
R squared	0.551	0.534	0.549	0.521	0.509	0.541	0.542	0.504	0.509	0.505	0.592	0.595	0.580	0.636

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. R squared does not incorporate the effect of country fixed effects. (1) Families without children. (2) % of labour force insured for unemployment risk. (3) Active measures only (categories 10-70).

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01, Bold highlights significant coefficients

**Table A A.8. Transfers and redistribution: a focus on public policies for families and children - controlling for GDP growth**

Dependent variable is ln(redistribution)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<b>Policy indicators</b>														
Total public spending on families as a share of GDP	2.00 (3.16)													
Public spending on cash benefits for families as a share of GDP		3.97 (4.58)												
Public spending on in-kind benefits for families as a share of GDP			7.01 (6.23)											
Public spending on tax breaks for families as a share of GDP				-5.02 (6.30)										
Public spending on early childhood education and care as a share of GDP					16.4** (7.46)									
Length of paid maternity leave						0.094* (0.046)								
Length of paid paternity leave							0.11 (0.14)							
Proportional difference in net transfers by single and equal-dual earner couples, household earnings at 133% of the AW								0.0021* (0.0012)						
Proportional difference in net transfers by single and equal-dual earner couples, household earnings at 200% of the AW									-0.43 (0.36)					
<b>Labour market situation of women</b>														
Gender-gap in the full-time equivalent employment to population ratio										-1.70** (0.72)				
Employment rate of mothers											0.54* (0.29)			
Employment rate of partnered mothers												0.63** (0.30)		
Employment rate of sole-parents mothers													-0.11 (0.18)	
Women employment rate														0.32 (0.59)
<b>Social spending (in% of GDP)</b>														
Total Social spending	-1.10 (0.99)	1.29 (0.93)	0.15 (1.08)	-0.99 (1.00)	0.97 (0.89)	1.43 (0.98)	1.43 (0.99)	0.25 (1.10)	0.43 (1.00)	0.60 (1.08)	1.44 (0.90)	1.69* (0.94)	1.40 (0.90)	1.62 (1.03)
<b>Technological change &amp; Globalisation</b>														
Ln (openness)	0.21 (0.13)	0.21** (0.10)	0.26** (0.11)	0.21* (0.12)	0.30** (0.12)	0.24** (0.096)	0.18 (0.11)	0.27** (0.10)	0.30** (0.11)	0.31** (0.13)	0.17** (0.064)	0.14* (0.079)	0.14* (0.071)	0.19* (0.099)
Ln (MFP change)	-0.49** (0.23)	-0.35** (0.17)	-0.26* (0.15)	-0.50** (0.23)	-0.38** (0.17)	-0.29 (0.27)	-0.31 (0.25)	-0.089 (0.20)	-0.063 (0.22)	-0.32** (0.15)	-0.14 (0.14)	-0.079 (0.14)	-0.16 (0.14)	-0.28 (0.20)
<b>Labour market, sociodemographic conditions and earnings inequality</b>														
Ln (Unemployment rate)	0.18*** (0.034)	0.097** (0.047)	0.15*** (0.040)	0.18*** (0.034)	0.12*** (0.037)	0.10** (0.045)	0.12** (0.043)	0.16*** (0.038)	0.15*** (0.034)	0.043 (0.048)	0.15*** (0.036)	0.15*** (0.039)	0.13*** (0.045)	0.12*** (0.044)
Earnings inequality: ln (d9d1)	-0.68* (0.35)	-0.49*** (0.17)	-0.52*** (0.17)	-0.70* (0.35)	-0.53*** (0.19)	-0.60* (0.30)	-0.62** (0.29)	-0.50*** (0.18)	-0.55*** (0.19)	-0.46** (0.17)	-0.44** (0.17)	-0.42** (0.17)	-0.40** (0.18)	-0.43** (0.17)
Share of workless families with children among working-age households	1.27 (1.09)	1.25 (0.92)	1.61 (1.09)	1.21 (1.09)	0.90 (1.04)	0.94 (0.96)	0.88 (0.89)	2.13 (1.28)	1.69 (1.10)	0.65 (1.08)	1.68 (1.31)	1.84 (1.41)	1.63 (1.36)	1.21 (0.84)
GDP growth	-0.46 (0.33)	-0.14 (0.26)	-0.21 (0.24)	-0.47 (0.32)	-0.20 (0.27)	-0.25 (0.35)	-0.26 (0.35)	-0.26 (0.25)	-0.27 (0.23)	-0.084 (0.25)	0.037 (0.20)	0.12 (0.19)	0.12 (0.21)	-0.12 (0.28)
Time fixed effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country fixed effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	178	329	280	179	293	320	320	304	304	304	263	254	254	356
R squared	0.531	0.527	0.505	0.530	0.554	0.522	0.520	0.510	0.527	0.526	0.555	0.563	0.549	0.514

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. R squared does not incorporate the effect of country fixed effects. Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01, Bold highlights significant coefficients

**Table A A.9. The effects of old-age pension systems and early retirement incentives on redistribution to the working-age population - controlling for GDP growth**

Dependent variable is ln(redistribution)	1	2	3	4	5	6	7	8	9	10	11	12	13
<b>Old-age pension parameters (1)</b>													
Normal retirement age	-0.013 (0.0084)												
Normal retirement age, men		-0.0084 (0.0078)											
Normal retirement age, women			<b>-0.013*</b> (0.0069)										
Minimum retirement age				<b>0.012***</b> (0.0034)									
Minimum retirement, men					<b>0.014***</b> (0.0024)		<b>0.019***</b> (0.0028)	<b>0.015***</b> (0.0022)	<b>0.017***</b> (0.0026)	<b>0.017***</b> (0.0031)	<b>0.016***</b> (0.0023)		
Minimum retirement, women						<b>0.0093*</b> (0.0047)							
Replacement rate from the old-age pension system at age 60 (2)							<b>0.077*</b> (0.039)						
Replacement rate from the old-age pension system at age 65 (2)								<b>0.11**</b> (0.044)					
Replacement rate from the old-age pension system at age 69 (2)									<b>0.42*</b> (0.20)				
Replacement rate from the old-age pension system between ages 60 & 65 (average) (2)										0.041 (0.046)			
Replacement rate from the old-age pension system between ages 65 & 69 (average) (2)											<b>0.32*</b> (0.16)		
<b>Effective retirement age</b>													
Average effective retirement age, men												<b>-0.017*</b> (0.0083)	
Average effective retirement age, women													-0.0012 (0.0079)
<b>Social spending (in% of GDP)</b>													
Social spending on old-age population	1.85 (2.21)	1.97 (2.28)	1.78 (2.16)	1.81 (1.91)	1.58 (1.78)	1.99 (2.03)	1.50 (1.79)	1.61 (1.78)	1.11 (1.98)	1.49 (1.84)	1.50 (1.85)	-2.34 (2.94)	-2.33 (2.96)
Total Social spending	<b>2.49*</b> (1.40)	2.33 (1.40)	<b>2.59*</b> (1.40)	<b>2.43*</b> (1.33)	<b>2.50*</b> (1.32)	<b>2.37*</b> (1.34)	<b>2.42*</b> (1.26)	<b>2.47*</b> (1.29)	<b>2.33**</b> (1.07)	<b>2.49*</b> (1.31)	<b>2.36*</b> (1.16)	<b>2.43**</b> (1.13)	<b>2.44**</b> (1.17)
<b>Technological change &amp; Globalisation</b>													
Ln (openness)	0.17 (0.14)	0.16 (0.14)	0.18 (0.14)	0.17 (0.15)	0.18 (0.14)	0.16 (0.15)	0.16 (0.15)	0.17 (0.15)	0.21 (0.16)	0.17 (0.15)	0.18 (0.15)	<b>0.22**</b> (0.10)	<b>0.26**</b> (0.13)
Ln (MFP change)	-0.22 (0.13)	-0.23 (0.14)	-0.19 (0.13)	-0.12 (0.14)	-0.10 (0.14)	-0.13 (0.14)	-0.13 (0.14)	-0.13 (0.13)	-0.11 (0.13)	-0.11 (0.14)	-0.12 (0.13)	-0.38* (0.20)	-0.42* (0.22)
<b>Labour market, sociodemographic conditions and earnings inequality</b>													
Share of 55-65 in working-age population	-0.92 (1.09)	-0.92 (1.09)	-0.92 (1.10)	-1.11 (1.04)	-1.14 (1.02)	-1.06 (1.05)	-0.83 (1.08)	-1.24 (1.02)	<b>-1.63*</b> (0.93)	-1.06 (1.07)	-1.47 (0.97)	0.039 (1.09)	0.10 (1.16)
Old-age dependency ratio	-0.53 (1.01)	-0.53 (1.05)	-0.60 (0.98)	-1.11 (0.95)	-1.19 (0.94)	-1.02 (0.95)	-1.15 (0.90)	-1.09 (0.93)	-1.25 (0.86)	-1.17 (0.95)	-1.11 (0.89)	-0.61 (0.67)	-0.58 (0.71)
ln (Unemployment rate)	0.033 (0.040)	0.038 (0.042)	0.029 (0.039)	0.026 (0.041)	0.024 (0.040)	0.028 (0.042)	0.029 (0.040)	0.028 (0.040)	0.030 (0.040)	0.028 (0.038)	0.030 (0.041)	<b>0.080*</b> (0.043)	<b>0.082*</b> (0.044)
Earnings inequality: ln (d9d1)	<b>-0.45**</b> (0.18)	<b>-0.44**</b> (0.18)	<b>-0.46**</b> (0.17)	<b>-0.39*</b> (0.19)	<b>-0.42**</b> (0.19)	<b>-0.37*</b> (0.19)	<b>-0.42**</b> (0.19)	<b>-0.42**</b> (0.19)	<b>-0.45**</b> (0.20)	<b>-0.41**</b> (0.19)	<b>-0.44**</b> (0.20)	<b>-0.59***</b> (0.21)	<b>-0.58**</b> (0.22)
Share of workless families with children among working-age households	1.27 (1.01)	1.37 (1.01)	1.21 (1.00)	<b>1.69*</b> (0.95)	<b>1.67*</b> (0.92)	1.67 (1.00)	<b>1.71*</b> (0.92)	1.53 (0.94)	1.38 (0.95)	<b>1.63*</b> (0.93)	1.41 (0.96)	1.12 (0.97)	1.44 (0.96)
GDP growth	0.12 (0.31)	0.14 (0.32)	0.10 (0.30)	0.11 (0.31)	0.082 (0.31)	0.13 (0.32)	0.11 (0.31)	0.084 (0.31)	0.011 (0.31)	0.078 (0.31)	0.055 (0.31)	-0.28 (0.29)	-0.18 (0.24)
Time fixed effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country fixed effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	233	233	233	229	229	229	229	229	229	229	229	327	327
R squared	0.649	0.645	0.652	0.657	0.661	0.652	0.667	0.666	0.677	0.662	0.672	0.547	0.538

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. R squared does not incorporate the effect of country fixed effects. (1) Legal age conditions for someone who enters the labour market at age 25 and exclude minimum contribution period conditions. The idea is to use legal ages that are referred to in public as the typical retirement ages. (2) Men. Excluding any kind of benefit received from unemployment benefit schemes or disability pension schemes.

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01

Bold highlights significant coefficients

**Table A A.10. Redistribution: the effects of social spending and tax revenues - IV estimation**

Dependent variable is ln(redistribution)	1	2	3	4	5	6	7	8	9	10	11
<b>Social spending (in% of GDP)</b>											
Social spending on cash support to working-age population	<b>3.89**</b> (1.76)						2.24 (1.61)		1.41 (1.54)		2.30 (1.62)
Total Social spending on working-age population		2.36 (1.44)									
Total Social spending on old-age population		-1.08 (3.03)									
Total Social spending			1.13 (1.31)					1.18 (1.04)		0.66 (1.12)	
<b>Tax revenues (in% of GDP)</b>											
Tax revenues from PIT and employees' SSC				<b>4.96***</b> (1.28)			<b>4.17***</b> (1.42)		<b>4.27***</b> (1.20)		<b>4.11***</b> (1.38)
Tax revenues from PIT					<b>5.43***</b> (1.39)						
Tax revenues from employees' SSC					2.27 (1.59)						
Total Tax revenues						0.34 (1.87)		-0.11 (1.87)		-0.18 (1.86)	
<b>Interaction between openness and (*):</b>											
Tax revenues from PIT and employees' SSC									<b>-3.77***</b> (0.96)		
Total tax revenues										<b>-1.90**</b> (0.84)	
Social spending on cash support to working-age population											-0.62 (1.31)
<b>Technological change &amp; Globalisation</b>											
Ln (openness)	<b>0.23***</b> (0.072)	<b>0.26**</b> (0.10)	<b>0.22***</b> (0.082)	0.064 (0.053)	0.059 (0.054)	0.22 (0.16)	0.068 (0.062)	0.22 (0.16)	0.053 (0.056)	0.20 (0.16)	0.064 (0.060)
Ln (MFP change)	<b>-0.44***</b> (0.15)	<b>-0.50**</b> (0.23)	<b>-0.39**</b> (0.18)	<b>-0.27**</b> (0.14)	<b>-0.23*</b> (0.13)	-0.48 (0.30)	<b>-0.26*</b> (0.15)	-0.40 (0.30)	<b>-0.31**</b> (0.13)	-0.44 (0.29)	<b>-0.25*</b> (0.15)
<b>Labour market, sociodemographic conditions and earnings inequality</b>											
ln(Unemployment rate)	<b>0.098***</b> (0.037)	<b>0.12***</b> (0.044)	<b>0.13**</b> (0.053)	<b>0.14***</b> (0.022)	<b>0.15***</b> (0.022)	<b>0.16***</b> (0.023)	<b>0.098***</b> (0.036)	<b>0.13***</b> (0.038)	<b>0.12***</b> (0.036)	<b>0.15***</b> (0.041)	<b>0.098***</b> (0.036)
Earnings inequality: ln (d9d1)	<b>-0.52***</b> (0.17)	<b>-0.62***</b> (0.22)	<b>-0.45***</b> (0.16)	<b>-0.33**</b> (0.14)	<b>-0.33**</b> (0.14)	<b>-0.46**</b> (0.18)	<b>-0.38**</b> (0.16)	<b>-0.45**</b> (0.19)	<b>-0.24</b> (0.17)	<b>-0.42**</b> (0.18)	<b>-0.37**</b> (0.16)
Share of workless families with children among working-age households	0.72 (0.77)	0.91 (0.78)	0.60 (0.84)	0.48 (0.78)	0.45 (0.77)	0.65 (0.84)	0.82 (0.68)	0.60 (0.87)	<b>1.23*</b> (0.70)	0.57 (0.91)	0.94 (0.80)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	323	323	350	339	339	352	313	350	313	350	313
Difference in Sargan test	0.00	0.81	0.04	4.40	6.27	0.06	4.45	0.08	6.48	2.35	4.28
Degree of freedom	1	2	1	1	2	1	2	2	3	3	3
p-value	0.94	0.67	0.84	0.04	0.04	0.81	0.11	0.96	0.09	0.50	0.23
KP Under identification test	9.18	11.20	12.10	13.30	13.90	17.90	12.70	18.80	15.70	19.00	11.80
Degree of freedom	1	1	1	1	1	1	1	1	1	1	1
p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

*Note:* Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. (\*) Every variable in the interactions is demeaned. All policy variables are instrumented by their first lags.

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01

Bold highlights significant coefficients



Table A A.11. Taxes and redistribution: a focus on the overall progressivity of personal income taxes on wage earnings - IV estimation

Dependent variable is ln(redistribution)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<b>Tax parameters</b>																	
Progressivity of personal income taxes (1)																	
Overall structural progression of personal income taxes on wage earnings	0.23 (0.25)	0.21 (0.22)	0.20 (0.19)	0.20 (0.19)													
<b>Average effective tax rates across the distribution (1)</b>																	
Average effective tax rate at 67 % of the AW		1.02 (1.58)		-0.39 (1.38)	-0.50 (1.26)	0.14 (1.17)	0.30 (1.22)	0.39 (1.23)	0.48 (1.25)	0.52 (1.27)	0.55 (1.27)	0.62 (1.28)	0.66 (1.29)	0.69 (1.30)	0.71 (1.31)	0.73 (1.31)	0.75 (1.32)
Average effective tax rate at 100% the AW			1.70 (1.56)	<b>2.05**</b> (0.85)	<b>2.11**</b> (0.89)												
Average effective tax rate at 133% of the AW						<b>1.40*</b> (0.83)											
Average effective tax rate at 167% of the AW							<b>1.27*</b> (0.74)										
Average effective tax rate at 200% of the AW								<b>1.33*</b> (0.76)									
Average effective tax rate at 233% of the AW									<b>1.25*</b> (0.75)								
Average effective tax rate at 267% of the AW										1.19 (0.72)							
Average effective tax rate at 300% of the AW											<b>1.24*</b> (0.73)						
Average effective tax rate at 333% of the AW												<b>1.21*</b> (0.69)					
Average effective tax rate at 367% of the AW													<b>1.16*</b> (0.68)				
Average effective tax rate at 400% of the AW														<b>1.14*</b> (0.68)			
Average effective tax rate at 433% of the AW															<b>1.14*</b> (0.68)		
Average effective tax rate at 467% of the AW																<b>1.18*</b> (0.69)	
Average effective tax rate at 500% of the AW																	<b>1.19*</b> (0.69)
<b>Tax revenues</b>																	
Total Tax revenues (% of GDP)	-0.97 (2.40)	-0.83 (2.11)	-0.80 (2.08)	-0.81 (2.05)	-0.73 (1.81)	-0.87 (1.82)	-0.87 (1.83)	-0.87 (1.82)	-0.82 (1.82)	-0.75 (1.79)	-0.76 (1.80)	-0.80 (1.81)	-0.80 (1.81)	-0.81 (1.81)	-0.82 (1.81)	-0.84 (1.81)	-0.86 (1.81)
<b>Technological change &amp; Globalisation</b>																	
Ln (openness)	<b>0.28*</b> (0.15)	<b>0.22**</b> (0.10)	<b>0.18*</b> (0.099)	<b>0.18*</b> (0.099)	<b>0.18*</b> (0.10)	<b>0.19**</b> (0.098)	<b>0.20**</b> (0.099)	<b>0.19**</b> (0.097)	<b>0.20**</b> (0.098)	<b>0.20**</b> (0.099)	<b>0.19**</b> (0.097)	<b>0.19**</b> (0.096)	<b>0.19**</b> (0.095)	<b>0.19**</b> (0.095)	<b>0.19**</b> (0.095)	<b>0.19**</b> (0.094)	<b>0.19**</b> (0.093)
Ln (MFP change)	-0.37 (0.34)	-0.28 (0.25)	-0.31 (0.29)	-0.33 (0.26)	-0.33 (0.25)	-0.31 (0.25)	-0.32 (0.25)	-0.31 (0.25)	-0.30 (0.25)	-0.30 (0.25)	-0.29 (0.25)	-0.28 (0.25)	-0.28 (0.25)	-0.28 (0.25)	-0.27 (0.25)	-0.27 (0.25)	-0.27 (0.25)
<b>Labour market, sociodemographic conditions and earnings inequality</b>																	
ln(Unemployment rate)	<b>0.16***</b> (0.030)	<b>0.16***</b> (0.030)	<b>0.14***</b> (0.032)	<b>0.14***</b> (0.032)	<b>0.14***</b> (0.032)	<b>0.15***</b> (0.031)	<b>0.15***</b> (0.032)	<b>0.14***</b> (0.032)	<b>0.14***</b> (0.032)	<b>0.14***</b> (0.032)	<b>0.14***</b> (0.033)	<b>0.14***</b> (0.033)	<b>0.14***</b> (0.033)	<b>0.14***</b> (0.033)	<b>0.14***</b> (0.034)	<b>0.13***</b> (0.035)	<b>0.13***</b> (0.036)
Earnings inequality: ln (d9d1)	<b>-0.49**</b> (0.21)	<b>-0.46**</b> (0.18)	<b>-0.54**</b> (0.21)	<b>-0.56***</b> (0.20)	<b>-0.56***</b> (0.20)	<b>-0.52***</b> (0.19)	<b>-0.51***</b> (0.19)	<b>-0.51***</b> (0.19)	<b>-0.50***</b> (0.19)	<b>-0.50***</b> (0.18)	<b>-0.49***</b> (0.18)	<b>-0.50***</b> (0.18)	<b>-0.49***</b> (0.18)	<b>-0.49***</b> (0.18)	<b>-0.49***</b> (0.18)	<b>-0.49***</b> (0.18)	<b>-0.49***</b> (0.18)
Share of workless families with children among working-age households	<b>1.86*</b> (1.05)	<b>1.93*</b> (1.01)	<b>1.92**</b> (0.94)	<b>1.91**</b> (0.93)	<b>1.90**</b> (0.95)	<b>1.81**</b> (0.89)	<b>1.67*</b> (0.86)	<b>1.47*</b> (0.87)	1.37 (0.88)	1.32 (0.88)	1.26 (0.89)	1.30 (0.88)	1.26 (0.90)	1.23 (0.91)	1.18 (0.93)	1.14 (0.93)	1.11 (0.93)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	302	302	302	302	307	307	307	307	307	307	307	307	307	307	307	307	307
Difference in Sargan test	1.55	1.96	1.37	4.43	3.70	1.34	1.31	1.32	1.35	1.45	1.74	1.76	1.94	2.08	2.30	2.59	2.85
Degree of freedom	2	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3
p-value	0.46	0.58	0.71	0.35	0.30	0.72	0.73	0.73	0.72	0.69	0.63	0.62	0.59	0.56	0.51	0.46	0.41
KP Under identification test	13.20	11.90	12.00	11.90	13.70	12.70	12.90	12.70	12.90	13.30	13.20	13.10	13.10	12.90	12.80	12.60	12.50
Degree of freedom	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. (1) Data refer to single taxpayers without children. All policy variables are instrumented by their first lags.

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01, Bold highlights significant coefficients

**Table A A.12. Taxes and redistribution: a focus on top tax rates and on the taxation of capital income - IV estimation**

Dependent variable is ln(redistribution)	1	2	3	4	5	6	7	8	9
<b>Tax parameters</b>									
<i>Top tax rates</i>									
Top statutory personal income tax rates	<b>1.05**</b> (0.48)	<b>0.94**</b> (0.42)							
Top marginal tax rates - PIT			0.67 (0.44)						
Top marginal tax rates - PIT & employee SSC				<b>0.69**</b> (0.33)	<b>0.66*</b> (0.34)				
<i>Taxation of capital income</i>									
Net personal tax on dividend income						<b>0.42*</b> (0.23)	<b>0.42*</b> (0.23)		
Share of overall tax rate on dividend income collected through the use of PIT								0.21 (0.14)	0.22 (0.15)
<i>Average effective tax rates controls(1)</i>									
Average effective tax rate at 67 % of the AW		0.12 (1.24)			0.67 (1.52)		-0.24 (1.26)		-0.35 (1.30)
Average effective tax rate at 100% the AW		1.08 (0.77)			0.58 (1.00)		<b>1.79**</b> (0.79)		<b>1.97**</b> (0.89)
<b>Tax revenues</b>									
Total Tax revenues (% of GDP)	-1.07 (1.81)	-0.89 (1.60)	-1.19 (2.06)	-0.76 (1.89)	-0.59 (1.62)	-0.74 (2.01)	-0.60 (1.68)	-0.76 (2.08)	-0.61 (1.73)
<b>Technological change &amp; Globalisation</b>									
Ln (openness)	<b>0.26**</b> (0.13)	<b>0.19**</b> (0.088)	<b>0.26*</b> (0.13)	<b>0.26*</b> (0.14)	<b>0.19**</b> (0.098)	<b>0.25*</b> (0.15)	0.16 (0.099)	<b>0.25*</b> (0.15)	0.16 (0.100)
Ln (MFP change)	-0.27 (0.29)	-0.24 (0.25)	-0.32 (0.32)	-0.42 (0.34)	-0.34 (0.28)	-0.24 (0.27)	-0.21 (0.20)	-0.25 (0.29)	-0.22 (0.21)
<b>Labour market, sociodemographic conditions and earnings inequality</b>									
ln(Unemployment rate)	<b>0.12***</b> (0.040)	<b>0.12***</b> (0.037)	<b>0.13***</b> (0.041)	<b>0.14***</b> (0.033)	<b>0.13***</b> (0.029)	<b>0.17***</b> (0.027)	<b>0.15***</b> (0.027)	<b>0.17***</b> (0.027)	<b>0.15***</b> (0.029)
Earnings inequality: ln (d9d1)	<b>-0.46***</b> (0.17)	<b>-0.48***</b> (0.16)	<b>-0.59**</b> (0.24)	<b>-0.56***</b> (0.21)	<b>-0.55***</b> (0.19)	<b>-0.44**</b> (0.18)	<b>-0.50***</b> (0.18)	<b>-0.40**</b> (0.20)	<b>-0.46**</b> (0.20)
Share of workless families with children among working-age households	0.57 (0.97)	0.70 (0.89)	1.04 (0.99)	0.80 (0.85)	0.87 (0.81)	1.49 (0.97)	<b>1.51*</b> (0.89)	<b>1.75*</b> (1.02)	<b>1.78*</b> (0.93)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	312	307	312	312	307	312	307	312	307
Difference in Sargan test	2.67	9.44	3.41	4.91	8.98	0.40	4.42	0.44	5.24
Degree of freedom	2	4	2	2	4	2	4	2	4
p-value	0.26	0.05	0.18	0.09	0.06	0.82	0.35	0.80	0.26
KP Under identification test	12.90	11.80	11.00	14.00	13.00	15.80	14.00	15.90	14.50
Degree of freedom	1	1	1	1	1	1	1	1	1
p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. (1)

Data refer to single taxpayers without children. All policy variables are instrumented by their first lags.

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01

Bold highlights significant coefficients

**Table A A.13. The tax structure and income redistribution - IV estimation**

Dependent variable is ln(redistribution)	1	2	3	4	5	6
<b>Tax structure (% of Total Tax revenue)</b>						
Tax revenue share from PIT and employees' SSC	<b>1.46**</b> (0.65)					
From PIT		<b>1.65**</b> (0.79)				
From employees' SSC		0.88 (0.68)				
Tax revenue share from goods and services			<b>-3.28***</b> (0.68)	<b>-3.25***</b> (0.62)		
From production, sale transfer					<b>-2.76***</b> (0.64)	<b>-2.75***</b> (0.64)
From use of goods and perform					<b>-7.15***</b> (2.36)	<b>-7.26***</b> (2.40)
Tax revenue share from property			0.86 (1.72)			-0.33 (1.41)
From Recurrent taxes on immovable property				1.68 (1.77)		
From Recurrent taxes on net wealth				3.45 (4.88)		
From Estate, inheritance and gift taxes				-3.45 (7.05)		
From taxes on financial and capital transactions				-2.77 (2.70)		
From Non-recurrent taxes on property				6.33 (4.20)		
<b>Tax revenues (% of GDP)</b>						
Total Tax revenues	<b>2.51***</b> (0.68)	<b>2.41***</b> (0.69)	-0.11 (1.16)	0.061 (1.20)	0.020 (0.90)	0.035 (0.92)
<b>Technological change &amp; Globalisation</b>						
Ln (openness)	0.028 (0.068)	0.030 (0.070)	<b>0.29**</b> (0.11)	<b>0.26***</b> (0.085)	<b>0.24***</b> (0.073)	<b>0.24***</b> (0.087)
Ln (MFP change)	-0.16 (0.17)	-0.13 (0.16)	<b>-0.69***</b> (0.26)	<b>-0.64**</b> (0.26)	<b>-0.61***</b> (0.22)	<b>-0.61***</b> (0.22)
<b>Labour market, sociodemographic conditions and earnings inequality</b>						
ln(Unemployment rate)	<b>0.14***</b> (0.024)	<b>0.15***</b> (0.023)	<b>0.14***</b> (0.029)	<b>0.11***</b> (0.037)	<b>0.14***</b> (0.030)	<b>0.14***</b> (0.030)
Earnings inequality: ln (d9d1)	<b>-0.28**</b> (0.14)	<b>-0.29**</b> (0.14)	<b>-0.58***</b> (0.16)	<b>-0.57***</b> (0.17)	<b>-0.61***</b> (0.16)	<b>-0.61***</b> (0.17)
Share of workless families with children among working-age households	0.54 (0.89)	0.48 (0.93)	-0.47 (0.82)	-0.76 (0.74)	-0.088 (0.91)	-0.092 (0.90)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	339	339	352	352	352	352
Difference in Sargan test	7.58	9.11	12.70	16.20	10.70	10.70
Degree of freedom	2	3	3	7	3	4
p-value	0.02	0.03	0.01	0.02	0.01	0.03
KP Under identification test	17.70	15.80	14.50	11.00	12.60	13.10
Degree of freedom	1	1	1	1	1	1
p-value	0.00	0.00	0.00	0.00	0.00	0.00

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. All policy variables are instrumented by their first lags.

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01

Bold highlights significant coefficients

Table A A.14. Transfers and redistribution: a focus on unemployment-related transfers - IV estimation

Dependent variable is ln(redistribution)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<b>Transfer parameters</b>														
<b>Net unemployment benefit replacement rate (1)</b>														
Over 5 years - at 100% of the AW, married couple	<b>0.90**</b> (0.44)							0.29 (0.39)			0.49 (0.35)			
Over 5 years - at 150% of the AW, married couple		0.79 (0.56)												
Over 5 years - at 67% of the AW, married couple			<b>0.71**</b> (0.33)						0.30 (0.32)			0.31 (0.25)		
Initial - at 100% of the AW, married couple				0.66 (0.42)										
Initial - at 67% of the AW, married couple					0.16 (0.34)									
Long-term- at 100% of the AW, married couple						<b>0.84**</b> (0.38)								
Long-term- at 67% of the AW, married couple							<b>0.70**</b> (0.29)			0.30 (0.24)			0.11 (0.20)	-0.16 (0.23)
Unemployment insurance coverage (2)											<b>1.23**</b> (0.51)	<b>1.28**</b> (0.50)	<b>1.35**</b> (0.53)	<b>1.68***</b> (0.45)
<b>Social spending (in% of GDP)</b>														
Spending on active labour market policies (3)								-12.9 (8.20)	<b>-13.4*</b> (7.46)	<b>-13.9**</b> (7.09)				<b>-33.6***</b> (10.5)
Total Social spending	-0.75 (1.47)	-0.76 (1.58)	-0.73 (1.45)	-0.56 (1.40)	-0.56 (1.57)	-0.77 (1.48)	-0.66 (1.40)	1.07 (0.90)	1.02 (0.89)	1.01 (0.91)	1.35 (2.37)	1.40 (2.39)	1.54 (2.44)	1.56 (1.81)
<b>Technological change &amp; Globalisation</b>														
Ln (openness)	<b>0.20**</b> (0.080)	<b>0.23***</b> (0.089)	<b>0.18**</b> (0.076)	<b>0.21***</b> (0.077)	<b>0.25***</b> (0.093)	<b>0.20**</b> (0.082)	<b>0.18**</b> (0.074)	<b>0.18***</b> (0.059)	<b>0.16***</b> (0.060)	<b>0.17***</b> (0.055)	0.17 (0.11)	0.15 (0.11)	0.16 (0.11)	0.14 (0.12)
Ln (MFP change)	-0.28 (0.26)	-0.28 (0.27)	-0.28 (0.26)	-0.24 (0.23)	-0.24 (0.23)	-0.27 (0.27)	-0.22 (0.26)	-0.30 (0.23)	-0.30 (0.23)	-0.31 (0.23)	-0.39 (0.48)	-0.38 (0.48)	-0.35 (0.48)	0.062 (0.46)
<b>Labour market, sociodemographic conditions and earnings inequality</b>														
ln (Unemployment rate)	<b>0.17***</b> (0.043)	<b>0.17***</b> (0.045)	<b>0.18***</b> (0.042)	<b>0.18***</b> (0.039)	<b>0.18***</b> (0.047)	<b>0.17***</b> (0.042)	<b>0.18***</b> (0.040)	<b>0.13***</b> (0.029)	<b>0.13***</b> (0.030)	<b>0.13***</b> (0.032)	0.14 (0.12)	0.14 (0.12)	0.16 (0.12)	<b>0.29***</b> (0.089)
Earnings inequality: ln (d9d1)	<b>-0.58***</b> (0.21)	<b>-0.57***</b> (0.20)	<b>-0.57***</b> (0.20)	<b>-0.64***</b> (0.21)	<b>-0.56***</b> (0.19)	<b>-0.56***</b> (0.20)	<b>-0.57***</b> (0.20)	<b>-0.55***</b> (0.22)	<b>-0.55***</b> (0.22)	<b>-0.56***</b> (0.22)	<b>-0.72**</b> (0.35)	<b>-0.71**</b> (0.35)	<b>-0.70**</b> (0.35)	-0.49 (0.34)
Share of workless families with children among working-age households	1.32 (1.35)	1.64 (1.36)	1.22 (1.36)	<b>2.08*</b> (1.23)	2.05 (1.27)	1.15 (1.37)	1.00 (1.44)	1.42 (1.33)	1.28 (1.38)	1.23 (1.34)	1.52 (1.03)	1.58 (1.05)	1.66 (1.11)	1.16 (0.88)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	295	295	295	295	295	295	295	262	262	262	141	141	141	131
Difference in Sargan test	1.95	1.94	1.82	1.40	0.98	3.29	3.28	0.61	0.45	1.17	4.04	4.16	4.33	7.38
Degree of freedom	2	2	2	2	2	2	2	3	3	3	3	3	3	4
p-value	0.38	0.38	0.40	0.50	0.61	0.19	0.19	0.89	0.93	0.76	0.26	0.24	0.23	0.12
KP Under identification test	10.70	11.80	13.80	14.00	9.60	7.18	8.30	9.47	12.30	7.34	11.00	9.69	11.40	7.83
Degree of freedom	1	1	1	1	1	1	1	1	1	1	1	1	1	1
p-value	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. R squared does not incorporate the effect of country fixed effects. (1) Families without children. (2) % of labour force insured for unemployment risk. (3) Active measures only (categories 10-70). Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01, Bold highlights significant coefficients

Table A A.15. Transfers and redistribution: a focus on public policies for families and children - IV estimation

Dependent variable is ln(redistribution)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<b>Policy indicators</b>														
Total public spending on families as a share of GDP	9.04 (49.2)													
Public spending on cash benefits for families as a share of GDP		2.70 (5.43)												
Public spending on in-kind benefits for families as a share of GDP			12.1 (12.7)											
Public spending on tax breaks for families as a share of GDP				3.88 (19.0)										
Public spending on early childhood education and care as a share of GDP					26.6*** (7.98)									
Length of paid maternity leave						0.096** (0.039)								
Length of paid paternity leave							0.10 (0.16)							
Proportional difference in net transfers by single and equal-dual earner couples, household earnings at 133% of the AW								-0.033 (0.021)						
Proportional difference in net transfers by single and equal-dual earner couples, household earnings at 200% of the AW									-0.54 (0.40)					
<b>Labour market situation of women</b>														
Gender-gap in the full-time equivalent employment to population ratio										-2.67** (1.15)				
Employment rate of mothers											0.79* (0.46)			
Employment rate of partnered mothers												0.83* (0.50)		
Employment rate of sole-parents mothers													0.76 (0.66)	
Women employment rate														-0.0056 (0.67)
<b>Social spending (in% of GDP)</b>														
Total Social spending	0.58 (12.6)	0.97 (1.36)	-0.099 (1.54)	2.33 (2.45)	0.86 (1.17)	1.10 (1.28)	1.06 (1.27)	-0.33 (1.86)	-0.24 (1.49)	-0.22 (1.60)	1.76 (1.56)	2.29 (1.73)	2.23 (1.61)	1.13 (1.41)
<b>Technological change &amp; Globalisation</b>														
Ln (openness)	-0.10 (0.27)	<b>0.24***</b> (0.090)	<b>0.25**</b> (0.097)	-0.14 (0.23)	<b>0.28***</b> (0.10)	<b>0.27***</b> (0.087)	<b>0.22**</b> (0.11)	0.15 (0.11)	<b>0.31***</b> (0.11)	<b>0.30**</b> (0.14)	<b>0.12**</b> (0.062)	0.12 (0.084)	0.074 (0.088)	<b>0.22***</b> (0.082)
Ln (MFP change)	0.10 (2.26)	<b>-0.43**</b> (0.18)	<b>-0.28*</b> (0.15)	0.42 (0.55)	<b>-0.32**</b> (0.16)	-0.37 (0.26)	-0.40 (0.25)	<b>-0.46**</b> (0.22)	-0.18 (0.24)	<b>-0.36**</b> (0.18)	-0.14 (0.14)	-0.094 (0.15)	-0.18 (0.14)	<b>-0.39*</b> (0.21)
<b>Labour market, sociodemographic conditions and earnings inequality</b>														
Ln (Unemployment rate)	0.13 (0.14)	<b>0.13**</b> (0.056)	<b>0.16***</b> (0.047)	<b>0.11*</b> (0.064)	<b>0.14***</b> (0.041)	<b>0.13**</b> (0.052)	<b>0.14***</b> (0.048)	<b>0.19***</b> (0.070)	<b>0.16***</b> (0.040)	-0.010 (0.062)	<b>0.15***</b> (0.046)	<b>0.13***</b> (0.050)	<b>0.17**</b> (0.072)	<b>0.13***</b> (0.048)
Earnings inequality: ln (d9d1)	0.10 (0.37)	<b>-0.50***</b> (0.17)	<b>-0.57***</b> (0.16)	0.16 (0.27)	<b>-0.56***</b> (0.19)	<b>-0.61*</b> (0.31)	<b>-0.64**</b> (0.31)	<b>-0.66***</b> (0.21)	<b>-0.63***</b> (0.20)	<b>-0.46***</b> (0.16)	<b>-0.46***</b> (0.15)	<b>-0.42***</b> (0.15)	<b>-0.45**</b> (0.18)	<b>-0.45***</b> (0.17)
Share of workless families with children among working-age households	-0.46 (1.63)	0.65 (0.80)	1.73 (1.11)	-0.26 (0.86)	0.88 (0.99)	0.47 (0.86)	0.40 (0.82)	<b>-3.20*</b> (1.71)	<b>2.03*</b> (1.12)	0.98 (1.23)	2.35 (1.58)	2.52 (1.69)	2.95 (2.09)	0.60 (0.76)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	101	323	276	102	290	312	312	295	295	295	294	237	237	350
Difference in Sargan test	0.69	0.10	0.86	0.35	6.40	0.37	0.17	1.52	1.46	2.09	0.25	0.50	3.03	1.02
Degree of freedom	2	2	2	2	2	2	2	2	2	2	2	2	2	2
p-value	0.71	0.95	0.65	0.84	0.04	0.83	0.92	0.47	0.48	0.35	0.88	0.78	0.22	0.60
KP Under identification test	1.39	15.30	13.30	2.62	12.60	12.10	8.17	0.49	9.63	12.10	9.70	12.00	5.10	9.82
Degree of freedom	1	1	1	1	1	1	1	1	1	1	1	1	1	1
p-value	0.24	0.00	0.00	0.11	0.00	0.00	0.00	0.48	0.00	0.00	0.00	0.00	0.02	0.00

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. R squared does not incorporate the effect of country fixed effects. All policy variables are instrumented by their first lags.

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01, Bold highlights significant coefficients

**Table A A.16. The effects of old-age pension systems and early retirement incentives on redistribution to the working-age population - IV estimation**

Dependent variable is ln(redistribution)	1	2	3	4	5	6	7	8	9	10	11	12	13
<b>Old-age pension parameters (1)</b>													
Normal retirement age	-0.011 (0.0094)												
Normal retirement age, men		-0.0043 (0.0086)											
Normal retirement age, women			-0.013 (0.0083)										
Minimum retirement age				<b>0.0077**</b> (0.0039)									
Minimum retirement, men					<b>0.012***</b> (0.0037)								
Minimum retirement, women						0.0030 (0.0045)							
Replacement rate from the old-age pension system at age 60 (2)							<b>0.020***</b> (0.0047)	<b>0.013***</b> (0.0034)	<b>0.020**</b> (0.0084)	<b>0.016***</b> (0.0055)	<b>0.016***</b> (0.0058)		
Replacement rate from the old-age pension system at age 65 (2)								<b>0.12**</b> (0.051)	0.12 (0.13)				
Replacement rate from the old-age pension system at age 69 (2)									1.01 (0.87)				
Replacement rate from the old-age pension system between ages 60 & 65 (average) (2)										0.060 (0.069)			
Replacement rate from the old-age pension system between ages 65 & 69 (average) (2)											0.57 (0.68)		
<b>Effective retirement age</b>													
Average effective retirement age, men												<b>-0.032**</b> (0.014)	
Average effective retirement age, women													-0.012 (0.011)
<b>Social spending (in% of GDP)</b>													
Social spending on old-age population	4.19 (3.60)	4.33 (3.72)	4.07 (3.52)	3.70 (3.40)	3.12 (3.06)	4.10 (3.67)	3.12 (3.17)	3.05 (3.09)	0.51 (3.16)	3.03 (3.18)	2.19 (3.09)	-3.36 (3.89)	-4.38 (4.33)
Total Social spending	2.16 (1.45)	1.96 (1.47)	2.34 (1.44)	2.24 (1.37)	<b>2.39*</b> (1.30)	2.13 (1.45)	<b>2.29*</b> (1.22)	<b>2.37*</b> (1.27)	<b>2.16*</b> (1.17)	<b>2.37*</b> (1.29)	<b>2.23*</b> (1.23)	<b>2.46*</b> (1.38)	<b>2.67*</b> (1.59)
<b>Technological change &amp; Globalisation</b>													
Ln (openness)	<b>0.24**</b> (0.097)	<b>0.23**</b> (0.098)	<b>0.24**</b> (0.098)	<b>0.22**</b> (0.11)	<b>0.22**</b> (0.11)	<b>0.22**</b> (0.11)	<b>0.21*</b> (0.11)	<b>0.21*</b> (0.11)	<b>0.24**</b> (0.11)	<b>0.21*</b> (0.11)	0.19 (0.12)	<b>0.19**</b> (0.083)	<b>0.23**</b> (0.096)
Ln (MFP change)	-0.12 (0.15)	-0.13 (0.16)	-0.093 (0.15)	-0.047 (0.16)	-0.041 (0.16)	-0.052 (0.17)	-0.066 (0.15)	-0.073 (0.16)	-0.092 (0.14)	-0.047 (0.16)	-0.10 (0.16)	<b>-0.45*</b> (0.24)	<b>-0.51*</b> (0.27)
<b>Labour market, sociodemographic conditions and earnings inequality</b>													
Share of 55-65 in working-age population	-0.98 (1.01)	-1.00 (1.03)	-0.97 (1.00)	-0.95 (0.98)	-0.97 (0.94)	-0.89 (1.00)	-0.52 (0.97)	-1.07 (0.94)	-2.02 (1.38)	-0.85 (0.99)	-1.48 (1.16)	0.57 (1.04)	0.78 (1.16)
Old-age dependency ratio	-0.48 (0.84)	-0.54 (0.89)	-0.53 (0.81)	-0.87 (0.87)	-0.97 (0.87)	-0.75 (0.87)	-0.99 (0.79)	-0.82 (0.85)	-0.95 (0.71)	-0.93 (0.87)	-0.73 (0.80)	-0.18 (0.82)	0.16 (0.84)
ln (Unemployment rate)	0.033 (0.045)	0.038 (0.045)	0.028 (0.047)	0.029 (0.045)	0.028 (0.044)	0.031 (0.046)	0.032 (0.045)	0.033 (0.044)	0.053 (0.040)	0.034 (0.047)	0.044 (0.043)	<b>0.11**</b> (0.051)	<b>0.11**</b> (0.051)
Earnings inequality: ln (d9d1)	-0.35** (0.16)	<b>-0.33**</b> (0.17)	<b>-0.37**</b> (0.15)	<b>-0.30*</b> (0.18)	<b>-0.34**</b> (0.17)	<b>-0.29*</b> (0.17)	<b>-0.33*</b> (0.18)	<b>-0.35*</b> (0.18)	<b>-0.50***</b> (0.18)	<b>-0.33*</b> (0.18)	<b>-0.42**</b> (0.18)	<b>-0.66***</b> (0.22)	<b>-0.67***</b> (0.24)
Share of workless families with children among working-age households	0.84 (0.93)	0.95 (0.94)	0.78 (0.92)	1.18 (0.93)	1.23 (0.91)	1.08 (0.94)	1.25 (0.90)	1.08 (0.91)	0.89 (0.73)	1.16 (0.90)	0.93 (0.83)	0.30 (0.83)	0.64 (0.86)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	229	229	229	224	224	224	224	224	224	224	224	321	321
Difference in Sargan test	3.24	3.24	3.19	2.12	2.35	2.09	5.48	2.35	2.43	3.06	2.52	1.87	1.97
Degree of freedom	3	3	3	3	3	3	4	4	4	4	4	3	3
p-value	0.36	0.36	0.36	0.55	0.50	0.55	0.24	0.67	0.66	0.55	0.64	0.60	0.58
KP Under identification test	12.80	13.20	12.20	10.50	9.60	11.50	10.20	1.82	1.21	12.00	2.49	8.78	15.90
Degree of freedom	1	1	1	1	1	1	1	1	1	1	1	1	1
p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.27	0.00	0.11	0.00	0.00

*Note:* Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. (1) Legal age conditions for someone who enters the labour market at age 25 and exclude minimum contribution period conditions. The idea is to use legal ages that are referred to in public as the typical retirement ages. (2) Men. Excluding any kind of benefit received from. Unemployment benefit schemes or disability pension schemes. All policy variables are instrumented by their first lags.

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01

Bold highlights significant coefficients

Table A A.17. Redistribution: the effects of social spending and tax revenues - Median regressions

Dependent variable is ln(redistribution)	1	2	3	4	5	6	7	8	9	10	11
<b>Social spending (in% of GDP)</b>											
Social spending on cash support to working-age population	<b>3.67***</b> (1.22)						<b>3.30**</b> (1.33)		<b>3.32***</b> (1.16)		<b>3.40**</b> (1.53)
Total Social spending on working-age population		<b>2.29**</b> (1.07)									
Total Social spending on old-age population		0.78 (1.94)									
Total Social spending			<b>1.72**</b> (0.86)					<b>1.52**</b> (0.73)		1.37 (1.07)	
<b>Tax revenues (in% of GDP)</b>											
Tax revenues from PIT and employees' SSC				<b>1.99**</b> (0.86)			1.39 (0.91)		<b>1.22**</b> (0.54)		1.38 (0.93)
Tax revenues from PIT					2.06 (1.62)						
Tax revenues from employees' SSC					1.58 (1.55)						
Total Tax revenues						0.99 (0.62)		0.43 (0.55)		0.64 (0.68)	
<b>Interaction between openness and (*):</b>											
Tax revenues from PIT and employees' SSC								-0.91 (0.72)			
Total tax revenues										-0.45 (0.64)	
Social spending on cash support to working-age population											-0.37 (1.03)
<b>Technological change &amp; Globalisation</b>											
Ln (openness)	<b>0.15**</b> (0.059)	0.14 (0.084)	0.082 (0.090)	<b>0.12*</b> (0.066)	0.13 (0.078)	<b>0.14*</b> (0.081)	0.086 (0.054)	0.082 (0.099)	<b>0.13**</b> (0.061)	0.084 (0.11)	0.090 (0.059)
Ln (MFP change)	<b>-0.26*</b> (0.15)	-0.23 (0.23)	-0.21 (0.18)	<b>-0.48**</b> (0.22)	<b>-0.47*</b> (0.27)	<b>-0.37*</b> (0.20)	-0.24 (0.30)	-0.16 (0.22)	-0.28 (0.22)	-0.11 (0.32)	-0.19 (0.19)
<b>Labour market, sociodemographic conditions and earnings inequality</b>											
Ln(Unemployment rate)	<b>0.088**</b> (0.043)	<b>0.11*</b> (0.056)	<b>0.098*</b> (0.050)	<b>0.14***</b> (0.035)	<b>0.13***</b> (0.038)	<b>0.17***</b> (0.042)	0.064 (0.042)	<b>0.10**</b> (0.047)	0.065 (0.042)	0.11 (0.072)	0.069 (0.044)
Earnings inequality: ln (d9d1)	-0.24 (0.16)	<b>-0.35**</b> (0.14)	<b>-0.33***</b> (0.12)	-0.15 (0.26)	-0.16 (0.28)	-0.24 (0.20)	-0.18 (0.42)	<b>-0.26*</b> (0.15)	-0.13 (0.33)	-0.20 (0.27)	-0.23 (0.20)
Share of workless families with children among working-age households	0.11 (0.50)	0.78 (0.73)	0.77 (0.78)	0.63 (0.85)	0.60 (0.97)	0.28 (1.28)	0.98 (0.77)	0.91 (0.67)	0.92 (0.78)	0.95 (0.82)	0.93 (0.87)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	328	328	356	344	344	357	318	356	318	356	318
R squared	0.967	0.968	0.969	0.972	0.972	0.970	0.975	0.969	0.976	0.969	0.975

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. (\*) Every variable in the interactions is demeaned. Results are based on conditional quantile regressions at the median.

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01

Bold highlights significant coefficients

**Table A A.18. Taxes and redistribution: a focus on the overall progressivity of personal income taxes on wage earnings - Median regressions**

Dependent variable is ln(redistribution)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<b>Tax parameters</b>																	
<i>Progressivity of personal income taxes (1)</i>																	
Overall structural progression of personal income taxes on wage earnings	<b>0.41***</b> (0.15)	<b>0.40**</b> (0.19)	<b>0.43***</b> (0.13)	<b>0.45***</b> (0.15)													
<i>Average effective tax rates across the distribution (1)</i>																	
Average effective tax rate at 67 % of the AW		0.20 (1.58)		-0.68 (1.22)	-0.90 (1.29)	-0.89 (1.26)	-0.70 (1.08)	-0.52 (1.04)	-0.37 (1.07)	-0.29 (0.98)	-0.21 (1.04)	-0.23 (1.13)	-0.16 (1.06)	-0.14 (1.20)	-0.072 (1.14)	-0.016 (1.13)	0.0079 (1.12)
Average effective tax rate at 100% the AW			0.63 (0.91)	0.97 (1.06)	1.45 (1.15)												
Average effective tax rate at 133% of the AW						<b>1.42**</b> (0.68)											
Average effective tax rate at 167% of the AW							<b>1.21**</b> (0.47)										
Average effective tax rate at 200% of the AW								<b>1.16***</b> (0.39)									
Average effective tax rate at 233% of the AW									<b>1.08***</b> (0.38)								
Average effective tax rate at 267% of the AW										<b>1.04***</b> (0.33)							
Average effective tax rate at 300% of the AW											<b>0.96***</b> (0.36)						
Average effective tax rate at 333% of the AW												<b>1.00**</b> (0.42)					
Average effective tax rate at 367% of the AW													<b>0.96***</b> (0.37)				
Average effective tax rate at 400% of the AW														<b>0.91**</b> (0.39)			
Average effective tax rate at 433% of the AW															<b>0.87***</b> (0.33)		
Average effective tax rate at 467% of the AW																<b>0.85***</b> (0.32)	
Average effective tax rate at 500% of the AW																	<b>0.82***</b> (0.31)
<b>Tax revenues</b>																	
Total Tax revenues (% of GDP)	0.67 (0.61)	0.58 (0.56)	0.53 (0.79)	0.62 (0.56)	0.66 (0.71)	0.50 (0.55)	0.50 (0.55)	0.53 (0.55)	0.44 (0.55)	0.46 (0.53)	0.39 (0.41)	0.35 (0.52)	0.35 (0.49)	0.37 (0.51)	0.33 (0.50)	0.32 (0.43)	0.31 (0.44)
<b>Technological change &amp; Globalisation</b>																	
Ln (openness)	0.14 (0.12)	0.13 (0.11)	0.13 (0.11)	<b>0.14*</b> (0.086)	0.12 (0.094)	0.14 (0.090)	<b>0.16*</b> (0.088)	<b>0.16*</b> (0.088)	<b>0.16*</b> (0.088)	<b>0.17**</b> (0.083)	<b>0.17**</b> (0.075)	<b>0.16*</b> (0.081)	<b>0.16**</b> (0.079)	<b>0.16*</b> (0.083)	<b>0.17**</b> (0.084)	<b>0.17**</b> (0.087)	<b>0.17**</b> (0.082)
Ln (MFP change)	-0.20 (0.24)	-0.20 (0.22)	-0.18 (0.24)	-0.22 (0.22)	-0.21 (0.22)	-0.21 (0.22)	-0.24 (0.22)	-0.23 (0.23)	-0.21 (0.23)	-0.20 (0.21)	-0.18 (0.20)	-0.14 (0.22)	-0.15 (0.22)	-0.16 (0.22)	-0.16 (0.26)	-0.16 (0.25)	-0.16 (0.24)
<b>Labour market, sociodemographic conditions and earnings inequality</b>																	
ln(Unemployment rate)	<b>0.14***</b> (0.051)	<b>0.14***</b> (0.040)	<b>0.13***</b> (0.038)	<b>0.13***</b> (0.034)	<b>0.13***</b> (0.043)	<b>0.14***</b> (0.039)	<b>0.13***</b> (0.035)	<b>0.13***</b> (0.034)	<b>0.13***</b> (0.033)	<b>0.13***</b> (0.031)	<b>0.13***</b> (0.029)	<b>0.13***</b> (0.030)	<b>0.13***</b> (0.026)	<b>0.13***</b> (0.029)	<b>0.13***</b> (0.032)	<b>0.13***</b> (0.027)	<b>0.13***</b> (0.026)
Earnings inequality: ln (d9d1)	-0.18 (0.23)	-0.19 (0.21)	-0.17 (0.23)	-0.18 (0.19)	-0.24 (0.19)	-0.28 (0.18)	-0.26 (0.16)	-0.24 (0.19)	-0.25 (0.19)	-0.20 (0.17)	-0.20 (0.17)	-0.18 (0.22)	-0.17 (0.19)	-0.16 (0.20)	-0.16 (0.26)	-0.15 (0.24)	-0.14 (0.21)
Share of workless families with children among working-age households	1.01 (1.01)	1.07 (0.99)	1.15 (0.97)	0.92 (0.69)	1.09 (0.75)	0.71 (0.74)	0.74 (0.73)	0.61 (0.66)	0.53 (0.65)	0.52 (0.63)	0.45 (0.65)	0.42 (0.79)	0.42 (0.74)	0.39 (0.87)	0.41 (0.78)	0.42 (0.76)	0.40 (0.74)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	318	318	318	318	322	322	322	322	322	322	322	322	322	322	322	322	322
R squared	0.971	0.971	0.972	0.971	0.971	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.971	0.971	0.971	0.971

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. (1) Data refer to single taxpayers without children. Results are based on conditional quantile regressions at the median.

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01, Bold highlights significant coefficients



**Table A A.19. Taxes and redistribution: a focus on top tax rates and on the taxation of capital income - Median regressions**

Dependent variable is ln(redistribution)	1	2	3	4	5	6	7	8	9
<b>Tax parameters</b>									
<b>Top tax rates</b>									
Top statutory personal income tax rates	<b>0.47*</b> (0.24)	<b>0.48**</b> (0.20)							
Top marginal tax rates - PIT			0.25 (0.55)						
Top marginal tax rates - PIT & employee SSC				<b>0.45***</b> (0.14)	<b>0.38***</b> (0.11)				
<b>Taxation of capital income</b>									
Net personal tax on dividend income						0.29 (0.19)	<b>0.30**</b> (0.12)		
Share of overall tax rate on dividend income collected through the use of PIT								0.17 (0.19)	<b>0.19*</b> (0.095)
<b>Average effective tax rates controls(1)</b>									
Average effective tax rate at 67 % of the AW		-0.32 (0.93)			0.082 (0.79)		-0.25 (0.89)		-0.41 (1.03)
Average effective tax rate at 100% the AW		0.75 (0.48)			0.51 (0.36)		<b>1.45**</b> (0.67)		<b>1.17*</b> (0.63)
<b>Tax revenues</b>									
Total Tax revenues (% of GDP)	0.25 (0.62)	0.19 (0.45)	0.50 (1.03)	0.25 (0.56)	0.34 (0.44)	0.87 (0.88)	0.51 (0.49)	0.87 (0.76)	0.73 (0.75)
<b>Technological change &amp; Globalisation</b>									
Ln (openness)	<b>0.19**</b> (0.083)	<b>0.17**</b> (0.079)	<b>0.16*</b> (0.086)	<b>0.19**</b> (0.084)	<b>0.15**</b> (0.063)	0.096 (0.14)	0.051 (0.096)	0.13 (0.11)	0.070 (0.13)
Ln (MFP change)	-0.080 (0.44)	-0.033 (0.19)	-0.098 (0.34)	-0.22 (0.32)	-0.088 (0.17)	-0.082 (0.24)	-0.13 (0.19)	-0.10 (0.25)	-0.13 (0.22)
<b>Labour market, sociodemographic conditions and earnings inequality</b>									
ln(Unemployment rate)	<b>0.14***</b> (0.036)	<b>0.12***</b> (0.024)	<b>0.15***</b> (0.047)	<b>0.12***</b> (0.036)	<b>0.14***</b> (0.025)	<b>0.16***</b> (0.046)	<b>0.14***</b> (0.027)	<b>0.16***</b> (0.047)	<b>0.15***</b> (0.047)
Earnings inequality: ln (d9d1)	-0.072 (0.44)	-0.071 (0.18)	-0.17 (0.20)	-0.24 (0.16)	-0.19 (0.15)	-0.18 (0.26)	-0.25 (0.18)	-0.12 (0.19)	-0.17 (0.18)
Share of workless families with children among working-age households	0.56 (0.75)	0.53 (0.63)	0.97 (0.78)	0.91 (0.67)	0.79 (0.54)	1.41 (1.21)	1.04 (0.75)	1.52 (0.93)	1.06 (0.77)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	326	322	326	326	322	326	322	326	322
R squared	0.972	0.972	0.971	0.972	0.973	0.972	0.974	0.972	0.973

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. (1) Data refer to single taxpayers without children. Results are based on conditional quantile regressions at the median.

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01

Bold highlights significant coefficients

Table A A.20. The tax structure and income redistribution - Median regressions

Dependent variable is ln(redistribution)	1	2	3	4	5	6
<b>Tax structure (% of Total Tax revenue)</b>						
Tax revenue share from PIT and employees' SSC	<b>0.56*</b> (0.31)					
From PIT		0.53 (0.41)				
From employees' SSC		0.69 (0.48)				
Tax revenue share from goods and services			-1.17 (0.75)	-1.06 (0.65)		
From production, sale transfer					<b>-1.30**</b> (0.62)	<b>-1.22**</b> (0.57)
From use of goods and perform					<b>-4.49**</b> (2.11)	<b>-4.50**</b> (2.07)
Tax revenue share from property			0.059 (0.85)			-0.52 (0.86)
From Recurrent taxes on immovable property				2.16 (1.74)		
From Recurrent taxes on net wealth				-0.26 (2.32)		
From Estate, inheritance and gift taxes				-2.18 (5.91)		
From taxes on financial and capital transactions				-1.93 (1.49)		
From Non-recurrent taxes on property				1.78 (5.35)		
<b>Tax revenues (% of GDP)</b>						
Total Tax revenues	<b>1.13**</b> (0.45)	<b>1.13**</b> (0.45)	0.57 (0.55)	0.74 (0.73)	0.37 (0.63)	0.41 (0.71)
<b>Technological change &amp; Globalisation</b>						
Ln (openness)	0.10 (0.079)	0.093 (0.073)	<b>0.21**</b> (0.11)	<b>0.21*</b> (0.11)	<b>0.23***</b> (0.079)	<b>0.24**</b> (0.10)
Ln (MFP change)	-0.39 (0.25)	-0.37 (0.27)	-0.48 (0.31)	-0.43 (0.35)	<b>-0.43*</b> (0.22)	<b>-0.47*</b> (0.25)
<b>Labour market, sociodemographic conditions and earnings inequality</b>						
ln(Unemployment rate)	<b>0.15***</b> (0.042)	<b>0.15***</b> (0.044)	<b>0.16***</b> (0.054)	<b>0.13**</b> (0.052)	<b>0.18***</b> (0.029)	<b>0.17***</b> (0.040)
Earnings inequality: ln (d9d1)	-0.098 (0.18)	-0.079 (0.18)	-0.13 (0.25)	-0.12 (0.27)	-0.14 (0.27)	-0.16 (0.32)
Share of workless families with children among working-age households	0.41 (1.08)	0.45 (1.18)	-0.051 (1.20)	-0.70 (1.04)	-0.33 (0.90)	-0.069 (0.89)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	344	344	357	357	357	357
R squared	0.972	0.972	0.971	0.971	0.971	0.971

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. Results are based on conditional quantile regressions at the median.

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01

Bold highlights significant coefficient

**Table A A.21. Transfers and redistribution: a focus on unemployment-related transfers - Median regressions**

Dependent variable is ln(redistribution)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<b>Transfer parameters</b>														
<b>Net unemployment benefit replacement rate (1)</b>														
Over 5 years - at 100% of the AW, married couple	<b>0.69**</b> (0.32)							<b>0.31*</b> (0.18)			<b>0.71***</b> (0.21)			
Over 5 years - at 150% of the AW, married couple		<b>0.84*</b> (0.47)												
Over 5 years - at 67% of the AW, married couple			<b>0.56**</b> (0.24)						<b>0.23*</b> (0.14)			<b>0.57***</b> (0.12)		
Initial - at 100% of the AW, married couple				0.19 (0.28)										
Initial - at 67% of the AW, married couple					0.067 (0.21)									
Long-term- at 100% of the AW, married couple						<b>0.57***</b> (0.22)								
Long-term- at 67% of the AW, married couple							<b>0.50**</b> (0.22)			0.22 (0.16)			<b>0.37***</b> (0.13)	<b>0.25**</b> (0.12)
Unemployment insurance coverage (2)											<b>0.49**</b> (0.24)	<b>0.45*</b> (0.27)	0.53 (0.42)	0.65 (0.47)
<b>Social spending (in% of GDP)</b>														
Spending on active labour market policies (3)								<b>-9.54**</b> (4.83)	<b>-10.3**</b> (4.19)	<b>-12.3***</b> (3.56)				<b>-11.7***</b> (4.38)
Total Social spending	0.60 (0.83)	0.62 (0.91)	0.61 (0.73)	0.91 (1.07)	1.00 (0.69)	0.94 (0.69)	0.97 (0.80)	<b>1.75***</b> (0.66)	<b>1.91***</b> (0.61)	<b>1.94***</b> (0.67)	<b>1.60*</b> (0.83)	<b>1.27*</b> (0.68)	<b>1.47*</b> (0.80)	1.57 (1.04)
<b>Technological change &amp; Globalisation</b>														
Ln (openness)	<b>0.19***</b> (0.071)	<b>0.18**</b> (0.084)	<b>0.17**</b> (0.064)	<b>0.16*</b> (0.086)	<b>0.13*</b> (0.071)	<b>0.12*</b> (0.063)	<b>0.10*</b> (0.057)	0.088 (0.089)	0.093 (0.065)	0.075 (0.100)	0.028 (0.068)	-0.010 (0.080)	-0.017 (0.11)	0.063 (0.090)
Ln (MFP change)	-0.10 (0.23)	-0.051 (0.30)	-0.060 (0.15)	-0.022 (0.28)	0.012 (0.24)	0.093 (0.19)	0.14 (0.19)	0.081 (0.45)	0.056 (0.41)	0.10 (0.44)	-0.024 (0.25)	-0.16 (0.37)	-0.074 (0.66)	-0.11 (0.59)
<b>Labour market, sociodemographic conditions and earnings inequality</b>														
Ln (Unemployment rate)	<b>0.14***</b> (0.041)	<b>0.14**</b> (0.054)	<b>0.15***</b> (0.056)	<b>0.13**</b> (0.060)	<b>0.13***</b> (0.035)	<b>0.14***</b> (0.042)	<b>0.15***</b> (0.052)	<b>0.099***</b> (0.033)	<b>0.099***</b> (0.032)	<b>0.091***</b> (0.030)	<b>0.099***</b> (0.034)	<b>0.096***</b> (0.034)	0.12 (0.098)	<b>0.15*</b> (0.091)
Earnings inequality: ln (d9d1)	<b>-0.25*</b> (0.15)	-0.24 (0.17)	-0.25 (0.16)	-0.28 (0.20)	-0.30 (0.19)	-0.30 (0.19)	<b>-0.31**</b> (0.15)	-0.29 (0.21)	<b>-0.32**</b> (0.14)	<b>-0.32**</b> (0.16)	<b>-0.45*</b> (0.27)	<b>-0.48*</b> (0.26)	<b>-0.47***</b> (0.15)	<b>-0.41*</b> (0.25)
Share of workless families with children among working-age households	0.22 (1.27)	0.58 (1.95)	0.059 (1.44)	1.65 (1.61)	1.13 (0.83)	0.38 (0.99)	0.37 (1.08)	0.86 (0.71)	0.91 (0.70)	1.02 (0.97)	1.35 (1.18)	1.60 (1.08)	1.99 (2.00)	0.91 (1.67)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	304	304	304	304	304	304	304	272	272	272	152	152	152	142
R squared	0.971	0.969	0.971	0.968	0.967	0.970	0.970	0.975	0.976	0.975	0.976	0.977	0.974	0.983

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. R squared does not incorporate the effect of country fixed effects. (1) Families without children. (2) % of labour force insured for unemployment risk. (3) Active measures only (categories 10-70).

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01, Bold highlights significant coefficient

**Table A A.22. Transfers and redistribution: a focus on public policies for families and children - Median regressions**

Dependent variable is ln(redistribution)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<b>Policy indicators</b>														
Total public spending on families as a share of GDP	3.74 (4.52)													
Public spending on cash benefits for families as a share of GDP		6.29 (3.99)												
Public spending on in-kind benefits for families as a share of GDP			7.96 (7.17)											
Public spending on tax breaks for families as a share of GDP				0.57 (6.87)										
Public spending on early childhood education and care as a share of GDP					13.7 (9.05)									
Length of paid maternity leave						0.058 (0.060)								
Length of paid paternity leave							0.084 (0.096)							
Proportional difference in net transfers by single and equal-dual earner couples, household earnings at 133% of the AW								0.0013 (0.00086)						
Proportional difference in net transfers by single and equal-dual earner couples, household earnings at 200% of the AW									-0.38 (0.75)					
<b>Labour market situation of women</b>														
Gender-gap in the full-time equivalent employment to population ratio										-1.43*** (0.50)				
Employment rate of mothers											0.47 (0.34)			
Employment rate of partnered mothers												0.49 (0.43)		
Employment rate of sole-parents mothers													-0.016 (0.15)	
Women employment rate														0.27 (0.70)
<b>Social spending (in% of GDP)</b>														
Total Social spending	0.00055 (0.87)	1.19 (1.01)	0.80 (0.60)	0.63 (0.76)	<b>1.56*</b> (0.81)	1.00 (0.82)	1.19 (0.85)	1.12 (0.80)	1.36 (1.29)	1.56 (0.96)	<b>2.10***</b> (0.71)	<b>2.10***</b> (0.68)	<b>1.84**</b> (0.75)	<b>1.62*</b> (0.95)
<b>Technological change &amp; Globalisation</b>														
Ln (openness)	0.15 (0.12)	<b>0.17**</b> (0.077)	0.13 (0.098)	0.18 (0.16)	<b>0.21**</b> (0.082)	0.15 (0.10)	0.13 (0.11)	0.14 (0.093)	0.16 (0.15)	<b>0.25**</b> (0.10)	0.12 (0.077)	0.091 (0.085)	0.081 (0.079)	0.10 (0.081)
Ln (MFP change)	<b>-0.62***</b> (0.23)	-0.22 (0.18)	-0.13 (0.24)	-0.51 (0.50)	-0.15 (0.20)	-0.36 (0.29)	-0.38 (0.28)	0.035 (0.32)	0.20 (0.58)	-0.23 (0.15)	0.052 (0.21)	0.13 (0.21)	0.091 (0.24)	-0.22 (0.22)
<b>Labour market, sociodemographic conditions and earnings inequality</b>														
ln (Unemployment rate)	<b>0.15***</b> (0.046)	<b>0.096*</b> (0.054)	<b>0.13***</b> (0.027)	<b>0.14***</b> (0.043)	<b>0.100**</b> (0.042)	<b>0.12**</b> (0.053)	<b>0.12**</b> (0.051)	<b>0.14***</b> (0.035)	<b>0.12***</b> (0.043)	0.029 (0.058)	<b>0.11***</b> (0.036)	<b>0.12***</b> (0.035)	<b>0.11***</b> (0.035)	<b>0.12***</b> (0.039)
Earnings inequality: ln (d9d1)	-0.24 (0.37)	<b>-0.29**</b> (0.13)	-0.30 (0.19)	-0.22 (0.26)	<b>-0.33**</b> (0.14)	-0.31 (0.24)	-0.28 (0.23)	-0.25 (0.18)	<b>-0.30*</b> (0.18)	<b>-0.24**</b> (0.10)	-0.087 (0.24)	-0.060 (0.20)	-0.074 (0.27)	<b>-0.32**</b> (0.14)
Share of workless families with children among working-age households	1.12 (1.02)	0.44 (0.73)	1.16 (0.95)	0.54 (1.33)	1.11 (1.36)	0.52 (0.82)	0.49 (0.70)	1.53* (0.83)	1.31 (1.51)	0.16 (0.79)	0.73 (0.68)	0.77 (0.79)	0.97 (1.09)	0.86 (0.79)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	178	329	280	179	293	320	320	304	304	304	263	254	254	356
R squared	0.984	0.970	0.973	0.983	0.972	0.964	0.964	0.967	0.968	0.965	0.969	0.970	0.971	0.969

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. Results are based on conditional quantile regressions at the median.

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01

Bold highlights significant coefficients

**Table A A.23. The effects of old-age pension systems and early retirement incentives on redistribution to the working-age population - Median regressions**

Dependent variable is ln(redistribution)	1	2	3	4	5	6	7	8	9	10	11	12	13
<b>Old-age pension parameters (1)</b>													
Normal retirement age	-0.0077 (0.011)												
Normal retirement age, men		-0.0019 (0.0060)											
Normal retirement age, women			-0.0077 (0.011)										
Minimum retirement age				0.013*** (0.0048)									
Minimum retirement, men					0.013*** (0.0041)		0.015*** (0.0048)	0.013*** (0.0031)	0.015*** (0.0036)	0.018*** (0.0070)	0.014*** (0.0034)		
Minimum retirement, women						0.0073 (0.013)							
Replacement rate from the old-age pension system at age 60 (2)							0.041 (0.045)						
Replacement rate from the old-age pension system at age 65 (2)								0.10*** (0.033)					
Replacement rate from the old-age pension system at age 69 (2)									0.27 (0.36)				
Replacement rate from the old-age pension system between ages 60 & 65 (average) (2)										0.070 (0.085)			
Replacement rate from the old-age pension system between ages 65 & 69 (average) (2)											0.17 (0.16)		
<b>Effective retirement age</b>													
Average effective retirement age, men												-0.011 (0.011)	
Average effective retirement age, women													-0.0015 (0.0098)
<b>Social spending (in % of GDP)</b>													
Social spending on old-age population	1.64 (2.63)	1.47 (2.56)	1.51 (2.96)	2.13 (3.24)	1.91 (3.27)	1.67 (2.79)	1.20 (3.81)	2.03 (2.76)	0.85 (3.35)	0.96 (3.80)	1.62 (2.14)	-1.44 (4.38)	-1.29 (2.53)
Total Social spending	1.99 (1.25)	1.98 (1.44)	2.17 (1.49)	2.18 (1.96)	2.28 (1.92)	2.17 (1.60)	2.37 (2.28)	2.06 (1.67)	2.29 (1.53)	2.37 (1.72)	2.17* (1.22)	2.27 (2.10)	2.37* (1.40)
<b>Technological change &amp; Globalisation</b>													
Ln (openness)	0.24 (0.17)	0.17* (0.090)	0.25 (0.18)	0.20 (0.14)	0.20 (0.13)	0.17 (0.11)	0.18 (0.14)	0.19** (0.092)	0.15 (0.099)	0.17 (0.12)	0.18** (0.078)	0.12 (0.19)	0.088 (0.088)
Ln (MFP change)	-0.14 (0.22)	-0.042 (0.20)	-0.085 (0.22)	0.062 (0.19)	0.085 (0.18)	0.037 (0.15)	0.061 (0.25)	0.057 (0.16)	0.050 (0.18)	0.080 (0.20)	0.040 (0.20)	-0.19 (0.39)	-0.18 (0.23)
<b>Labour market, sociodemographic conditions and earnings inequality</b>													
Share of 55-65 in working-age population	-1.25 (1.11)	-1.36 (0.99)	-1.05 (1.38)	-1.56 (1.13)	-1.50 (1.12)	-1.42 (0.86)	-1.36 (1.79)	-2.03* (1.17)	-1.79** (0.82)	-1.58 (1.19)	-1.94 (1.18)	-0.018 (1.68)	-0.038 (1.18)
Old-age dependency ratio	-0.85 (1.03)	-1.11 (0.92)	-0.92 (1.04)	-1.57 (1.02)	-1.58 (0.99)	-1.43* (0.84)	-1.18 (1.18)	-1.56* (0.81)	-1.45 (0.98)	-1.40 (1.06)	-1.43 (0.87)	-0.22 (2.00)	-0.11 (0.91)
Ln (Unemployment rate)	0.043 (0.064)	0.059 (0.045)	0.044 (0.068)	0.034 (0.039)	0.034 (0.037)	0.046 (0.039)	0.044 (0.039)	0.038 (0.032)	0.040 (0.045)	0.049 (0.045)	0.039 (0.039)	0.11 (0.12)	0.090* (0.054)
Earnings inequality: ln (d9d1)	-0.31 (0.28)	-0.19 (0.21)	-0.28 (0.27)	-0.12 (0.18)	-0.14 (0.16)	-0.11 (0.17)	-0.17 (0.25)	-0.16 (0.16)	-0.20 (0.20)	-0.12 (0.21)	-0.18 (0.18)	-0.29 (0.25)	-0.33** (0.16)
Share of workless families with children among working-age households	1.02 (1.13)	0.93 (0.86)	0.79 (1.42)	1.04 (0.79)	0.97 (0.91)	1.01 (0.84)	0.87 (1.05)	0.85 (0.74)	0.98 (0.98)	0.73 (0.77)	0.97 (0.90)	0.71 (1.83)	0.80 (0.78)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	233	233	233	229	229	229	229	229	229	229	229	327	327
R squared	0.926	0.923	0.925	0.926	0.926	0.925	0.928	0.928	0.931	0.927	0.930	0.968	0.967

Note: Dependent variable is the natural logarithm of redistribution. Standard errors are clustered at the country level. (1) Legal age conditions for someone who enters the labour market at age 25 and exclude minimum contribution period conditions. The idea is to use legal ages that are referred to in public as the typical retirement ages. (2) Men. Excluding any kind of benefit received from unemployment benefit schemes or disability pension schemes. Results are based on conditional quantile regressions at the median.

Significance levels: \* p<.1; \*\* p<.05; \*\*\* p<.01

Bold highlights significant coefficient