

# CAUSES OF RISING INCOME INEQUALITY IN OECD COUNTRIES

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# PRESENTATION OUTLINE



MOTIVATION



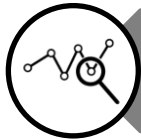
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DATA AND SUMMARY STATISTICS



EMPIRICAL MODEL & APPROACH



RESULTS



CONCLUSION

# PRESENTATION OUTLINE



MOTIVATION



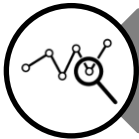
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RESULTS

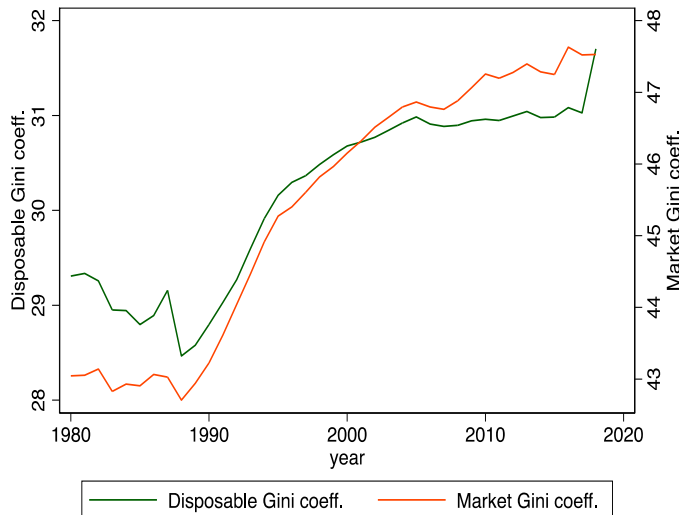


CONCLUSION

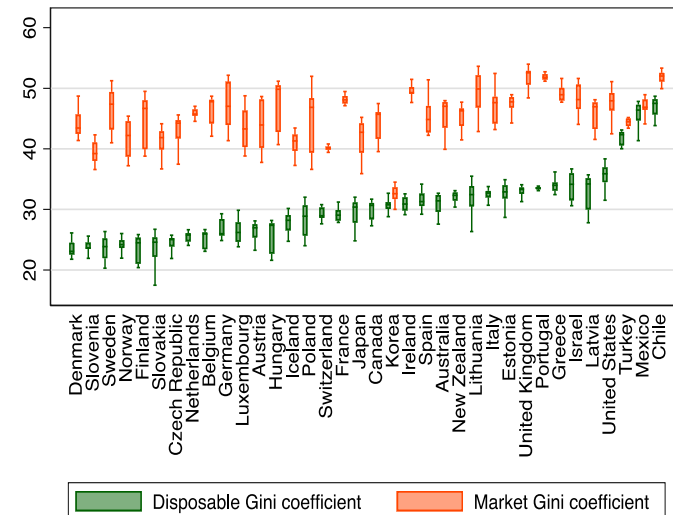
# MOTIVATION

- Rising income inequality in advanced countries cannot be explained by existing economic theories (Kuznets, 1955; Tinbergen, 1975) and is causing social and political distress.
- Technology and globalization emerge as the two main culprits.

**Figure 1: Income inequality in OECD countries from 1980-2018**

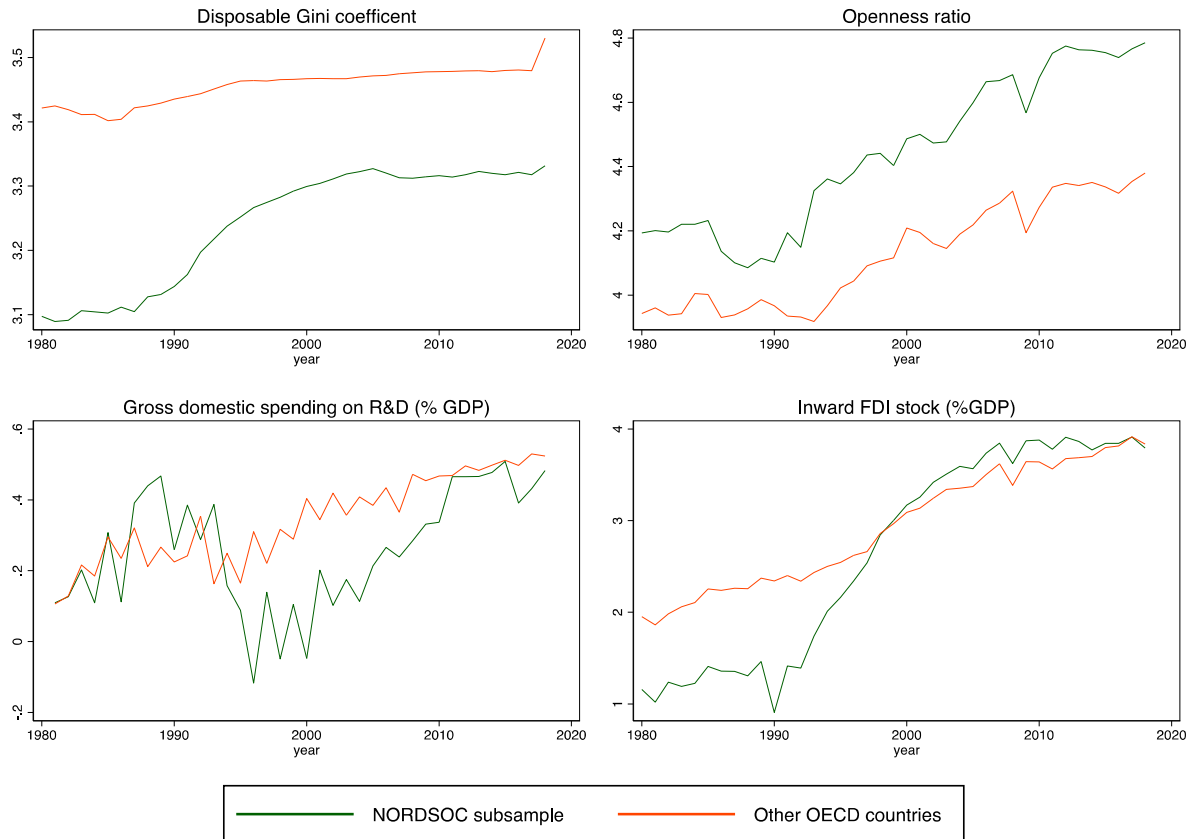


**Figure 2: Income inequality measured by disposable Gini coefficient (in OECD countries from 1980-2018)**



# MOTIVATION

**Figure 3: Income inequality, trade & technology from 1980-2018: Nordic and ex-socialist countries vs other OECD countries**



- Milanovic (2016) and Piketty (2014), emphasize policy as an additional key determinant of inequality.

# MOTIVATION

- **Technological progress** – skill biased technological change, automatization and routinization hypothesis
- **Globalization (openness)** – trade in general (the Stolper-Samuelson theorem, the Heckscher–Ohlin theorem), trade with less developed countries (the China effect), mobility of labour (immigration), and mobility of capital (financial globalization and offshoring)
- **Policy** – taxes and redistribution (direct and indirect effect), unionization, minimum wage laws, strictness of labor market regulations, and education.
- Related **empirical studies** rarely confirm that all three factors are significant in shaping distributional outcomes: Jaumotte & Osorio (2015), Dabla-Norris et al. (2015), Rossvoll & Sparrman (2015), OECD (2011), Roser & Cuaresma (2016), Asteriou et al. (2014), Figini & Görg, (2011), Wu & Hsu (2012), Jaumotte et al. (2013) and Cabral et al. (2016)

# PRESENTATION OUTLINE



MOTIVATION



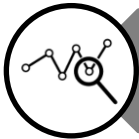
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- Both Milanovic (2016) and Piketty (2014) argue that income distribution is shaped simultaneously and almost completely by technological progress, globalization (openness), and policy. We refer to this argument as the “TOP hypothesis”.
- In our paper, we empirically test the TOP hypothesis in advanced economies by measuring whether and to what extent technology, globalization, and policy can be held responsible for the observed rise in income inequality in advanced economies.
- Our goal is to confirm that all three factors explain inequality, but in contrast to most previous studies and in line with Milanovic (2016) and Piketty (2014), we aim to emphasize the central role of policy and the institutional framework in the evolution of distributional outcomes.
- Not only do we measure the direct impact of policy on inequality among other important determinants, but we also test if there is an indirect effect. More specifically, we test whether policy choices can mitigate the negative effects of globalization and technological progress.



# PRESENTATION OUTLINE



MOTIVATION



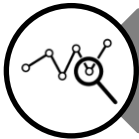
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# DATA

- **Income inequality**

Standardized World Income Inequality Database (SWIID) - Gini coefficients

- **Technology**

OECD database - gross domestic spending on R&D (% of GDP)

- **Openness (globalization)**

QoG OECD - exports and imports of goods & services (% of GDP);

UNCTAD database - Inward & Outward FDI;

Correlates of War Project/Trade database (Barbieri & Keshk, 2016) - Share of merchandise imports from China (% of total imports of goods and services).

- **Policy**

QOG OECD - Union density rate & Public expenditure on education (% of GDP);

UNU WIDER Government revenue dataset - Direct income taxes

- **Control variables**

World Bank's World Development Indicators database – GDP;

OECD database - Long term unemployment & Employment in services.

# SUMMARY STATISTICS

- We observe the upward trends in inequality, globalization and technological progress in almost all countries in the sample. Turkey, Chile, Mexico, and Greece are clear exceptions, with a declining Gini coefficient since 1980s, but the highest average inequality within the sample.
- When it comes to policy instruments, public expenditure on education and direct income taxes on average show increasing trend in OECD countries during the observed period, but there is a wide variety of measures implemented. On the other side union density rate has declined on average and in almost all OECD member countries except Iceland and Chile.
- Inequality between countries for the same year varies more than inequality within countries over time.
- There are also larger differences across countries in disposable inequality relative to market inequality.

# SUMMARY STATISTICS

Table 1: Summary statistics:

Variable	N	mean	sd	min	max	N	mean	sd	min	max	
		<i>other OECD</i>					<i>nordsoc OECD</i>				
Market Gini coefficient	863	46.07	4.677	29.999	53.977	436	44.422	4.161	34.113	53.619	
Disposable Gini coefficient	863	32.156	5.843	23.082	48.686	436	26.335	4.089	17.473	35.706	
Share of inward FDI (% of GDP)	858	36.954	50.885	0.296	376.179	412	30.383	22.708	0.165	89.13	
Share of outward FDI (% of GDP)	841	33.312	53.043	0.071	415.149	415	16.839	20.908	0.003	116.766	
Openness ratio	886	74.43	54.477	16.014	408.362	401	96.665	33.736	43.488	190.544	
Share of imports from China	779	3.831	4.986	0.000	27.405	352	2.454	2.347	0.028	11.015	
Gross domestic spending on R&D (% of GDP)	704	1.713	0.917	0.148	4.797	367	1.552	0.895	0.352	3.874	
Public exp. on education (% of GDP)	740	4.747	1.037	0.000	8.018	375	5.705	1.199	3.300	8.560	
Union density rate	873	27.645	14.219	6.315	83.2	395	47.108	28.73	4.254	97.778	
Direct income tax rate	885	20.991	7.604	3.273	35.411	421	23.826	5.713	9.274	37.817	
GDP per capita growth	886	1.906	2.845	-12.241	23.986	401	2.732	3.609	-14.269	14.344	
Share of services employment (% of employed)	820	66.275	10.003	31.797	90.343	390	63.056	9.382	38.242	80.184	
Long-run unemployment rate	738	32.466	18.28	0.224	76.167	347	33.673	15.653	1.515	73.122	

- We identify that inequality is lower on average in *nordsoc* subsample of countries relative to other OECD members.
- When we compare *nordsoc* subsample with other OECD member countries, we find that the difference in average disposable Gini coefficients between these subsamples is much larger than in the market Gini coefficients

# PRESENTATION OUTLINE



MOTIVATION



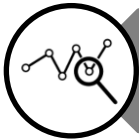
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DATA AND SUMMARY STATISTICS



EMPIRICAL MODEL & APPROACH



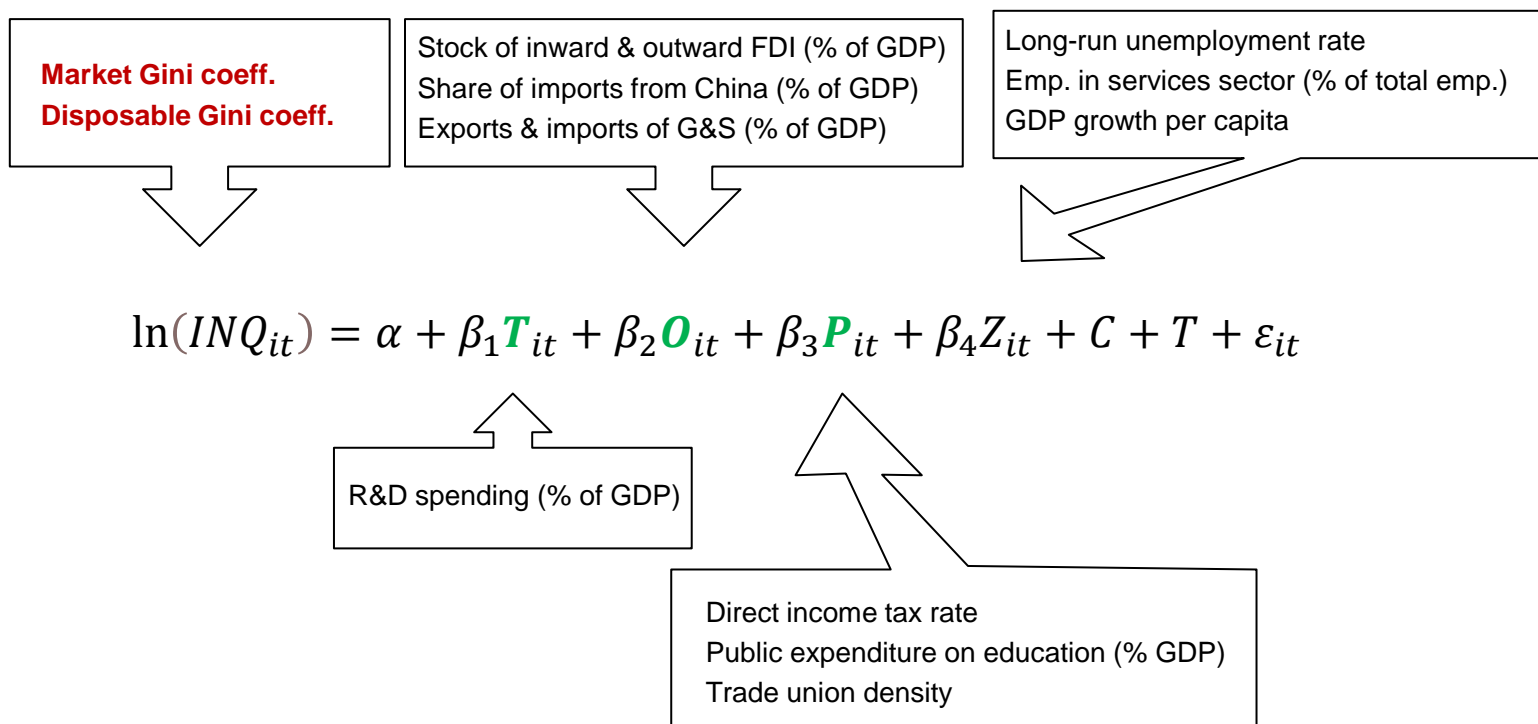
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# EMPIRICAL MODEL

Basic model specification:



# EMPIRICAL MODEL

Alternative model specifications:

1. Unequal Redistribution of growth hypothesis

$$\ln(INQ_{it}) = \alpha + \beta_1 T_{it} + \beta_2 O_{it} + \beta_3 P_{it} + \beta_4 Z_{it} + \beta_5 GDP_{it} * INC_{it} + C + T + \varepsilon_{it}$$

2. The mitigating role of education

$$\ln(INQ_{it}) = \alpha + \beta_1 T_{it} + \beta_2 O_{it} + \beta_3 P_{it} + \beta_4 Z_{it} + \beta_5 RD_{it} * EDUC_{it} + C + T + \varepsilon_{it}$$

3. Systemic differences between countries and income inequality

$$\ln(INQ_{it}) = \alpha + (\beta_1 T_{it} + \beta_2 O_{it} + \beta_3 P_{it} + \beta_4 Z_{it}) * nordsoc + C + T + \varepsilon_{it}$$

# EMPIRICAL APPROACH

- To bring the distributions closer to normal, we use a logarithmic transformation for all variables.
- OLS
- Fixed effect
  - One-way fixed effect (country fixed effect)
  - Two-way fixed effect (country and year fixed effect)
- Robust standard errors clustered at country level
- “*nordsoc*” dummy and fixed effects
- Model in long differences (5 year differences)



# PRESENTATION OUTLINE



MOTIVATION



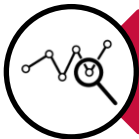
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**Table 2: What drives market inequality?**

Variables	Dependent variable: Market Gini Coefficient			Dependent variable: Disposable Gini Coefficient		
	(1)	(2)	(3)	(4)	(5)	(6)
Gross domestic spending on R&D (% of GDP)	<b>0.026</b> [2.34]**	0.033 [3.21]***	-1.367 [-1.57]	0.019 [1.36]	0.028 [2.18]**	-0.376 [-0.51]
Openness ratio	<b>0.038</b> [2.85]***	0.029 [2.21]**	1.755 [2.78]***	0.016 [0.92]	0.004 [0.22]	0.517 [0.99]
Share of inward FDI (% of GDP)	<b>0.012</b> [2.34]**	0.013 [2.65]***	0.413 [1.75]*	0.026 [3.56]***	0.027 [4.00]***	0.588 [2.87]***
Share of outward FDI (% of GDP)	<b>-0.006</b> [-1.85]*	-0.007 [-2.42]**	-0.326 [-2.19]**	-0.006 [-1.56]	-0.009 [-2.18]**	-0.155 [-1.24]
Share of imports from China (% of total imports of G&S)	<b>-0.015</b> [-3.69]***	-0.016 [-4.06]***	-0.575 [-3.30]***	0 [0.06]	-0.001 [-0.23]	-0.049 [-0.30]
Public exp. for education (% of GDP)	<b>-0.025</b> [-2.50]**	-0.022 [-2.36]**	-1.291 [-2.69]***	-0.029 [-2.14]**	-0.026 [-2.00]**	-1.131 [-2.81]***
Direct income tax rate	<b>-0.077</b> [-3.87]***	-0.077 [-4.07]***	-2.462 [-2.69]***	-0.107 [-4.04]***	-0.106 [-4.17]***	-2.698 [-3.67]***
Union density rate	<b>0.038</b> [3.83]***	0.053 [5.26]***	1.455 [3.22]***	0.02 [1.42]	0.04 [2.87]***	0.452 [1.18]
Share of services employment (% of employed)	<b>0.015</b> [0.36]	0.025 [0.65]	2.666 [1.28]	-0.059 [-1.23]	-0.048 [-1.09]	-1.826 [-1.06]
Top-10% income share		0.186 [5.89]***			0.238 [5.84]***	
GDP per capita growth * Top-10% income share		0.007 [1.26]			0.012 [1.42]	
R&D spending * education			1.498 [2.88]***			0.407 [0.89]
GDP per capita growth	<b>-0.001</b> [-0.95]	-0.026 [-1.33]	-0.059 [-0.94]	-0.001 [-0.71]	-0.045 [-1.46]	-0.049 [-0.84]
Long-run unemployment rate	<b>0.013</b> [2.97]***	0.008 [1.73]*	0.652 [3.46]***	0.013 [2.48]**	0.007 [1.18]	0.407 [2.64]***
Constant	<b>3.736</b> [20.90]***	3.044 [14.95]***	31.747 [3.59]***	3.781 [18.08]***	2.899 [12.95]***	41.922 [6.06]***
No. of Observations	<b>579</b>	579	579	579	579	579
R-squared	<b>0.924</b>	0.932	0.921	0.961	0.965	0.966

Note: The model is estimated using country and year fixed effects. Robust t-statistics in brackets.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 3: The mitigating role of taxes and redistribution**

Variables	Dependent variable: Market Gini Coefficient			Dependent variable: Disposable Gini Coefficient		
	(1)	(2)	(3)	(4)	(5)	(6)
Gross domestic spending on R&D (% of GDP)	<b>0.026</b> [2.34]**	0.033 [3.21]***	-1.367 [-1.57]	<b>0.019</b> [1.36]	0.028 [2.18]**	-0.376 [-0.51]
Openness ratio	<b>0.038</b> [2.85]***	0.029 [2.21]**	1.755 [2.78]***	<b>0.016</b> [0.92]	0.004 [0.22]	0.517 [0.99]
Share of inward FDI (% of GDP)	<b>0.012</b> [2.34]**	0.013 [2.65]***	0.413 [1.75]*	<b>0.026</b> [3.56]***	0.027 [4.00]***	0.588 [2.87]***
Share of outward FDI (% of GDP)	<b>-0.006</b> [-1.85]*	-0.007 [-2.42]**	-0.326 [-2.19]**	<b>-0.006</b> [-1.56]	-0.009 [-2.18]**	-0.155 [-1.24]
Share of imports from China (% of total imports of G&S)	<b>-0.015</b> [-3.69]***	-0.016 [-4.06]***	-0.575 [-3.30]***	<b>0</b> [0.06]	-0.001 [-0.23]	-0.049 [-0.30]
Public exp. for education (% of GDP)	<b>-0.025</b> [-2.50]**	-0.022 [-2.36]**	-1.291 [-2.69]***	<b>-0.029</b> [-2.14]**	-0.026 [-2.00]**	-1.131 [-2.81]***
Direct income tax rate	<b>-0.077</b> [-3.87]***	-0.077 [-4.07]***	-2.462 [-2.69]***	<b>-0.107</b> [-4.04]***	-0.106 [-4.17]***	-2.698 [-3.67]***
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GDP per capita growth * Top-10% income share		0.007 [1.26]			0.012 [1.42]	
R&D spending * education			1.498 [2.88]***			0.407 [0.89]
GDP per capita growth	<b>-0.001</b> [-0.95]	-0.026 [-1.33]	-0.059 [-0.94]	<b>-0.001</b> [-0.71]	-0.045 [-1.46]	-0.049 [-0.84]
Long-run unemployment rate	<b>0.013</b> [2.97]***	0.008 [1.73]*	0.652 [3.46]***	<b>0.013</b> [2.48]**	0.007 [1.18]	0.407 [2.64]***
Constant	<b>3.736</b> [20.90]***	3.044 [14.95]***	31.747 [3.59]***	<b>3.781</b> [18.08]***	2.899 [12.95]***	41.922 [6.06]***
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R-squared	<b>0.924</b>	0.932	0.921	<b>0.961</b>	0.965	0.966

Note: The model is estimated using country and year fixed effects. Robust t-statistics in brackets.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 4: Unequal redistribution of growth**

Variables	Dependent variable: Market Gini Coefficient			Dependent variable: Disposable Gini Coefficient		
	(1)	(2)	(3)	(4)	(5)	(6)
Gross domestic spending on R&D (% of GDP)	0.026 [2.34]**	<b>0.033</b> <b>[3.21]***</b>	-1.367 [-1.57]	0.019 [1.36]	<b>0.028</b> <b>[2.18]**</b>	-0.376 [-0.51]
Openness ratio	0.038 [2.85]***	<b>0.029</b> <b>[2.21]**</b>	1.755 [2.78]***	0.016 [0.92]	<b>0.004</b> <b>[0.22]</b>	0.517 [0.99]
Share of inward FDI (% of GDP)	0.012 [2.34]**	<b>0.013</b> <b>[2.65]***</b>	0.413 [1.75]*	0.026 [3.56]***	<b>0.027</b> <b>[4.00]***</b>	0.588 [2.87]***
Share of outward FDI (% of GDP)	-0.006 [-1.85]*	<b>-0.007</b> <b>[-2.42]**</b>	-0.326 [-2.19]**	-0.006 [-1.56]	<b>-0.009</b> <b>[-2.18]**</b>	-0.155 [-1.24]
Share of imports from China (% of total imports of G&S)	-0.015 [-3.69]***	<b>-0.016</b> <b>[-4.06]***</b>	-0.575 [-3.30]***	0 [0.06]	<b>-0.001</b> <b>[-0.23]</b>	-0.049 [-0.30]
Public exp. for education (% of GDP)	-0.025 [-2.50]**	<b>-0.022</b> <b>[-2.36]**</b>	-1.291 [-2.69]***	-0.029 [-2.14]**	<b>-0.026</b> <b>[-2.00]**</b>	-1.131 [-2.81]***
Direct income tax rate	-0.077 [-3.87]***	<b>-0.077</b> <b>[-4.07]***</b>	-2.462 [-2.69]***	-0.107 [-4.04]***	<b>-0.106</b> <b>[-4.17]***</b>	-2.698 [-3.67]***
Union density rate	0.038 [3.83]***	<b>0.053</b> <b>[5.26]***</b>	1.455 [3.22]***	0.02 [1.42]	<b>0.04</b> <b>[2.87]***</b>	0.452 [1.18]
Share of services employment (% of employed)	0.015 [0.36]	<b>0.025</b> <b>[0.65]</b>	2.666 [1.28]	-0.059 [-1.23]	<b>-0.048</b> <b>[-1.09]</b>	-1.826 [-1.06]
Top-10% income share		<b>0.186</b> <b>[5.89]***</b>			<b>0.238</b> <b>[5.84]***</b>	
GDP per capita growth * Top-10% income share		<b>0.007</b> <b>[1.26]</b>			<b>0.012</b> <b>[1.42]</b>	
R&D spending * education			1.498 [2.88]***			0.407 [0.89]
GDP per capita growth	-0.001 [-0.95]	<b>-0.026</b> <b>[-1.33]</b>	-0.059 [-0.94]	-0.001 [-0.71]	<b>-0.045</b> <b>[-1.46]</b>	-0.049 [-0.84]
Long-run unemployment rate	0.013 [2.97]***	<b>0.008</b> <b>[1.73]*</b>	0.652 [3.46]***	0.013 [2.48]**	<b>0.007</b> <b>[1.18]</b>	0.407 [2.64]***
Constant	3.736 [20.90]***	<b>3.044</b> <b>[14.95]***</b>	31.747 [3.59]***	3.781 [18.08]***	<b>2.899</b> <b>[12.95]***</b>	41.922 [6.06]***
No. of Observations	579	<b>579</b>	579	579	<b>579</b>	579
R-squared	0.924	<b>0.932</b>	0.921	0.961	<b>0.965</b>	0.966

Note: The model is estimated using country and year fixed effects. Robust t-statistics in brackets.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 5: The mitigating role of education**

Variables	Dependent variable: Market Gini Coefficient			Dependent variable: Disposable Gini Coefficient		
	(1)	(2)	(3)	(4)	(5)	(6)
Gross domestic spending on R&D (% of GDP)	0.026 [2.34]**	0.033 [3.21]***	<b>-1.367</b> <b>[-1.57]</b>	0.019 [1.36]	0.028 [2.18]**	<b>-0.376</b> <b>[-0.51]</b>
Openness ratio	0.038 [2.85]***	0.029 [2.21]**	<b>1.755</b> <b>[2.78]***</b>	0.016 [0.92]	0.004 [0.22]	<b>0.517</b> <b>[0.99]</b>
Share of inward FDI (% of GDP)	0.012 [2.34]**	0.013 [2.65]***	<b>0.413</b> <b>[1.75]*</b>	0.026 [3.56]***	0.027 [4.00]***	<b>0.588</b> <b>[2.87]***</b>
Share of outward FDI (% of GDP)	-0.006 [-1.85]*	-0.007 [-2.42]**	<b>-0.326</b> <b>[-2.19]**</b>	-0.006 [-1.56]	-0.009 [-2.18]**	<b>-0.155</b> <b>[-1.24]</b>
Share of imports from China (% of total imports of G&S)	-0.015 [-3.69]***	-0.016 [-4.06]***	<b>-0.575</b> <b>[-3.30]***</b>	0 [0.06]	-0.001 [-0.23]	<b>-0.049</b> <b>[-0.30]</b>
Public exp. for education (% of GDP)	-0.025 [-2.50]**	-0.022 [-2.36]**	<b>-1.291</b> <b>[-2.69]***</b>	-0.029 [-2.14]**	-0.026 [-2.00]**	<b>-1.131</b> <b>[-2.81]***</b>
Direct income tax rate	-0.077 [-3.87]***	-0.077 [-4.07]***	<b>-2.462</b> <b>[-2.69]***</b>	-0.107 [-4.04]***	-0.106 [-4.17]***	<b>-2.698</b> <b>[-3.67]***</b>
Union density rate	0.038 [3.83]***	0.053 [5.26]***	<b>1.455</b> <b>[3.22]***</b>	0.02 [1.42]	0.04 [2.87]***	<b>0.452</b> <b>[1.18]</b>
Share of services employment (% of employed)	0.015 [0.36]	0.025 [0.65]	<b>2.666</b> <b>[1.28]</b>	-0.059 [-1.23]	-0.048 [-1.09]	<b>-1.826</b> <b>[-1.06]</b>
Top-10% income share		0.186 [5.89]***			0.238 [5.84]***	
GDP per capita growth * Top-10% income share		0.007 [1.26]			0.012 [1.42]	
R&D spending * education			<b>1.498</b> <b>[2.88]***</b>			<b>0.407</b> <b>[0.89]</b>
GDP per capita growth	-0.001 [-0.95]	-0.026 [-1.33]	<b>-0.059</b> <b>[-0.94]</b>	-0.001 [-0.71]	-0.045 [-1.46]	<b>-0.049</b> <b>[-0.84]</b>
Long-run unemployment rate	0.013 [2.97]***	0.008 [1.73]*	<b>0.652</b> <b>[3.46]***</b>	0.013 [2.48]**	0.007 [1.18]	<b>0.407</b> <b>[2.64]***</b>
Constant	3.736 [20.90]***	3.044 [14.95]***	<b>31.747</b> <b>[3.59]***</b>	3.781 [18.08]***	2.899 [12.95]***	<b>41.922</b> <b>[6.06]***</b>
No. of Observations	579	579	<b>579</b>	579	579	<b>579</b>
R-squared	0.924	0.932	<b>0.921</b>	0.961	0.965	<b>0.966</b>

Note: The model is estimated using country and year fixed effects. Robust t-statistics in brackets.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 6: Systemic differences between countries and income inequality**

Variables	Market Gini coeff.		Disposable Gini coeff.	
	(1)	(2)	(3)	(4)
Gross domestic spending on R&D (% of GDP)	0.026 [2.34]**	0.006 [0.43]	0.019 [1.36]	0.014 [0.90]
nordsoc x Gross domestic spending on R&D (% of GDP)		0.03 [1.24]		0.00 [0.00]
Openness ratio	0.038 [2.85]***	<b>0.055</b> <b>[3.48]***</b>	0.016 [0.92]	0.002 [0.09]
nordsoc x Openness ratio		<b>-0.09</b> <b>[-2.37]**</b>		-0.044 [-0.80]
Share of inward FDI	0.012 [2.34]**	0.012 [2.01]**	0.026 [3.56]***	0.026 [3.30]***
nordsoc x Share of inward FDI		-0.011 [-1.23]		-0.011 [-0.82]
Share of outward FDI	-0.006 [-1.85]*	-0.007 [-1.54]	-0.006 [-1.56]	-0.016 [-2.68]***
nordsoc x Share of outward FDI		-0.004 [-0.57]		0.004 [0.48]
Share of imports from China	-0.015 [-3.69]***	<b>-0.017</b> <b>[-4.25]***</b>	0 [0.06]	0 [-0.02]
nordsoc x Share of imports from China		<b>0.013</b> <b>[1.90]*</b>		0.001 [0.13]

Robust t-statistics in brackets

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

**Table 6 cont.**

Variables	Market Gini coeff.		Disposable Gini coeff.	
	(1)	(2)	(3)	(4)
Direct income tax rate	-0.077	-0.046	-0.107	-0.041
nordsoc x Direct income tax rate	[-3.87]***	[-2.47]**	[-4.04]***	[-1.78]*
		-0.039		-0.099
		[-0.68]		[-1.25]
Union density rate	0.038	0.02	0.02	0.027
nordsoc x Union density rate	[3.83]***	[1.32]	[1.42]	[1.69]*
		0.021		-0.003
		[0.98]		[-0.09]
Long-run unemployment (% of unemployed)	0.013	0.013	0.013	0.024
nordsoc x Long-run unemployment rate	[2.97]***	[2.60]***	[2.48]**	[3.98]***
		0.006		-0.021
		[0.60]		[-1.35]
Public exp. for education (% of GDP)	-0.025	-0.027	-0.029	-0.034
nordsoc x <u>Public</u> exp. for education (% of GDP)	[-2.50]**	[-2.59]***	[-2.14]**	[-2.64]***
		-0.002		-0.004
		[-0.06]		[-0.09]
GDP per capita growth	-0.001	-0.003	-0.001	-0.003
nordsoc x GDP per capita growth	[-0.95]	[-1.85]*	[-0.71]	[-1.28]
		0.007		0.007
		[2.11]**		[1.32]
Share of services employment	0.015	<b>-0.035</b>	-0.059	-0.16
nordsoc x Share of services employment	[0.36]	<b>[-0.66]</b>	[-1.23]	[-2.74]***
		<b>0.34</b>		0.463
		<b>[3.07]***</b>		[3.80]***
Constant	3.736	3.535	3.781	3.603
	[20.90]***	[18.27]***	[18.08]***	[15.54]***
#. of Observations	579	579	579	579
R-squared	0.924	0.929	0.961	0.964

Robust t-statistics in brackets

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

# PRESENTATION OUTLINE



MOTIVATION



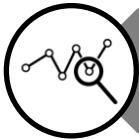
AIMS OF PAPER



DATA AND SUMMARY STATISTICS



EMPIRICAL MODEL & APPROACH



RESULTS



CONCLUSION



# CONCLUSION

- We find that all three TOP factors are significant drivers of distributional outcomes in advanced economies.
- Our most notable finding is that taxes and redistributive policies, as well as the systemic and institutional environment, have the power to mitigate the negative impact of globalization and technological progress on income inequality.
- Inequality is not a natural state of capitalism that countries must accept to enjoy benefits of globalization and technological progress. Rather countries should carefully tailor policies to aid easier adjustment of income distribution to external shocks.
- Only the impact of financial globalization is resilient to policy interventions, therefore these should be considered and discussed at the global, intergovernmental level.
- We plan to improve our analysis by providing additional robustness checks and by using alternative dynamic estimation methods.



# Thank you

feel free to reach out if you have any  
comments or questions  
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**Table 7: Five year difference estimates**

Variables	Market Gini coeff.		Disposable Gini coeff.	
	(1)	(2)	(3)	(4)
Gross domestic spending on R&D (% of GDP)	0.001 [0.09]	-0.025 [-1.57]	0.013 [0.67]	-0.017 [-0.79]
nordsoc x Gross domestic spending on R&D (% of GDP)		0.05 [2.29]**		0.049 [1.40]
Openness ratio	-0.02 [-1.12]	<b>0.008</b> [ <b>0.43</b> ]	-0.036 [-1.42]	0.005 [0.16]
nordsoc x Openness ratio		<b>-0.066</b> [ <b>-1.78</b> ]*		-0.073 [-1.42]
Share of inward FDI	<b>0.016</b> [ <b>2.97</b> ]***	<b>-0.002</b> [ <b>-0.19</b> ]	<b>0.022</b> [ <b>2.69</b> ]***	<b>0.003</b> [ <b>0.35</b> ]
nordsoc x Share of inward FDI		<b>0.045</b> [ <b>3.78</b> ]***		<b>0.056</b> [ <b>3.24</b> ]***
Share of outward FDI	-0.006 [-1.62]	0.003 [0.42]	-0.005 [-0.91]	-0.007 [-0.82]
nordsoc x Share of outward FDI		-0.02 [-2.16]**		-0.001 [-0.10]
Share of imports from China	-0.002 [-0.41]	-0.006 [-0.79]	0.005 [0.75]	0.016 [1.48]
nordsoc x Share of imports from China		0.01 [1.11]		-0.011 [-0.82]

Robust t-statistics in brackets.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 7 cont.**

Variables	Market Gini coeff.		Disposable Gini coeff.	
	(1)	(2)	(3)	(4)
Direct income tax rate	0.037	0.004	0.034	0.006
	[1.45]	[0.16]	[1.00]	[0.16]
nordsoc x Direct income tax rate		0.13		0.12
		[2.51]**		[1.63]
Union density rate	0.030	0.07	0.066	0.106
	[1.66]*	[2.53]**	[2.87]***	[2.68]***
nordsoc x Union density rate		-0.063		-0.04
		[-1.74]*		[-0.79]
Long-run unemployment (per cent of unemployed)	0.017	0.014	0.006	0.003
	[3.00]***	[2.05]**	[0.85]	[0.33]
nordsoc x Long-run unemployment rate		0.001		0
		[0.10]		[-0.02]
Public exp. for education (% of GDP)	-0.001	-0.002	-0.019	-0.013
	[-0.07]	[-0.09]	[-0.98]	[-0.61]
nordsoc x <u>Public</u> exp. for education (% of GDP)		-0.009		-0.015
		[-0.30]		[-0.35]
GDP per capita growth	-0.001	-0.002	0.002	-0.001
	[-0.80]	[-1.36]	[0.80]	[-0.43]
nordsoc x GDP per capita growth		0.005		0.012
		[1.93]*		[2.61]***
Share of services employment	<b>0.126</b>	<b>0.134</b>	<b>0.083</b>	<b>0.102</b>
	<b>[2.09]**</b>	<b>[2.15]**</b>	<b>[1.10]</b>	<b>[1.28]</b>
nordsoc x Share of services employment		0.037		-0.02
		[0.31]		[-0.10]
Constant	-0.027	-0.024	-0.043	-0.042
	[-2.71]***	[-2.23]**	[-3.35]***	[-2.76]***
#. of Observations	305	305	305	305
R-squared	0.533	0.607	0.415	0.495

Robust t-statistics in brackets.

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

□