

Perceptions of inequality across OECD and EU countries: Long term trends and recent evidence

Supporting material for the report “Does Inequality Matter?”

This note presents additional results and methodological details for the report *Does Inequality Matter?*, extending the main results to both OECD and EU countries and presenting additional methodological details. Results presented in this note are referred to in *Does Inequality Matter?* as Ciani et al. (forthcoming).

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The opinions expressed and arguments employed herein do not necessarily reflect the official views of the OECD member countries or the European Union.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

The present note presents time series which end before the United Kingdom’s withdrawal from the European Union on 1 February 2020. The EU aggregate presented here therefore refers to the EU including the UK. In future publications, as soon as the time series presented extend to periods beyond the UK withdrawal (February 2020 for monthly, Q1 2020 for quarterly, 2020 for annual data), the “European Union” aggregate will change to reflect the new EU country composition

Note by Turkey

The information in this document with reference to “Cyprus” relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the “Cyprus issue”.

Note by all the European Union Member States of the OECD and the European Union

The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus

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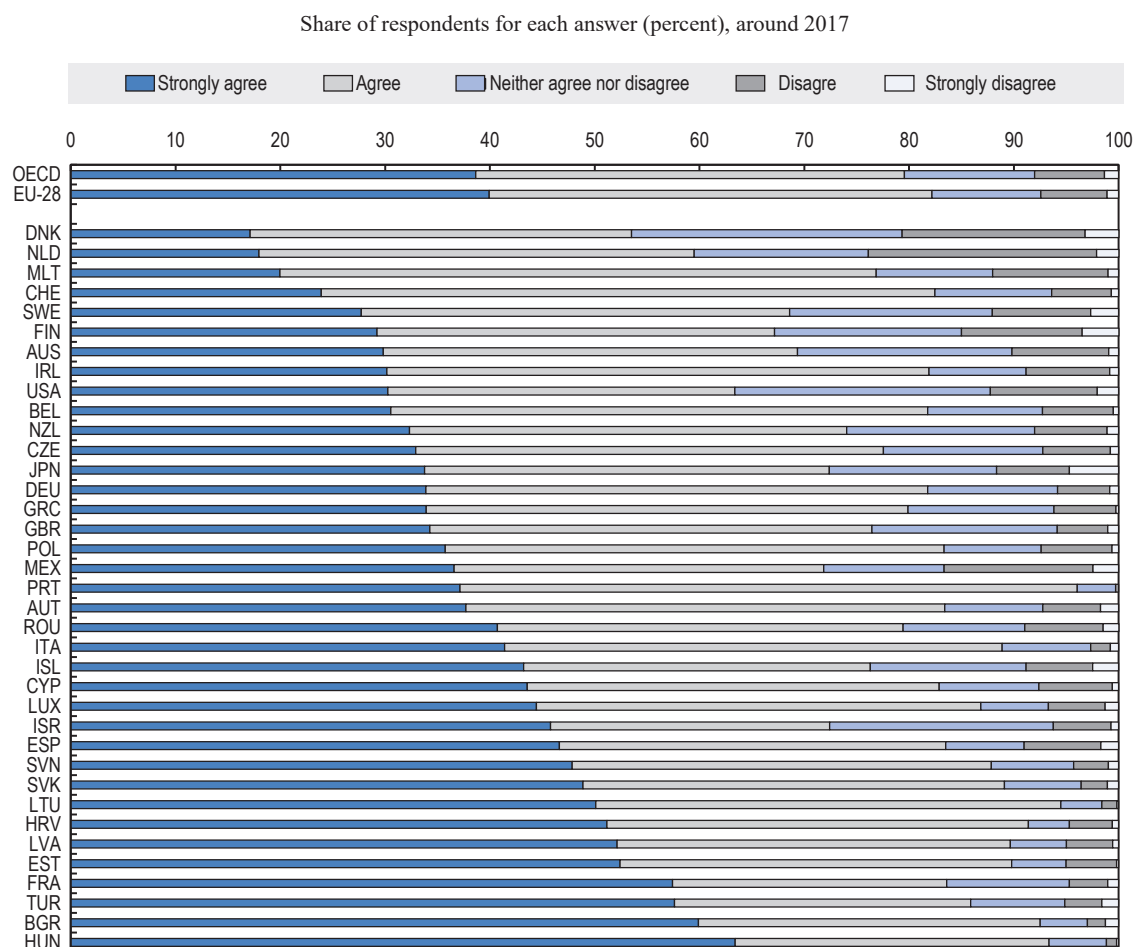
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Chapter 1. Additional figures and results for *Does Inequality Matter?*

Figure 1.1. A majority of people is concerned over large income disparities in their countries (OECD and EU countries)



Note: In ISSP, respondents are asked their opinion about the statement “Differences in income in [country] are too large”. In Eurobarometer the statement reads: “Nowadays in [country] differences in people’s incomes are too great” (the scale of answers is identical). The OECD/EU average is the unweighted average across the OECD/EU countries included in the figure.

Source: International Social Survey Programme (ISSP) 2017, apart from Belgium, Bulgaria, Cyprus, Estonia, Greece, Ireland, Italy, Luxembourg, Latvia, Malta, Netherlands, Poland, Portugal and Romania whose data are from Eurobarometer 471/2017.

Table 1.1. Changes in concern over income disparities are related with changes in post-tax and transfers inequality within countries; results including OECD and EU countries

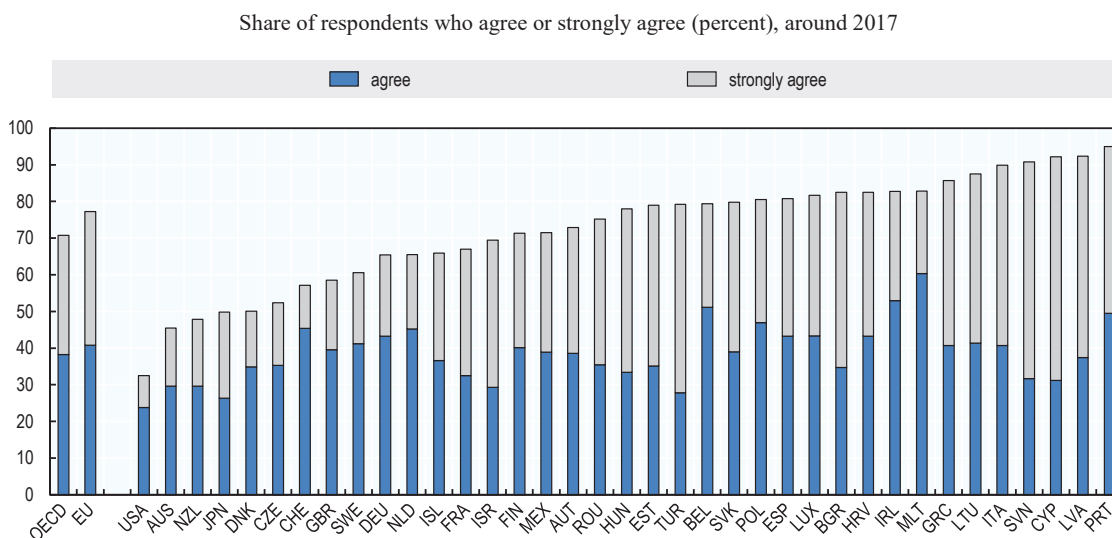
Percentage point increase in the share of respondents who strongly agree that income disparities are too large associated with one percentage point increase in different variables; See Annex 1.A for sample description and additional robustness checks

	(1)	(2)	(3)	(4)	(5)	(6)
Gini market income (before taxes and transfers)	0.74** (0.32)		0.27 (0.35)	0.16 (0.47)		
Gini disposable income (post taxes and transfers)		1.70*** (0.55)	1.52** (0.64)	1.71** (0.71)		
Unemployment rate				-0.01 (0.00)		0.00 (0.01)
Employment rate				-0.13 (0.56)		0.29 (0.32)
GDP per head (logarithm)				-0.15 (0.24)		-0.15 (0.10)
90th percentile vs median income ratio					0.31** (0.11)	
median income vs 10th percentile ratio					-0.05 (0.08)	
Top 10% share (WID)						2.46** (1.12)
Top 1% share (WID)						-1.36 (1.21)
Observations	80	80	80	80	80	90
Countries	30	30	30	30	30	31
Country fixed effects	Included	Included	Included	Included	Included	Included
Period fixed effects	Included	Included	Included	Included	Included	Included

Note: * p-value<0.1, ** p-value<0.05, *** p-value<0.01. All coefficients can be read in terms of percentage point change; for instance, in column (1) a one percentage point increase in the Gini coefficient of market income is associated – on average – with a 0.78 percentage point increase in the share of respondents who strongly agree that income differences are too large. Standard errors clustered by country in parentheses. Each observation is a country-period pair over the 1987-2017 ISSP waves (see Table 2.C.1 for the list of countries and periods that compose the main sample of 78 observations). All results are from fixed (country) effects regressions, including also period fixed effects (periods refer to the ISSP wave; the coefficients are not reported in this table, but Table 2.C.3 shows them for column (3)). For consistency, the regressions in columns (2) and (5) consider only data points where the Gini coefficient before taxes and transfers is also available; results are similar if the regressions are run on the entire sample where the Gini of disposable income is available (observations=87; for column 3 the estimate on the entire sample is 1.74, p-value 0.077; for column 5 the estimate for the 90/50 ratio is 0.37, p-value 0.034, and for the 50/10 ratio is -0.12, p-value 0.113). Observations refer to the country and year of interview in ISSP; data on inequality indicators have been matched with the ISSP interview year. If the inequality indicator was not available for that year, but it was available at both an earlier and later date, the series have been interpolated; for the latest wave, if the inequality index is not available at the year of the interview, the latest available up to two years lag is used. GDP per head is in logarithms, but the original values are expressed in constant prices and PPP (2015 USD PPP).

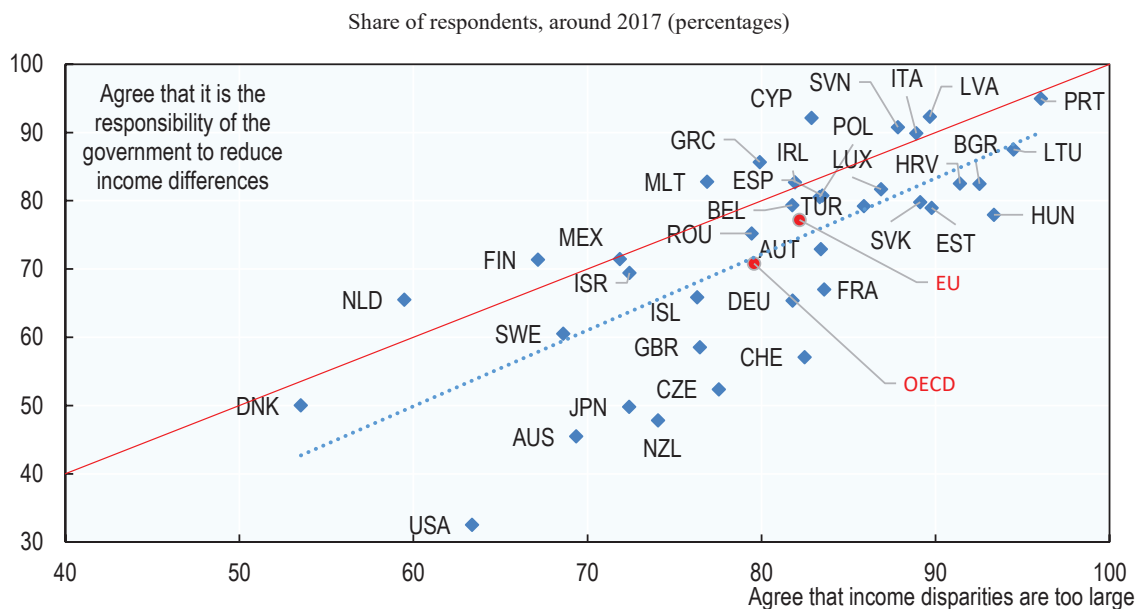
Source: Secretariat estimates on International Social Survey Programme (ISSP) 1987, 1992, 1999, 2009, 2017 and Eurobarometer 2017 for concern over income disparities (see Figure 1.1 for the list of countries for which Eurobarometer is used); OECD Income Distribution Database for the Gini coefficient; World Inequality Database (WID) for the share of income of the richest 10% and 1% (pre-tax national income, adults, including elderly (20+), equal-split adults). Alternative measures of concern over income disparities and comparison with other sources.

Figure 1.2. On average, a large share of people believe it is the responsibility of the government to reduce income differences (OECD and EU countries)



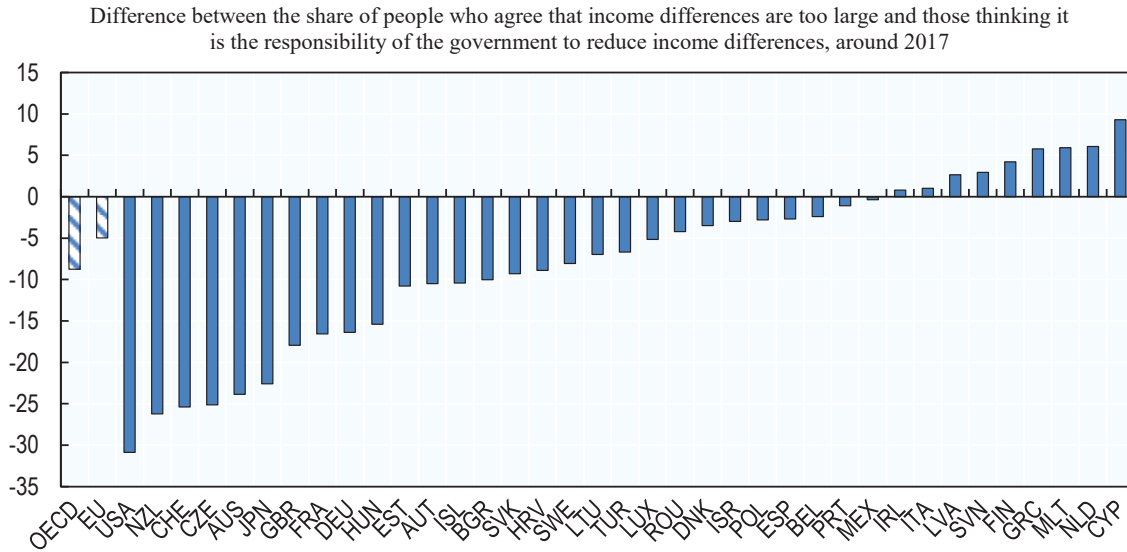
Note: Respondents are asked their opinion about the statement “It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes.” In Eurobarometer the statement is slightly different (“The government in (OUR COUNTRY) should take measures to reduce differences in income levels”), while the scale of answers is identical. OECD and EU averages are unweighted averages across the OECD/EU countries included in the figure.
 Source: International Social Survey Programme (ISSP) 2017, and Eurobarometer 471/2017 for Belgium, Bulgaria, Cyprus, Estonia, Greece, Ireland, Italy, Luxembourg, Latvia, Malta, Netherlands, Poland, Portugal, Romania, Slovakia and Slovenia.

Figure 1.3. Concern over income disparities are tightly related with demand for redistribution



Note: see Figure 1.2

Figure 1.4. People’s concern over income disparities are stronger than their demand for redistribution (OECD and EU countries)



Note: Respondents are asked their opinion about the statements “Differences in income in [country] are too large” and “It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low income”. In Eurobarometer the statements are slightly different: “Nowadays in [our country] differences in people’s incomes are too great” and “The government in [our country] should take measures to reduce differences in income levels”, but the response scale is identical. For consistency, this figure uses data from ISSP where available.

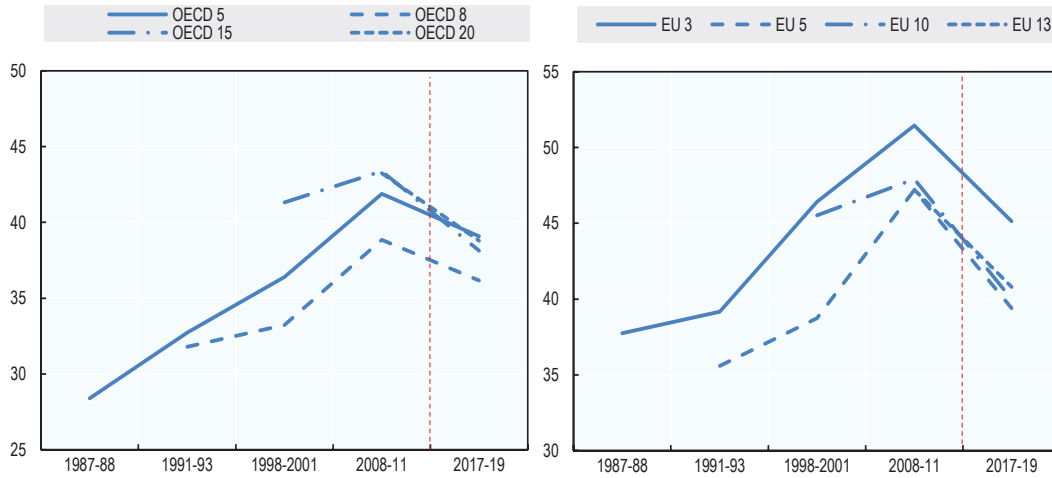
Source: International Social Survey Programme (ISSP) 2017, apart from Belgium, Bulgaria, Cyprus, Estonia, Greece, Ireland, Italy, Luxembourg, Latvia, Malta, Netherlands, Poland, Portugal whose data are from Eurobarometer 471/2017; for Slovenia, concern over income disparities comes from ISSP while preferences for redistribution from Eurobarometer.

Source: International Social Survey Programme (ISSP) 2017, and Eurobarometer 471/2017 for Belgium, Bulgaria, Cyprus, Estonia, Greece, Ireland, Italy, Luxembourg, Latvia, Malta, Netherlands, Poland, Portugal, Romania and Slovak Republic. For Slovenia redistributive preferences are from Eurobarometer 471/2017, while concern over income disparities are from ISSP 2017.

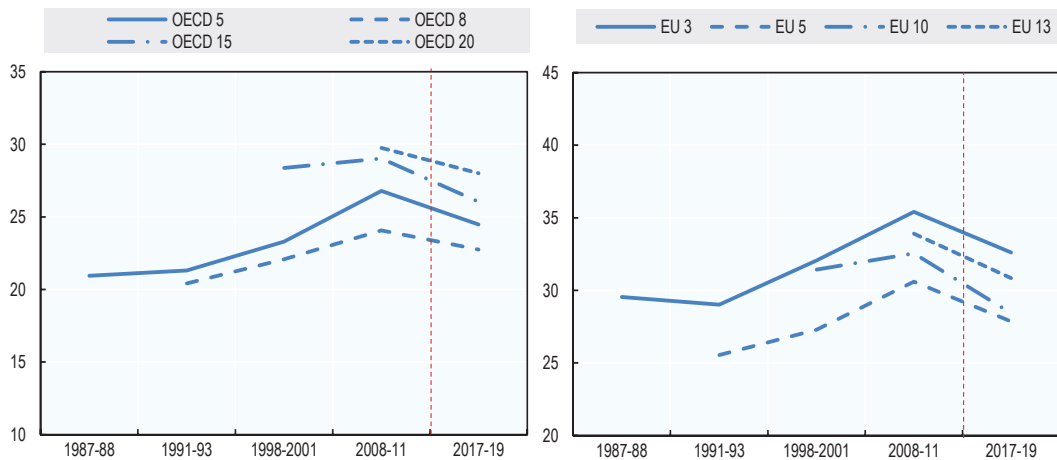
Figure 1.5. Preferences for redistribution increased by less than concern over income disparities

Average across countries of the fraction (percent) that strongly agree that...

(a) Income differences are too large



(b) It is the responsibility of the Government to reduce income differences



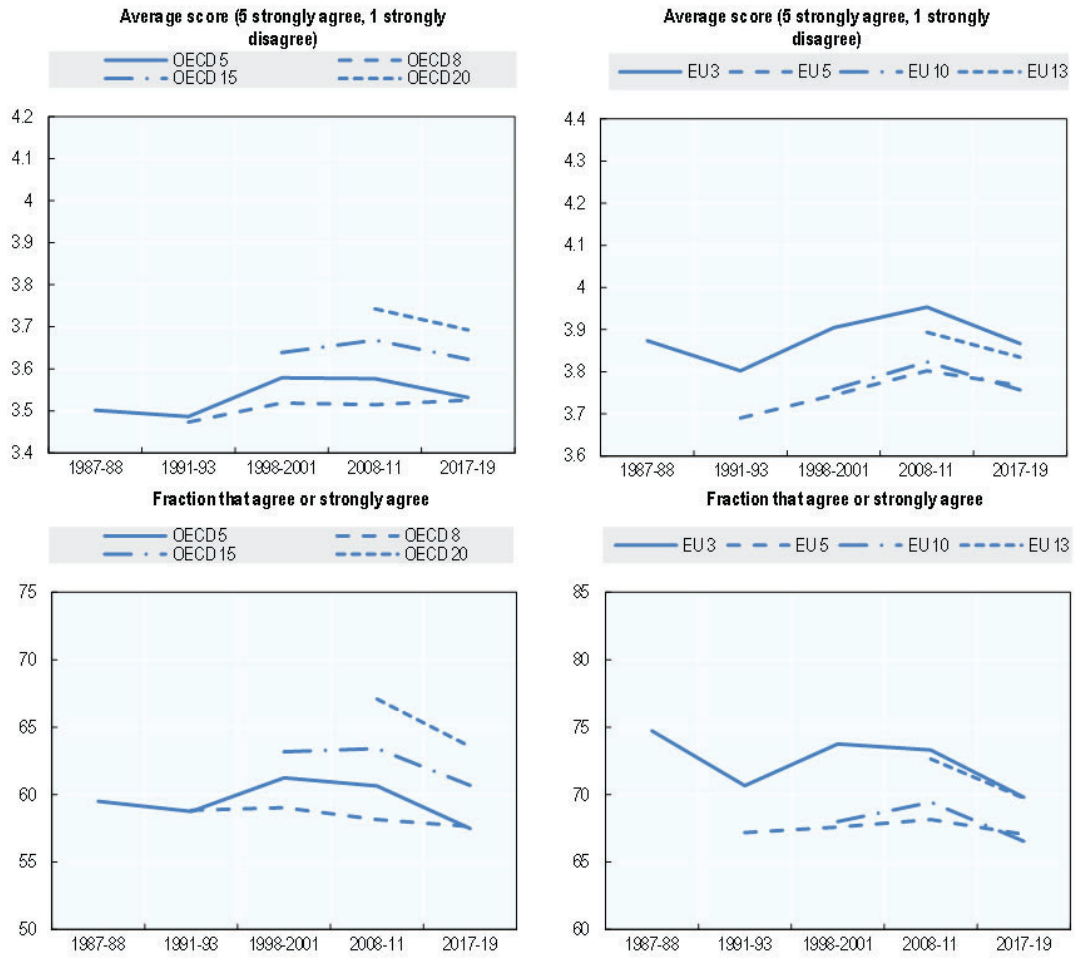
Note: Unweighted average across countries of the fraction that strongly agree that income disparities (in their country) are too large. Despite the availability of data, the figure does not include Germany in 1987 (only West Germany was surveyed), Czech Republic and the Slovak Republic in 1992 (they were still part of Czechoslovakia; despite separate samples are available, the question in 1992 referred to the whole Czechoslovakia). As the aim is tracking the evolution over time, countries that have gaps (Italy and Switzerland) or do not appear in ISSP 2017 are not included. Differently from Figure 2.2 in *Does Inequality Matter?* Error! Reference source not found., Slovenia is not included because the question on government intervention was not asked in ISSP.

OECD 5: AUS AUT GBR HUN USA; OECD 8: + DEU NZL SWE; OECD 15: + CZE DNK ESP FRA ISR JPN SVK; OECD 20: + CHE FIN ISL LTU TUR.

EU 3: AUT GBR HUN; EU 5: + DEU SWE; EU 10: + CZE DNK ESP FRA SVK; EU 13: + FIN HRV LTU.

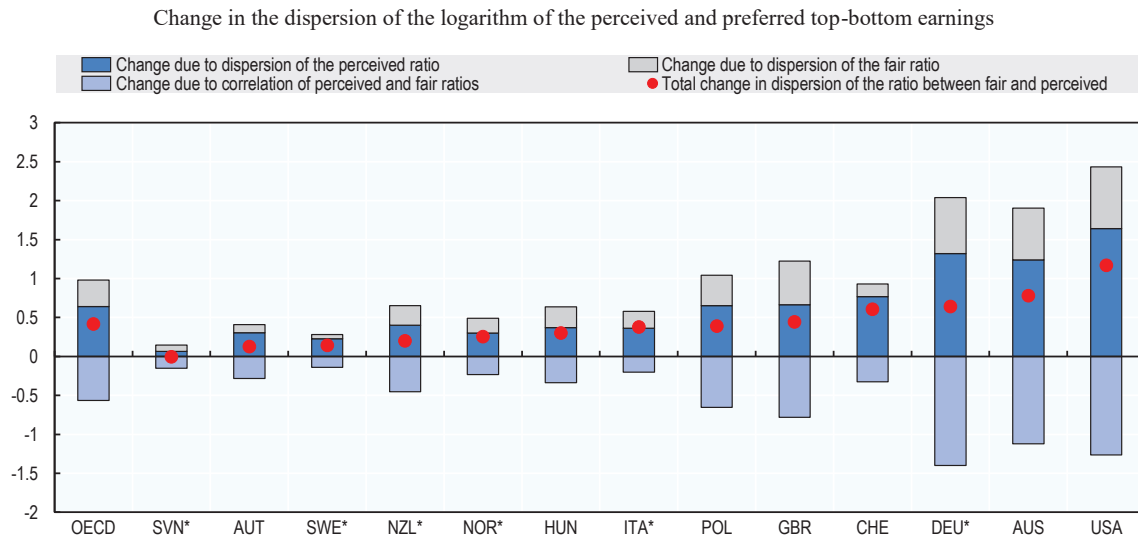
Source: International Social Survey Programme (ISSP) 1987, 1992, 1999, 2009, 2017.

Figure 1.6. Trends in alternative measures of preferences for redistribution



Source: International Social Survey Programme (ISSP) 1987, 1992, 1999, 2009, 2017.

Figure 1.7. The increased dispersion of concerns is mostly about the extent of inequality, rather than about preferred disparities



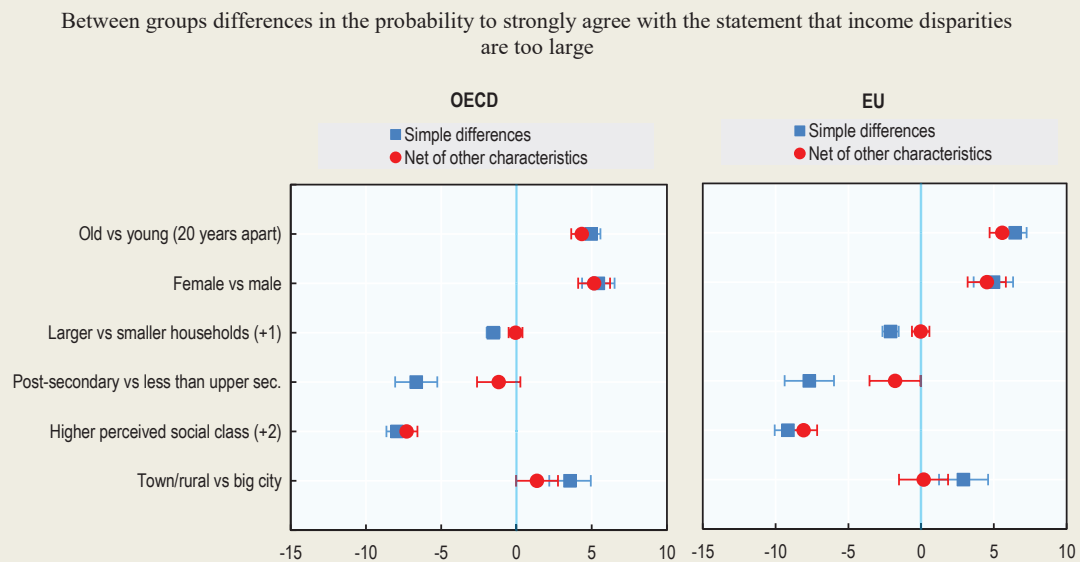
Note: The figure plots the change in the dispersion of concerns, by looking at the dispersion of the distance between the perceived and preferred ratio (as captured by the variance of the logarithm of the ratio-of-ratios). For instance, in Switzerland almost the entire growth in dispersion is due to increasing disagreement about what the current level of the ratio is, rather than by an increasing disagreement about what it should be. The component due to correlation is the opposite of twice the covariance between perceived and preferred top-bottom earnings ratios. It is negative because respondents who report a higher preferred ratio also report a higher perceived ratio, and this correlation has increased over time. Countries with a * are observed between 1992 and 2009.

Source: International Social Survey Programme (ISSP) 1987, 1992, 2009.

Box 1.1. Differences in concern over inequality across socio-demographic groups

Strong differences in concerns are observed not only across countries, but also across socio-demographic groups (Figure 1.8). Older individuals, women and residents in rural areas express, on average, greater concern over income disparities. Individuals' perceived position on a 10-group scale is a key determinant: those who perceive themselves as better-off tend to be less concerned about the extent of inequality. This is likely explained by self-regarding motives: those who feel relatively poor are directly affected by the extent of inequality. In Chapter 3 of *Does Inequality Matter?* these motives are analysed into detail and disentangled. Respondents with higher education are also less likely to strongly agree that income disparities are too large. When controlling for all these different characteristics, the urban vs rural divide and the larger vs smaller household difference almost disappear. One of the reasons is that individuals living in rural areas and those who live in smaller households are more likely to report being on the bottom of the 10-group social scale. Conditional on self-perceived position, their concern over income disparities are not different from the other groups. Similarly, the difference between individuals with higher and lower education is mostly explained by differences in their perceived social position.

Figure 1.8. Concern over income disparities varies substantially across socio-economic groups



Note: Markers in the figure show the difference between two groups in the probability that individuals strongly agree with the statement that income disparities in their country are too large (the lines account for statistical uncertainty). For instance, respondents living in a town or rural areas are 3.6 percentage points more likely than those living in a big city to strongly agree that income differences are too large. This difference becomes smaller (1.4 percentage points) and not statistically significant when accounting for the fact that residents in towns and rural areas have (on average) lower education and are more likely to perceive themselves in the bottom part of the social ladder. Differences are estimated using a series of ordered probit regressions, one for each characteristic, pooling all countries and including country fixed effects; sample weights have been adjusted so that each country weights the same irrespective of sample size. Differences accounting for all characteristics are estimated using a similar ordered probit including all characteristics. In both cases, differences are calculated as average marginal effects and the 95% confidence interval, calculated using robust standard errors, is displayed. Perceived position in the social ladder is based on answers to a question that asks individuals to position themselves in a group between 1 to 10, where 10

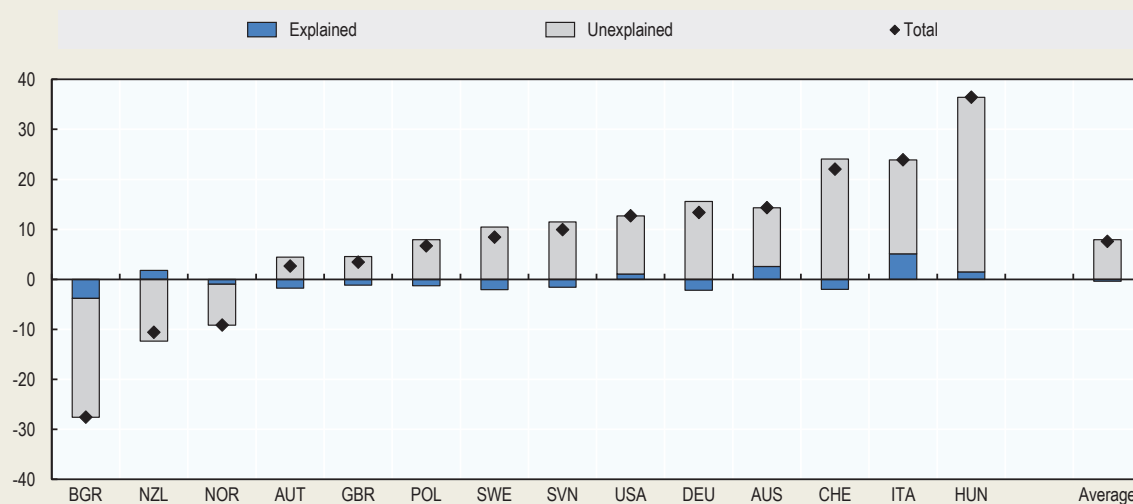
refers to individuals that are at the top; the figure compares two individuals who report to be two groups apart (e.g. in group 4 and 6). For the list of countries included in the estimate, see Figure 1.1 (only ISSP countries).
Source: OECD estimates on International Social Survey Programme (ISSP) 2017.

As concern differs across socio-demographic groups, changes in the size of the different groups over time may influence the overall change in concern over income disparities. Indeed, on average across the available samples of OECD and EU countries in ISSP, the population structure has changed considerably over time (OECD, 2021^[1]). The share of youth aged 16-29 declined from 23% to 19%, while the share of tertiary educated people has increased from 19% to 34%.

Nevertheless, the changing population structure of OECD and EU societies – in terms of age, gender, socio-economic status, family size and educational attainment – explains only a minor fraction of the long-run change in concerns over income disparities (Figure 1.9). Compositional effects explain somewhat more of the change in concerns in Italy (where changes in socio-demographic structure of the population has contributed positively to the rise in concerns) and Bulgaria (where the opposite is true).

Figure 1.9. Changing socio-demographic characteristics explain only a small fraction of the long-run change in concern over income disparities

Fraction of the long-run change in concern over income disparities explained by changes in socio-demographic composition; percentage point contributions



Note: Concern over income disparities is the share of respondents who strongly agree with the statement that income differences are too large. The ‘explained’ part is the change that occurred because the size of different socio-demographic groups have changed over time, while the unexplained part is the change that would have occurred even if the socio-demographic composition had remained the same. For instance, in Italy the share that strongly agree that income differences are too large increased by approximately 24 percentage points, of which 5 points are due to the change in socio-demographic composition. The decomposition is performed through an Oaxaca-Blinder procedure, by controlling for changes over time in the composition of socio-demographic groups, considering gender, age groups, perceived social status, family size and educational attainment. Small differences in the changes relative to Figure 2.3 in *Does Inequality Matter?* are due to the fact that some of these characteristics are not observed for the entire sample. Variables are coded as mutually exclusive categories, excluding family size, which is continuous. Information on family size is missing for Italy, Poland and Sweden, for which the analysis excludes this variable.
Source: OECD estimates on ISSP, 1987, 1992 and 2009.

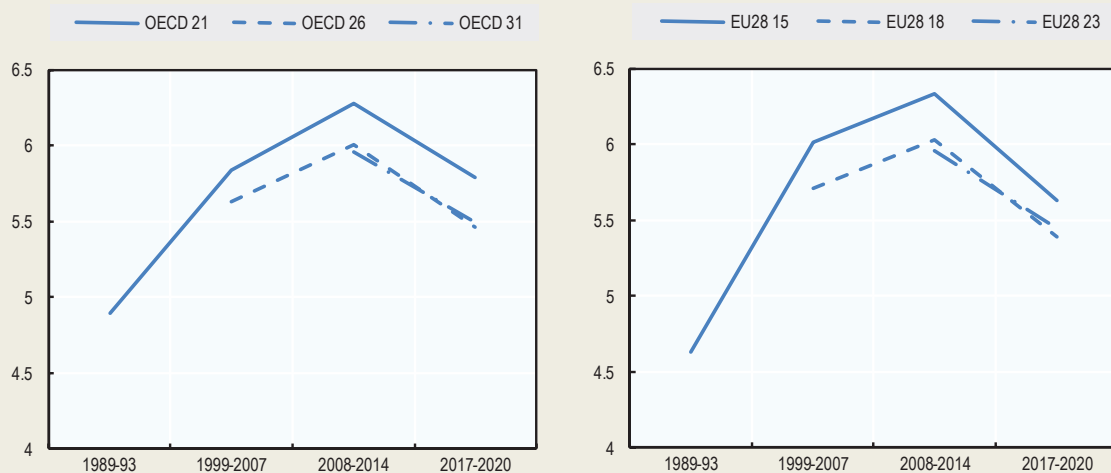
Box 1.2. Results from alternative data sources: long-run trends in the World and European Values Survey

The main advantage of ISSP over other sources is the presence of a full battery of questions on social inequality, which are useful to disentangle different explanations for country differences and changes over time. Nevertheless, both the World Values Survey and the European Values Survey include a related question: “Now I'd like you to tell me your views on various issues. How would you place your views on this scale? 1 means you agree completely with the statement on the left: <Incomes should be made more equal>; 10 means you agree completely with the statement on the right: <We need larger income differences as incentives for individual effort>; and if your views fall somewhere in between, you can choose any number in between.” Differently from the ISSP question, which is explicitly a judgment of the current situation in the country, this question wording explicitly refers to the values of the respondent, i.e. it is somehow in between a “concern” of the current situation and an assessment of what would be “fair”. Nevertheless, there are clear similarities between the ISSP and the WVS/EVS questions and it is worth comparing their trends.

Figure 1.10 plots the average trends in answers; the scale has been reversed for consistency with ISSP so that a higher value means that respondents’ opinions are closer to “income should be made more equal”. The long-run trend in the variable collected by the WVS and EVS confirms that concern over income inequality were on the rise since the early 1990s up to the economic recession. The decrease in recent years observed in ISSP is also observed in WVS/EVS.

Figure 1.10. Long-run trends in concern over inequality from the World Values Survey and the European Values Survey

10-point scale from 1 “We need larger income differences as incentives for individual effort” to 10 “income should be made more equal”

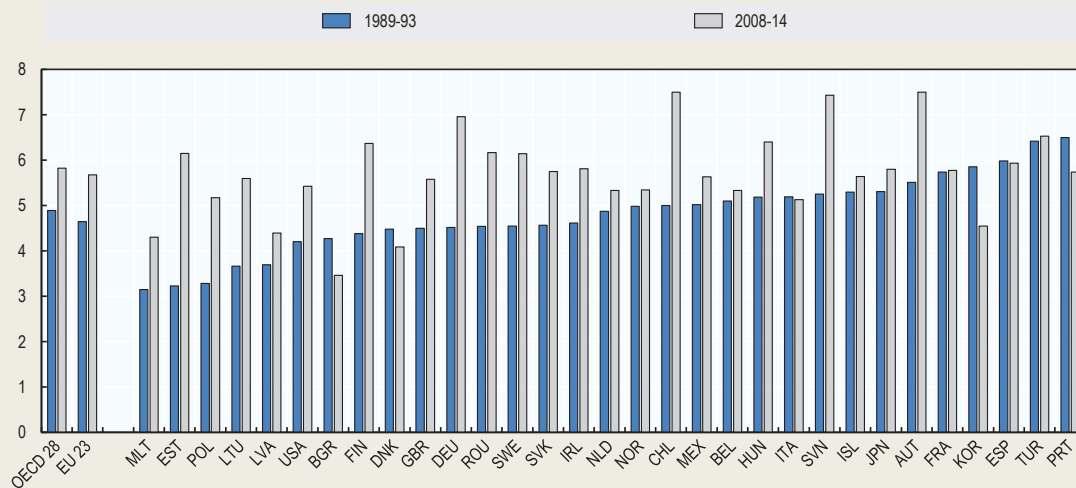


Note: The figure plots the unweighted average (across countries) of the average response to the 10 points scale; The variable has been re-defined so that 10 corresponds to "income should be made more equal" and 1 to "We need larger income differences as incentives for individual effort". The periods have been chosen in order to (i) match as well as possible the ISSP waves above; (ii) avoid combining different waves of WVS or EVS within the same period (although this leaves the possibility that there are both WVS and EVS observation in the same period, albeit in different years). Given that there is more flexibility in the year of interview

for each WVS or EVS wave, and that WVS and EVS waves have not always been carried out in the same periods, this implies that the range of years periods are wider than for ISSSP. Only few instances mix different waves; in period 1999-2007 there are 8 countries for which the average between the 4th and 5th WVS wave is used (CAN, CHL, ESP, JAP, KOR, MEX, TUR, USA), while for the other countries the wave is the 5th; for HUN, which carried out the interview in the WVS 5th wave later, the periods include results from different waves of WVS; this happens only for period 4 (1999-2007). In the case that countries appear in more than one year during one of the periods (because of multiple waves or because they appear in both EVS and WVS), the answer is averaged; in the very few (3) cases in which both EVS and WVS are available for the same year, only WVS is used.
 OECD 21 = AUT, CHL, DEU, ESP, EST, FIN, FRA, GBR, ISL, ITA, JPN, KOR, LTU, MEX, NLD, NOR, POL, SVN, SWE, TUR, USA; OECD 26 adds AUS CHE CZE COL NZL; OECD 31 adds DNK, GRC, HUN, PRT, SVK.
 Source: OECD calculations on World Value Survey/European Values Study.

Figure 1.11. Long-run trends in concern over inequality from the World Values Survey and the European Values Survey

10-point scale from 1 “We need larger income differences as incentives for individual effort” to 10 “income should be made more equal”

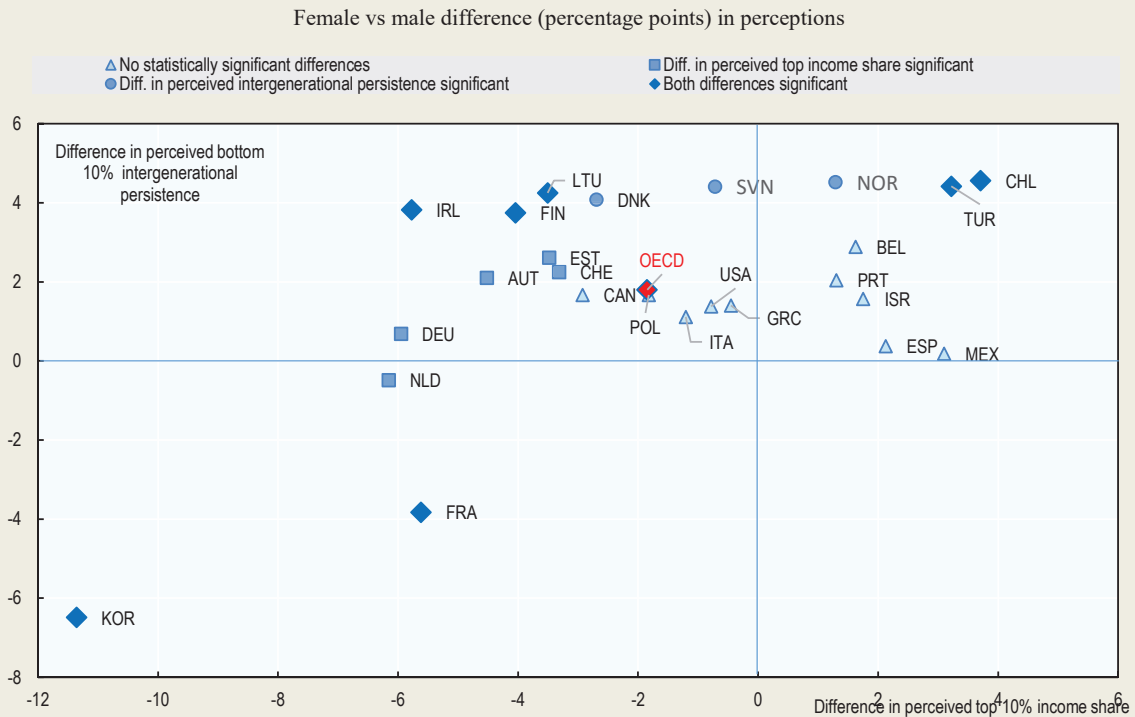


Note: See Figure 1.10. More countries appear in this figure because those that have gaps in the intermediate years are not excluded.
 Source: OECD calculations on World Value Survey/European Values Study.

Box 1.3. Gender differences in perceptions and perceived gender gaps

According to Risks that Matter, women perceive (on average across OECD countries) lower top 10% income shares, but higher intergenerational persistence (Figure 1.12) than men. The average gender differences are not strong, about 2 percentage points. This pattern holds in most countries, although with different intensity along both margins. Korea and France stand out, as in both countries women perceive both lower top income shares and lower intergenerational persistence. Conversely, women in Turkey and Chile perceived both higher income inequality and intergenerational persistence. In several European countries, as well as in Israel and Mexico, women perceive higher disparities based on both indicators, but the differences are smaller and not statistically significant.

Figure 1.12. In most countries women perceive lower top 10% income shares, but higher intergenerational persistence



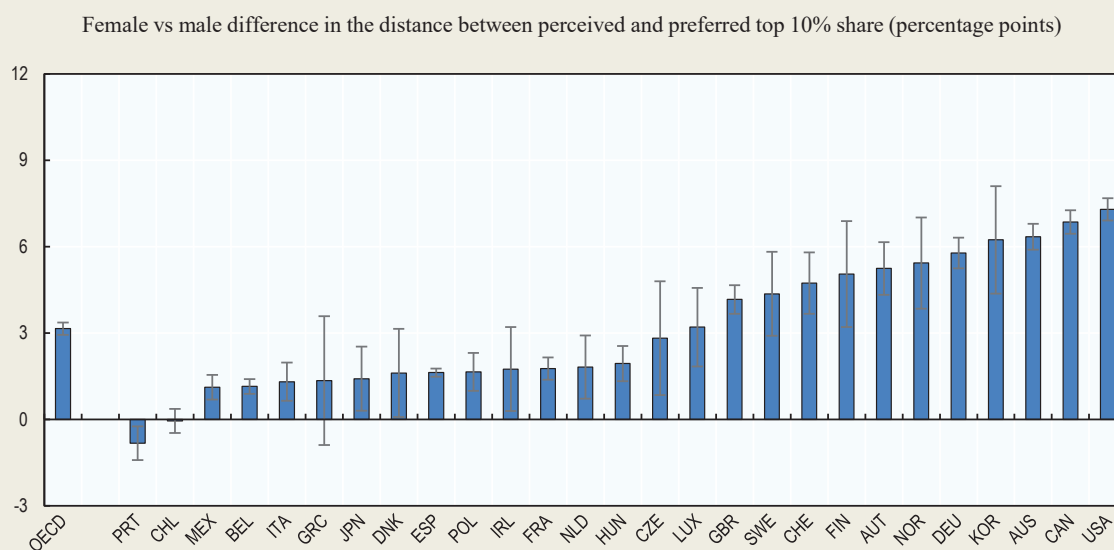
Note: Statistically significant differences refer to the 5% level.
 Source: OECD calculations on Risks that Matter, 2020.

The combination of lower perceptions of income inequality and higher perceived intergenerational persistence is puzzling, as, on average across OECD countries, women are slightly more likely to say that income inequality has increased in the last decade (+0.6 percentage points). Data from Compare Your Income bring some light to this puzzle. Although women perceive lower disparities on average (the average female-male difference is -0.8 percentage points in CYI), they also report lower preferred top 10% income share (-4 percentage points on average). As a result, in most countries, the average female respondent reports a larger gap between perceived and preferred top 10% income

share than the average male respondent (Figure 1.13). This gap is the largest in English speaking countries, where women also report a much lower preferred level of top 10% income share.

The gender difference in the gap between perceived and preferred disparities suggests that women have lower tolerance for inequality. This can explain the higher concern over income disparities discussed in Box 1.1. The experimental literature also supports the hypothesis that women have stronger preferences for equality (Durante, Putterman and van der Weele, 2014^[2]).

Figure 1.13. Despite lower perceived top 10% income share, the distance from “ideal” disparities is larger for women than for men

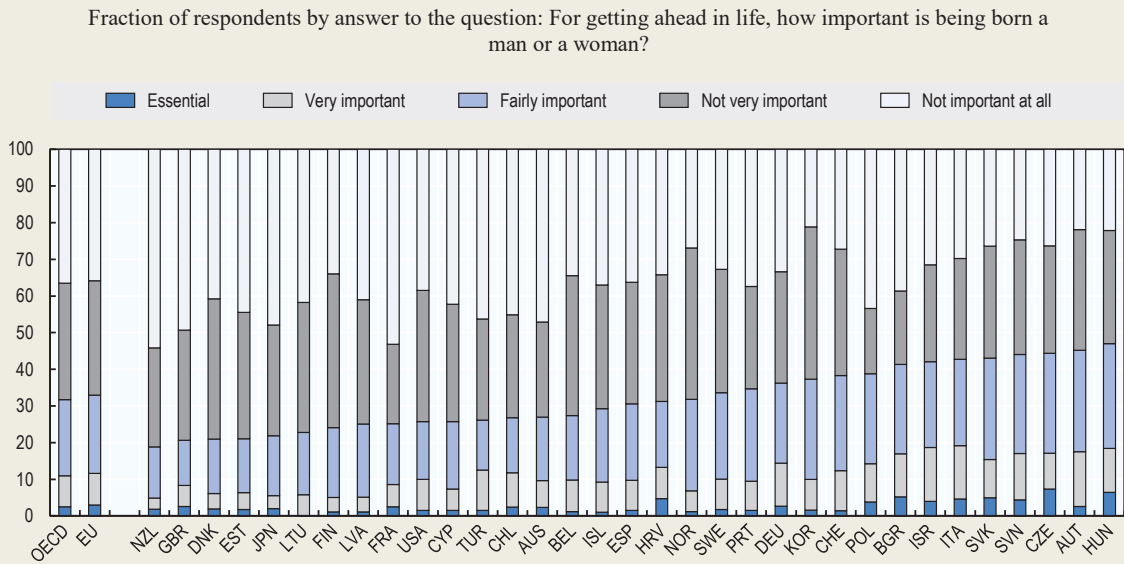


Source: OECD Compare Your Income, 2015-20.

There is less evidence about perceived gender gaps in economic opportunities. One exception is a question in ISSP, which asks respondents whether they think that being born a men or a woman matters to get ahead in life. Across OECD and EU countries, around 1/3 of the population thinks that gender is important to get ahead in life (Figure 1.14). This is especially the case in post transition countries, with the exception Estonia, Lithuania and Latvia. English speaking countries are all in the bottom half of the distribution of perceived gender importance. There is no unique pattern for the other groups of countries.

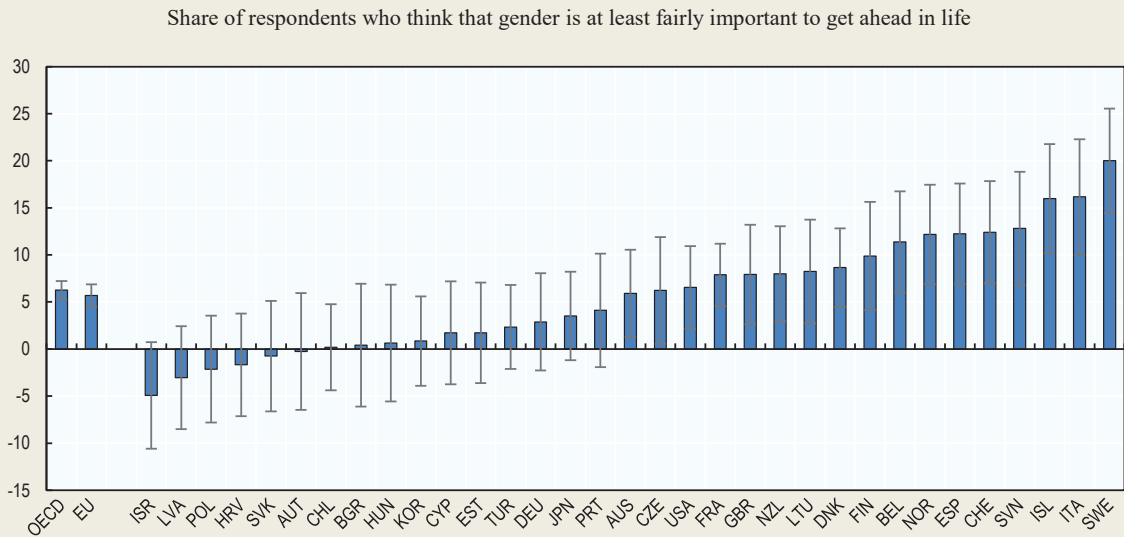
In most countries, the importance attributed to gender for getting ahead in life is higher among women than men (Figure 1.15). On average across the OECD and the EU, the difference is approximately 5 percentage points. With the exception of Slovenia, the gender difference in perceptions is smaller or close to zero in post-transition countries, in particular in those where the average respondent attributed a higher importance to gender in shaping opportunities. The difference is largest in Southern European (Italy and Spain) and Nordic countries (Finland, Sweden and Norway).

Figure 1.14. On average, around 1/3 of the respondents thinks that gender is important to get ahead in life



Source: OECD calculations on International Social Survey Programme (ISSP), 2009.

Figure 1.15. On average, women perceive a stronger importance of gender for getting ahead in life



Source: OECD calculations on International Social Survey Programme (ISSP), 2009.

Annex 1.A. Supporting tables for the relation between concern over income disparities and inequality indicators

Annex Table 1.A.1. Composition of the main sample in Table 1.1

	Observed in period:					Total
	1987-88	1991-93	1998-2001	2008-11	2017-18	
AUS	0	0	1	1	1	3
AUT	0	0	0	1	1	2
BEL	0	0	0	1	1	2
BGR	0	0	0	1	1	2
CAN	0	1	1	0	0	2
CHE	0	0	0	1	1	2
CHL	0	0	1	1	0	2
CZE	0	0	1	1	1	3
DEU	0	1	1	1	1	4
DNK	0	0	1	1	1	3
ESP	0	0	0	1	1	2
EST	0	0	0	1	1	2
FIN	0	0	0	1	1	2
FRA	0	0	1	1	1	3
GBR	1	1	1	1	1	5
HUN	0	0	0	1	1	2
ISL	0	0	0	1	1	2
ISR	0	0	1	1	1	3
ITA	1	1	0	1	1	4
JPN	0	0	1	1	1	3
LTU	0	0	0	1	1	2
LVA	0	0	0	1	1	2
NOR	0	1	1	1	0	3
NZL	0	1	1	1	0	3
POL	0	0	0	1	1	2
PRT	0	0	0	1	1	2
SVK	0	0	0	1	1	2
SVN	0	0	0	1	1	2
SWE	0	1	1	1	1	4
USA	1	1	1	1	1	5
Total	3	8	14	29	26	80

Annex Table 1.A.2. Concern over income disparities and estimates of actual inequality; estimates without period fixed effects

Percentage point increase in the fraction who strongly agree that income disparities are too large associated with one percentage point increase in....

	(1)	(2)	(3)	(4)	(5)	(6)
Gini before taxes and transfers	0.78***		0.51	0.34		
	(0.24)		(0.37)	(0.44)		
Gini after taxes and transfers		1.14**	0.66	1.63*		
		(0.50)	(0.70)	(0.80)		
Unemployment rate				-0.00		-0.00
				(0.00)		(0.01)
Employment rate				-0.14		0.24
				(0.50)		(0.35)
Ln(GDP per capita)				-0.21**		-0.23
				(0.10)		(0.14)
90th percentile vs median income ratio					0.37***	
					(0.12)	
median income vs 10th percentile ratio					-0.12*	
					(0.07)	
Top 10% share (WID)						2.99**
						(1.27)
Top 1% share (WID)						-1.36
						(1.32)
Observations	80	80	80	80	80	85
Countries	30	30	30	30	30	26
Period fixed effects	No	No	No	No	No	No
Country fixed effects	Included	Included	Included	Included	Included	Included
Period fixed effects	Included	Included	Included	Included	Included	Included

Note: See Table 1.1.

Annex Table 1.A.3. Concern over income disparities and estimates of actual inequality; alternative models

	Baseline	With year of interview	Adding data from LIS	First Difference estimator	Only old series for IDD	Eurobaromet er only for 2017	Without using Eurobarom.	Adding dummy for Eurobarom.	Dep. var. frac. agree or str. agree	Between country regression
Gini before taxes and transfers	0.27 (0.35)	0.28 (0.37)	0.26 (0.32)	0.18 (0.55)	1.47*** (0.34)	0.34 (0.43)	0.66 (0.42)	0.42 (0.34)	0.52* (0.29)	0.68 (0.58)
Gini after taxes and transfers	1.52** (0.64)	1.47** (0.66)	1.43* (0.82)	1.55* (0.82)	2.81*** (0.79)	1.71** (0.80)	1.28* (0.73)	1.40** (0.63)	0.52 (0.48)	-0.11 (0.40)
1[early nineties]	0.09*** (0.01)	0.07*** (0.02)	0.07*** (0.03)	0.09*** (0.01)	0.05*** (0.01)	0.08*** (0.02)	0.09*** (0.01)	0.09*** (0.01)	0.06* (0.03)	-0.34 (0.50)
1[late nineties]	0.06** (0.02)	0.07*** (0.02)	0.07*** (0.03)	0.05* (0.03)	-0.03 (0.03)	0.04 (0.02)	0.06** (0.02)	0.06*** (0.02)	0.03 (0.02)	-0.22 (0.36)
1[around 2009]	0.06** (0.02)	0.06** (0.02)	0.06** (0.04)	0.05* (0.02)	-0.05* (0.02)	0.04 (0.03)	0.06** (0.03)	0.05** (0.02)	0.01 (0.02)	0.11 (0.38)
1[around 2017]	-0.02 (0.03)	-0.01 (0.03)	-0.06 (0.04)	-0.03 (0.03)		-0.04 (0.03)	-0.00 (0.03)	-0.01 (0.03)	-0.03 (0.03)	-0.13 (0.37)
Year of interview		1.21*** (0.39)								
Year of interview2		-0.00*** (0.00)								
1[inequality indicator from LIS]			-0.04 (0.03)							
1[depend variable from Eurobarob.]								-0.05 (0.05)		
Constant	-0.23 (0.16)	-1214.90*** (388.77)	-0.18 (0.17)	-0.22 (0.23)	-1.19*** (0.22)	-0.30* (0.16)	-0.35 (0.23)	-0.26 (0.15)	0.40*** (0.13)	0.19 (0.49)
Observations	80	80	91	49	39	75	67	80	80	87
Countries	30	30	30	30	15	28	24	30	30	37
Country effects	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included

Note: * p-value<0.1, ** p-value<0.05, *** p-value<0.01. Standard errors clustered by country in parentheses (apart from last column, which uses conventional standard errors).
Note: See Table 1.1.

Annex Table 1.A.4. Concern over income disparities and estimates of actual inequality; leaving one country out

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Leaving out:	AUT	AUS	BEL	BGR	CAN	CHE	CHL	CZ
Gini before taxes and transfers	0.276 (0.80)	0.386 (1.13)	0.208 (0.60)	0.289 (0.81)	0.290 (0.83)	0.330 (0.95)	0.276 (0.80)	0.217 (0.64)
Gini after taxes and transfers	1.513** (2.35)	1.505** (2.35)	1.640** (2.56)	1.552** (2.19)	1.503** (2.33)	1.432** (2.21)	1.486** (2.29)	1.354** (2.15)
Observations	78	77	78	78	78	78	78	77
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Leaving out:	DE	DK	EE	ES	FI	FR	GB	HU
Gini before taxes and transfers	0.208 (0.61)	0.301 (0.84)	0.257 (0.73)	0.119 (0.38)	0.230 (0.65)	0.292 (0.81)	0.331 (0.93)	0.0643 (0.21)
Gini after taxes and transfers	1.406** (2.21)	1.675** (2.54)	1.514** (2.35)	1.669** (2.66)	1.541** (2.39)	1.506** (2.30)	1.692** (2.56)	1.985*** (3.51)
Observations	76	77	78	78	78	77	75	78
	(17)	(18)	(19)	(20)	(21)	(22)	(23)	
Leaving out:	IL	IS	IT	JP	LT	LV	NO	
Gini before taxes and transfers	0.296 (0.69)	0.300 (0.85)	0.370 (0.87)	0.258 (0.61)	0.375 (1.08)	0.284 (0.81)	0.298 (0.86)	
Gini after taxes and transfers	1.561** (2.33)	1.507** (2.36)	1.504** (2.26)	1.535** (2.19)	1.337** (2.11)	1.515** (2.37)	1.384** (2.17)	
Observations	77	78	76	77	78	78	77	
	(24)	(25)	(26)	(27)	(28)	(29)	(30)	
Leaving out:	NZ	PL	PT	SE	SI	SK	US	
Gini before taxes and transfers	0.184 (0.53)	0.284 (0.82)	0.364 (1.08)	0.257 (0.67)	0.275 (0.79)	0.297 (0.85)	0.325 (0.92)	
Gini after taxes and transfers	1.464** (2.29)	1.432** (2.13)	1.304** (2.11)	1.560* (1.87)	1.517** (2.36)	1.605** (2.29)	1.403** (2.19)	
Observations	77	78	78	76	78	78	75	

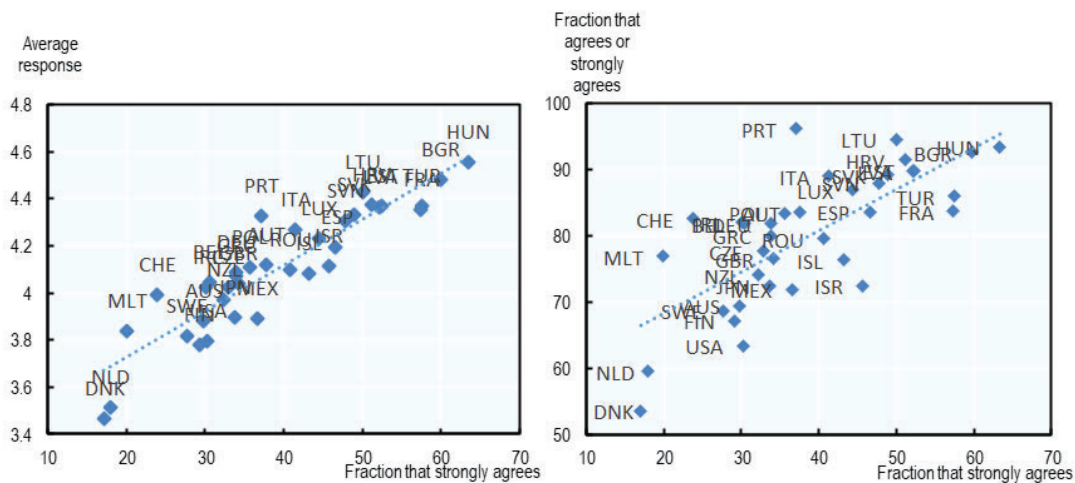
Note: * p-value<0.1, ** p-value<0.05, *** p-value<0.01. T-statistics using standard errors clustered by country in parentheses. See Table 1.1 for other comments. Country and period fixed effects are always included.

Chapter 2. Methodological details

2.1. Details on the measurement of concern over income disparities

Using ISSP, concern over income disparities are measured as the qualitative level of agreement with the statement “Income disparities in [country] are too large”. The possible answers are strongly agree, agree, neither agree nor disagree, disagree and strongly disagree. The non-response rate is quite low in all countries and time periods (Annex Table 2.A.1. in *Does Inequality Matter?*). There is no unique consensus on how to treat such variable. In principle, as done in Figure 1.1, one should show the entire range of answers, but this becomes cumbersome when further analysis is warranted. In this report it was chosen to focus on the fraction of respondents that strongly agree with the statement, for two main reasons: (i) a large majority of respondents agree with the statement, leaving out a small fraction of them; (ii) the strongest variation over time is observed on the fraction that strongly agrees. Figure 2.1 shows that the chosen measure is highly correlated with two alternative possibilities, i.e. the fraction of respondents that agree or strongly agree (correlation = 0.74 and rank correlation = 0.78) or the average answer assigning a cardinal interpretation to each value (correlation = 0.91 and rank correlation = 0.94). Over time, the evolution of the first alternative measure is qualitatively similar but flatter, as expected given that already in 1987 the vast majority of respondents agreed with the statement (Figure 2.2). The evolution of the average answer is instead quite similar to the one highlighted and discussed in the *Does Inequality Matter?*

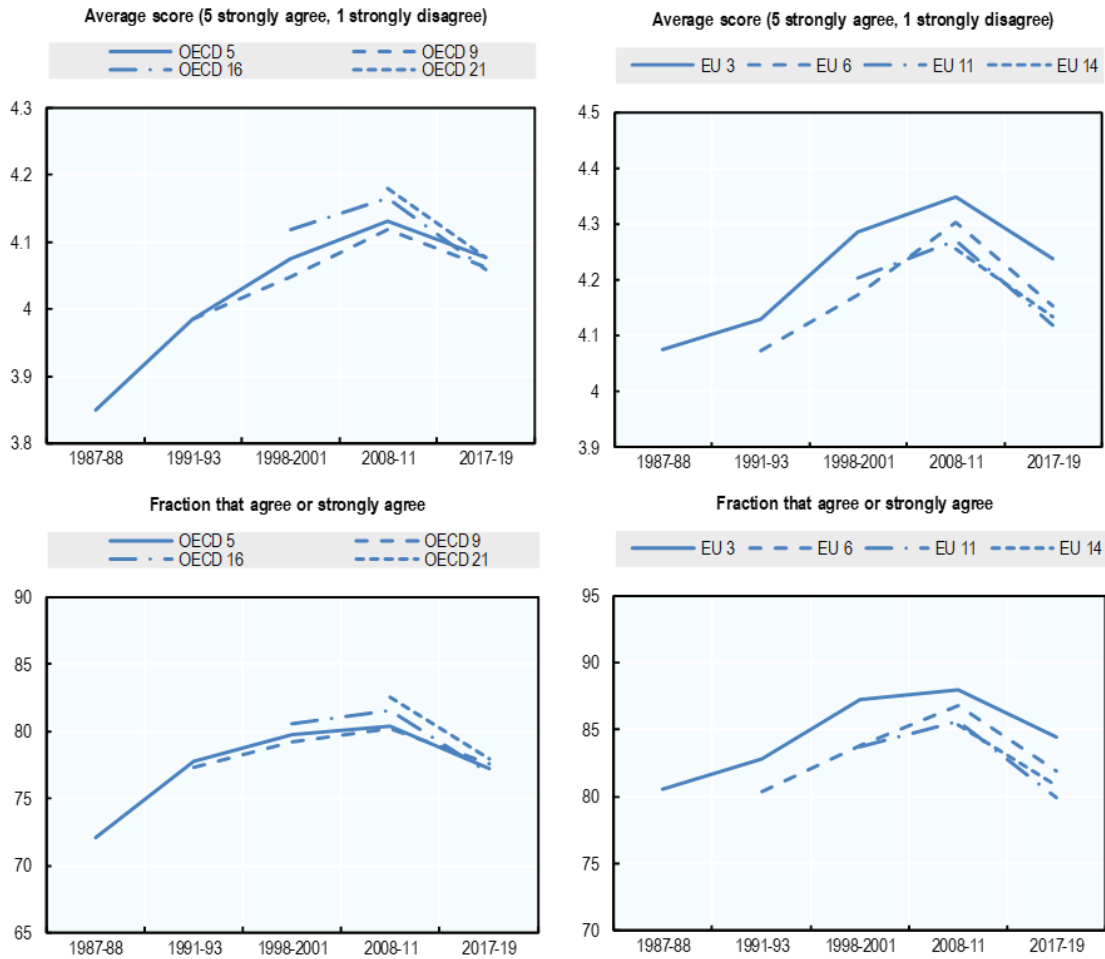
Figure 2.1. Correlation between different summary measures of concern over income disparities



Note: in the left panel, the average answer is calculated assigning value 5 to strongly agree, down to value 1 to strongly disagree. In the right panel the measure on the y-axis is the fraction that agree or strongly agree with the statement.

Source: International Social Survey Programme 2017, apart from Belgium, Bulgaria, Estonia, Greece, Ireland, Italy, Luxembourg, Latvia, Malta, Netherlands, Poland, Portugal whose data are from Eurobarometer 471/2017

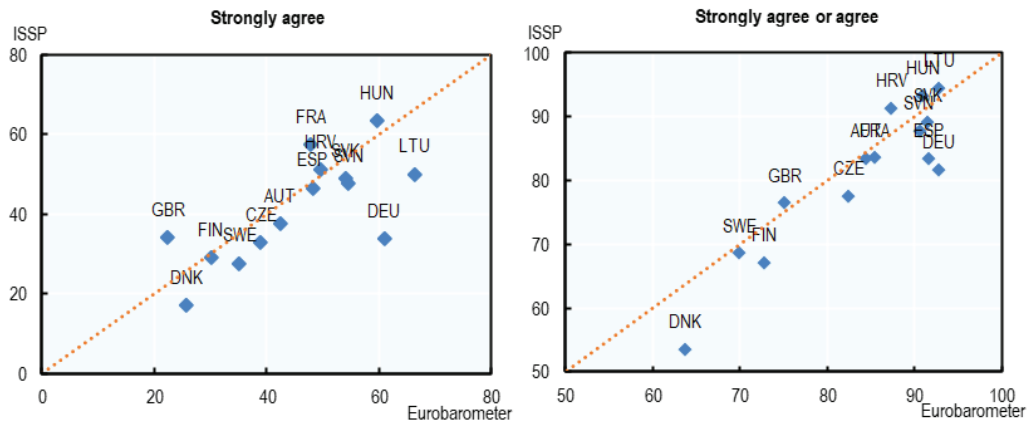
Figure 2.2. Trends using different summary measures of concern over income disparities



Source: OECD calculations on International Social Survey Programme (ISSP) 1987, 1992, 1999, 2009, 2017.

Figure 1.1 use Eurobarometer 401/2017 for countries where ISSP 2017 is not available. The average answers are strongly correlated in the two surveys, with some exceptions (in particular Germany, which displays a rather low fraction that strongly agree in Eurobarometer). The correlation between the two surveys for the fraction that strongly agrees is 0.72, and for the fraction that agrees or strongly agrees is 0.76. (Figure 2.3)

Figure 2.3. Comparison between Eurobarometer and ISSP with regards to concern over income disparities



Note: Only countries appearing in both ISSP 2017 and Eurobarometer 471/2017.
Source: International Social Survey Programme (ISSP) and Eurobarometer.

2.2. Definition of the perceived and preferred top-bottom earnings ratio and adjustment for non-response

Since the first wave of ISSP module on Social inequalities, respondents have been asked two series of questions:

- We would like to know what you think people in these jobs actually earn. Please write how much you think they usually earn each [YEAR/MONTH/WEEK], [BEFORE/AFTER] taxes. Many people are not exactly sure about this, but your best guess will be close enough. This may be difficult, but it is very important. So please try.
- Next, what do you think people in these jobs ought to be paid – how much do you think they should earn each year before taxes, regardless of what they actually get...

Four professions are consistently available between 1987 and 2009:

- A doctor in general practice
- The chairman of a large national corporation
- An unskilled worker in a factory
- A cabinet minister in the [NATIONAL] government

As in Kuhn (2019_[33]), the earnings of an unskilled worker in a factory are used as an estimate of bottom earnings, while top earnings are the simple average between a chairman of a large national corporation and a doctor in general practice. Differently from Kuhn (2019_[33]) we do not consider the cabinet minister, because it represents few individuals in a society and it strongly depends on institutional settings.

The question varies in terms of reference period and the inclusion of taxes across countries. Given that we always use ratios, it is not relevant whether the question refers to a year, month or week. It is instead crucial to consider whether earnings are evaluated before or after taxes. Assuming that taxes are progressive, the top-bottom earnings ratio is smaller if evaluated as net rather than gross. Table 1.1 reports details for every country. Most of the

countries for which we observe the evolution over the long run have consistently asked about gross earnings. Slovenia asked about net earnings. Poland asked net earnings in all waves but 1992, which we do not consider for this consistency. In Italy the question was in terms of gross earnings in 1992 and in terms of net in 2009; although this might confound the analysis, the main qualitative results are robust to this change: the switch to net earnings should reduce the top-bottom earnings ratio and possibly its dispersion, while we find an increase in both. In Hungary the question in 1987 did not mention gross or net earnings, perhaps because the personal income tax was introduced in 1988.¹

In some countries the question has a high level of item non-response (Table 2.2). Furthermore, in some countries and waves a sizeable amount of answers bunched around the maximum value observed in the sample.² This is often the result of explicit censoring of data: in Australia in 1987 earnings questions were top-coded at AUD 98 000; in the United States 1987, 1992 and 1999 at USD 999 996 (which stands for 1 000 000 or more).³ In 2009, no censoring or top-coding was imposed in any country. We evaluated the relevance of this top-coding in each country and question. As expected, it essentially affected answers about chairmen's earnings.⁴ The amount of censoring was overall limited, but it was particularly important in some specific cases: in Canada, 1992, the CAD 200 000 censoring led to a bunching of more than half of the observations at the maximum; in Spain, 1999, and in the United States, 1992 and 1999, more than 20% of answers are equal to the sample maximum. We chose to exclude country-waves (i) with more than 40% of missing values in either perceived or preferred earnings for any of the three professions used in the calculation (unskilled worker, doctor, chairman); (ii) where/when answers about chairmen's earnings are top-censored for more than 15% of the respondents.

We also excluded Australia in waves 1992 and 1999, because answers about chairmen's earnings were extremely bunched around 250 000 (25.0 and 59.1 percent in the two waves). The reason appears to be that the question was accompanied by a picture of an income ladder with a sequence of steps, where the highest point was 250K. Although the question did not impose any limit (in fact some respondents reported a higher value, as the censoring stated in the study survey was at 999 000 dollars), it seems that many respondents believed that 250 000 was the maximum answer possible (and this greatly constrained the answers in 1999, where chairmen earnings were already significantly greater than that).

The presence of a significant fraction of missing values is still a concern. We used a reweighting procedure to partially account for this concern:

- We estimate logit regressions for the probability of not having missing values in the relevant earnings questions as a function of age, natural log of household income (equivalised using the square root of household size), the square of the natural log of equivalised household income, household size, and indicators for:

¹ It also did not mention a period of reference. However, this is not a problem as we expect each individual to have a reference period in mind and to have used it in reporting earnings for every profession. The ratio therefore should not be affected by heterogeneous reference point.

² For the sake of clarity, this is not due to the fact that some codes (e.g. 999997, 999998, and 999999 in ISSP 1987) indicate item non response. These codes have been classified as missing values.

³ In these three cases the questionnaires, which were administered in paper and pencil version, did not explicitly mention an upper limit, and therefore we assume that the censoring was introduced during data processing. The study reports do not explicitly mention whether this was the case.

⁴ To the best of our knowledge, this issue has gone unnoticed in the previous literature using this variables. Despite this should not affect values such as the median, it concerns estimates of top percentiles, dispersion and averages (considering that these variables are highly skewed).

gender (ref. male), employed (ref. not employed), education (higher secondary completed, higher than secondary level, ref. less than secondary), missing value in these covariates (one indicator for each variable).⁵ The regressions are conducted separately for each country-wave.⁶ We lose 95 observations (3 from 1987, 2 from 1992, 40 from 1999 and 50 from 2009, spread across different countries) because they are rare cases in terms of some predictors and they end up being perfectly predicting the selection (for example a country in a wave as few missing values in the age variable, and those cases are all missing also in the earnings questions). Given the very small number of observations involved (only in Canada and Israel in 1999, and in Croatia in 2009, they represent more than 1% of the sample, precisely 1.8, 1.1 and 1.2%), we simply drop these observations from the further analysis.⁷

- We predict the probability of being selected (no missing in earnings variable) for each observation.
- We adjust the original sample weights by multiplying them for the inverse of the probability of being selected.

A complete log of the estimated regressions, as well as pictures of propensity scores and sample weights, are available on request. Table 2.3 shows that in the vast majority of cases the distributions of probabilities estimated by the logit model in the two samples (with and without missing values) have a sufficient degree of overlapping. As low estimated probabilities of being selected might end up generating extremely large weights, in Table 2.4 we show – for the selected sample with no missing values – the maximum of the adjusted weights is not disproportionately far from the maximum of the original sample weight (consider that in some countries the sample weights were not provided and therefore they are all equal to 1). The only exception is Germany in 1999, which is however not substantially examined in the text. Similar considerations hold for the minimum of adjusted weights. Before using them we rescale the weights so that they have average 1 in each country/wave, although this is essentially irrelevant for our estimates at the country-wave level because Stata rescales the weights so that the average is equal to 1. Furthermore, when we run regressions on the pooled (individual) sample, we always rescale the weights so that they sum up to 1 in each country-wave sample.

The validity of this re-weighting correction is based on a strong *selection on observables* assumption: the “selection” of the respondents who did not answer (all) questions is assumed not to depend on any other (unobservable) variable that (i) is not included among those used for the regression; (ii) is also related with the variables of interest (perceived and preferred earnings). This assumption would be violated if respondents that chose not to answer had systematically different views than those respondents with similar characteristics who chose to answer instead. This assumption is untestable. However, one should consider that we are correcting for differences in some of the most important predictors of beliefs, and therefore we are at least accounting for sample selection based on

⁵ In case of missing values, we replaced the covariate with the average, if continuous, and with the reference category, if not.

⁶ In some country-wave certain variables are not observed (household size and income). In those cases the variable does not contribute to the estimation of the probability of being selected.

⁷ There are only 16 observations in the sample with missing earnings variable that have the similar problem.

those characteristics (which include age, gender, employment status, household income and educational achievement).

Table 2.1. Earnings concept for ISSP question on actual and fair earnings in different occupations

Country	Wave	Reference period	Concept	Note
Austria	1987	Month	Gross	
Austria	1992	Not asked	Not asked	Not asked
Austria	1999	Month	Gross	max 99.999
Austria	2009	Month	Gross	max 999999
Australia	1987	Year	Gross	
Australia	1992	Year	Gross	Constrained in thousands by income ladder with a max at 250K (that did not constrained explicitly the answers, but most people referred to it as max and this led to censoring)
Australia	1999	Year	Gross	
Australia	2009	Year	Gross	
Belgium	2009	Month	Net	
Canada	1999	Year	Gross	
Chile	2009	Month	Net	
Croatia	2009	Month	Net	
Korea	2009	Month	Gross	
Czech Republic	1999	Month	Gross	
Czech Republic	2009	Month	Gross	
Denmark	1999	Year	Gross	
Denmark	2009	Year	Gross	
Estonia	2009	Month	Net	
Finland	2009	Month	Gross	
France	1999	Month	Net	
France	2009	Month	Net	
Germany	1992	Month	Gross	
Germany	1999	Month	Gross	
Germany	2009	Month	Gross	
Great Britain	1987	Year	Gross	max 999997
Great Britain	1992	Year	Gross	
Great Britain	1999	Year	Gross	
Great Britain	2009	Year	Gross	
Hungary	1987	Not specified	Not specified	
Hungary	1992	Month	Gross	
Hungary	1999	Month	Gross	
Hungary	2009	Month	Gross	
Israel	1999	Month	Net	
Israel	2009	Month	Net	
Iceland	2009	Month	Gross	
Italy	1987	Month	Not specified	
Italy	1992	Month	Gross	
Italy	2009	Month	Net	
Latvia	1999	Month	Net	
Latvia	2009	Month	Net	
Lithuania	2009	Month	Net	
Norway	1992	Year	Gross	
New Zealand	1992	Year	Gross	
New Zealand	1999	Year	Gross	
New Zealand	2009	Year	Gross	

Country	Wave	Reference period	Concept	Note
Norway	2009	Year	Gross	
Poland	1987	Year	Net	PLZ
Poland	1992	Year	Gross	thousand PLZ
Poland	1999	Year	Net	PLN
Poland	2009	Year	Net	PLN
Portugal	1999	Month	Net	
Spain	2009	Month	Net	
Slovenia	1992	Month	Net	SIT
Slovenia	1999	Month	Net	thousand SIT
Slovenia	2009	Month	Net	EUR
Slovakia	1999	Month	Net	in SKK
Slovakia	2009	Month	Net	in EUR
Sweden	1992	Month	Gross	
Sweden	1999	Month	Gross	
Sweden	2009	Month	Gross	
Switzerland	1987	Month	Gross	
Switzerland	2009	Month	Gross	
Turkey	2009	Month	Net	
United States	1987	Year	Gross	
United States	1992	Year	Gross	
United States	1999	Year	Gross	
United States	2009	Year	Gross	max 8 digit

Table 2.2. Item non-response and top-censoring in ISSP earnings question

	1987		1992		1999		2009	
	Missing	Top-censoring	Missing	Top-censoring	Missing	Top-censoring	Missing	Top-censoring
AUS	17.0	12.0	12.7	0.1	23.7	0.6	16.3	0.1
AUT	16.3	0.3	not asked	not asked	21.1	0.1	10.9	0.1
BEL							15.1	0.3
CAN			14.2	58.3	8.7	0.1		
CHE	18.9	0.2					22.1	0.2
CHL					49.0	0.1	14.6	0.1
CZE					17.6	0.1	7.3	0.4
DEU			16.3	9.0	35.5	0.1	17.1	0.1
DNK					0.0	11.0	14.6	0.1
ESP					38.8	30.7	37.3	0.5
EST							9.0	0.2
FIN							12.3	0.1
FRA					18.5	0.1	21.0	0.0
GBR	17.5	0.1	15.3	0.2	22.8	4.4	16.8	0.1
HRV							5.9	0.3
HUN	24.0	0.4	27.3	0.7	38.6	0.2	24.4	0.1
ISL							9.2	0.1
ISR					6.9	3.9	29.5	0.1
ITA	not provided	not provided	4.5	7.5			13.6	0.1
JPN					60.8	0.2	60.6	0.3
KOR							3.1	0.0
LTU							20.9	0.1
LVA					13.0	0.1	29.0	0.1
NOR			13.8	10.7	9.7	49.6	6.3	0.2
NZL			13.2	0.1	14.4	0.3	9.9	0.1
POL	65.7	0.1	24.1	1.6	24.0	0.1	35.0	0.2
PRT					18.7	0.1	48.3	0.5
SVK					5.9	14.9	11.0	0.1
SVN			10.5	0.2	10.9	0.2	25.4	0.7
SWE			17.6	7.2	16.7	1.2	12.3	0.1
TUR							23.0	0.3
USA	21.7	5.1	13.5	20.9	25.9	24.4	16.1	0.1

Note: Non-weighted sample. In Poland, in ISSP 1987 half of the sample (50.1%) was not asked the question, hence to evaluate actual non-response one has to subtract 50.1 from the value reported in the table.

Source: International Social Survey Programme (ISSP) 1987, 1992, 1999.

Table 2.3. Distribution of predicted probabilities of not having missing values in the earnings questions

		1987		1992		1999		2009	
		Missing	Not missing	Missing	Not missing	Missing	Not missing	Missing	Not missing
AUS	1st percentile	0.14	0.44					0.41	0.47
	99th percentile	0.96	0.97					0.96	0.97
AUT	1st percentile	0.49	0.56			0.39	0.46	0.7	0.73
	99th percentile	0.94	0.95			0.92	0.93	0.96	0.99
BEL	1st percentile							0.37	0.49
	99th percentile							0.98	0.98
CAN	1st percentile					0.47	0.66		
	99th percentile					0.98	0.98		
CHE	1st percentile	0.25	0.47					0.34	0.44
	99th percentile	0.94	0.96					0.96	0.98
CHL	1st percentile							0.32	0.66
	99th percentile							0.97	0.99
CZE	1st percentile						1	0.74	0.77
	99th percentile					0.96	0.97	0.98	0.99
DEU	1st percentile			0.54	0.59	0.17	0.35	0.5	0.57
	99th percentile			0.93	0.94	0.81	0.85	0.94	0.96
DNK	1st percentile							0.07	0.39
	99th percentile							0.97	0.98
ESP	1st percentile							0.16	0.31
	99th percentile							0.86	0.88
EST	1st percentile							0.82	0.82
	99th percentile							0.99	0.99
FIN	1st percentile							0.06	0.29
	99th percentile							0.97	0.99
FRA	1st percentile					0.5	0.55	0.21	0.33
	99th percentile					0.91	0.92	0.96	0.97
GBR	1st percentile	0.32	0.42	0.34	0.48	0.38	0.48	0.47	0.54
	99th percentile	0.96	0.98	0.97	0.98	0.94	0.95	0.97	0.98
HRV	1st percentile							0.8	0.84
	99th percentile							0.98	0.99
HUN	1st percentile	0.2	0.33	0.29	0.36	0.15	0.27	0.47	0.5
	99th percentile	0.95	0.96	0.94	0.95	0.91	0.94	0.93	0.93
ISL	1st percentile							0.17	0.56
	99th percentile							0.99	0.99
ISR	1st percentile					0.47	0.76	0.23	0.4
	99th percentile					0.98	0.98	0.88	0.92
ITA	1st percentile			0.65	0.71			0.14	0.39
	99th percentile			0.98	1			0.98	0.99
KOR	1st percentile							0.42	0.76
	99th percentile							1	1
LTU	1st percentile							0.56	0.6
	99th percentile							0.91	0.94
LVA	1st percentile					0.61	0.67	0.4	0.46
	99th percentile					0.96	0.96	0.9	0.93
NOR	1st percentile			0.24	0.49			0.23	0.56
	99th percentile			0.97	0.97			0.98	0.99

NZL	1st percentile			0.37	0.55	0.15	0.48	0.24	0.53
	99th percentile			0.98	0.98	0.97	0.97	0.98	0.99
POL	1st percentile	0.26	0.26			0.32	0.47	0.34	0.38
	99th percentile	0.47	0.48			0.93	0.94	0.88	0.91
PRT	1st percentile					0.43	0.53		
	99th percentile					0.95	0.96		
SVK	1st percentile					0.82	0.83	0.6	0.6
	99th percentile					0.98	0.99	0.96	0.97
SVN	1st percentile			0.36	0.59	0.57	0.67	0.27	0.43
	99th percentile			0.97	0.99	0.97	0.97	0.92	0.94
SWE	1st percentile			0.18	0.63	0.09	0.47	0.2	0.41
	99th percentile			0.94	0.94	0.96	0.97	0.98	0.99
TUR	1st percentile							0.46	0.5
	99th percentile							0.97	0.98
USA	1st percentile	0.29	0.4					0.19	0.48
	99th percentile	0.94	0.94					0.96	0.96

Table 2.4. Minimum and maximum sample weights (original and reweighted)

Final sample with no missing values in the perceived and fair top-bottom earnings ratios; both the original and reweighted weights have been rescaled to have mean 1 in this sample.

	Weight	Maximum				Minimum			
		1987	1992	1999	2009	1987	1992	1999	2009
AUS	Original	1.0			5.4	1.0			0.0
	Reweighted	5.7			6.7	0.8			0.0
AUT	Original	5.2		5.0	2.8	0.3		0.3	0.3
	Reweighted	4.7		4.8	3.1	0.4		0.3	0.3
BEL	Original				6.4				0.5
	Reweighted				7.1				0.4
CAN	Original			6.6				0.2	
	Reweighted			7.1				0.1	
CHE	Original	1.0			6.6	1.0			0.1
	Reweighted	6.5			8.6	0.8			0.1
CHL	Original				3.5				0.5
	Reweighted				3.7				0.5
CZE	Original			1.0	2.9			1.0	0.2
	Reweighted			2.1	2.9			0.8	0.2
DEU	Original		1.2	1.3	1.2		0.6	0.5	0.6
	Reweighted		2.0	6.8	2.3		0.5	0.4	0.5
DNK	Original				1.0				1.0
	Reweighted				7.0				0.9
ESP	Original				1.2				0.9
	Reweighted				4.6				0.7
EST	Original				1.8				0.4
	Reweighted				1.8				0.4
FIN	Original				1.5				0.6
	Reweighted				2.9				0.6
FRA	Original			8.9	6.0			0.3	0.5
	Reweighted			8.6	5.6			0.2	0.4
GBR	Original	5.1	5.0	2.7	3.6	0.3	0.3	0.2	0.3
	Reweighted	4.5	4.4	2.4	3.8	0.2	0.3	0.2	0.3

HRV	Original				1.0				1.0
	Reweighted				1.2				0.9
HUN	Original	1.0	4.1	2.2	2.6	1.0	0.1	0.4	0.4
	Reweighted	5.0	3.6	4.3	3.2	0.8	0.1	0.3	0.3
ISL	Original				1.0				1.0
	Reweighted				2.4				0.9
ISR	Original			1.0	1.0			1.0	1.0
	Reweighted			2.3	4.5			0.9	0.7
ITA	Original		2.1		13.2		0.4		0.0
	Reweighted		2.0		25.7		0.4		0.0
KOR	Original				1.0				1.0
	Reweighted				3.5				1.0
LTU	Original				2.2				0.5
	Reweighted				2.4				0.5
LVA	Original			1.0	1.0			1.0	1.0
	Reweighted			1.5	1.8			0.9	0.7
NOR	Original		1.7		1.0		0.9		1.0
	Reweighted		6.1		3.5		0.8		0.9
NZL	Original		1.0	1.0	3.1		1.0	1.0	0.6
	Reweighted		2.7	2.8	3.0		0.9	0.9	0.6
POL	Original	1.0		6.2	2.0	1.0		0.2	0.6
	Reweighted	1.3		7.0	2.6	0.7		0.2	0.5
PRT	Original			1.5				0.6	
	Reweighted			2.5				0.6	
SVK	Original			1.0	4.2			1.0	0.3
	Reweighted			1.2	3.9			1.0	0.3
SVN	Original		1.0	1.0	1.0		1.0	1.0	1.0
	Reweighted		2.5	2.5	2.3		0.9	0.9	0.8
SWE	Original		1.6	1.0	1.0		0.8	1.0	1.0
	Reweighted		6.0	2.6	3.1		0.7	0.9	0.9
TUR	Original				1.0				1.0
	Reweighted				2.1				0.8
USA	Original	1.2			5.7	0.4			0.3
	Reweighted	3.6			5.1	0.3			0.3

2.3. Measuring perceived intergenerational persistence from qualitative variables

Measuring the beliefs of individuals about the average level of intergenerational persistence in their society is a complex task, for two main reasons:

- Social mobility might be measured along different dimensions, as also highlighted by the different measures of actual intergenerational mobility available in the literature (OECD, 2018_[4]).
- Any question might be ambiguous with regards to the reference point, because individuals might think about the average social mobility in their cohort, across their cohort or in the youngest generation.

The ISSP survey contains several items repeated in each Social Inequality module (1987, 1992, 1999 and 2009): “To begin, we have some questions about opportunities for getting ahead. Please tick one box for each of these to show how important you think it is for getting ahead in life ...” A list of different dimensions follows. Two of them are directly related to the family background:

- How important is coming from a wealthy family?
- How important is having well-educated parents?

Possible answers are Essential / Very important / Fairly important / Not very important / Not important at all. For each individual, a binary indicator for each dimension is built, which takes value 1 if the respondents finds that dimension at least very important. The Fairly important cases has not been included in the 1s, because (i) they are the middle of the distribution of the answers; (ii) the vast majority of respondents answer that each dimension is at least fairly important.

Then the two dimensions are aggregated by averaging them up (with equal weights). One issue with our choice is that we discard the information coming from the categorical value. We also built two alternative measures:

- The average score, assigning values to each answer (Essential=5 / Very important=4 / Fairly important=3 / Not very important=2 / Not important at all=1);
- Brunori's index of perceived inequality of opportunities, that essentially builds a median answer along a larger set of factors outside individual controls.

Our measures correlate well with the alternative measures both at the individual (0.83 with the average score and 0.39 with Brunori's index) and at the country level (0.97 and 0.57, respectively). The main results carry through if we consider either index. Brunori (2017^[5]) correlates his index with measures of inequality of opportunities, and he finds no correlation. However, he does not discuss whether the index is correlated with estimated intergenerational elasticity.

Although our chosen index captures two relevant dimensions of intergenerational mobility, it is not clear whether individuals have in mind the average mobility in their own generation, for the average cohort, or rather for the youngest individuals in society. We can exploit the fact that indices of intergenerational education persistence (IGP) estimated by the World Bank are estimated at the cohort level for each country, from the cohort born in 1940 to the one in 1980. At the individual level, in ISSP 2009, we regress summary measures of inequality of opportunities on the IGP of the respondents' cohort, as well as on the IGP for all available cohorts in his/her country (Table 2.5).

Interestingly, the respondents' perceptions are not related to their cohort-specific IGP, but rather to the average across cohorts (column 3). In particular, the best predictor of perceptions seems to be the IGP of the youngest, 1980, cohort (column 4). A similar conclusion holds if, instead of every cohort's IGP, we include only the simple average of IGP across different cohorts in the respondent's country (in this case the coefficient on the respondents' cohort specific IGP is even negative, although very small). In the regressions of the main paper we therefore use the average IGP across cohorts.

Table 2.5. The relation between perceived and actual intergenerational educational persistence for different cohorts

	(1)	(2)	(3)	(4)
	Change in perceived intergenerational persistence (standard deviations) associated with a one standard deviation increase in:			
IGP	0.136*** (3.70)		-0.020 (-1.04)	-0.008 (-0.49)
Average IGP across cohorts		0.157*** (3.86)	0.174*** (4.75)	

IGP cohort 1940				0.042 (0.75)
IGP cohort 1950				0.121* (1.80)
IGP cohort 1960				0.034 (0.41)
IGP cohort 1970				-0.141** (-2.14)
IGP cohort 1980				0.148*** (3.20)
Observations	31,729	31,729	31,729	31,729
Individual controls	Included	Included	Included	Included

Note: * p-val<0.1; ** p-val<0.05; *** p-val<0.01. T-statistics in brackets (with standard errors clustered at the country level). All regressions are estimated using sample weights, rescaled so that each country sample weight sums up to 1. The covariates include age, household size, perceived position from 1 to 10 in the social ladder, and dummies for female, cohort and educational attainment. Observations with missing values are excluded. Countries included: AUS, AUT, BEL, BGR, CHE, CHL, CYP, CZE, DEU, DNK, ESP, EST, FIN, FRA, GBR, HRV, HUN, ISL, ISR, ITA, JPN, KOR, LTU, LVA, NOR, POL, PRT, SVK, SVN, SWE, TUR, USA.

Source: Secretariat calculations on International Social Survey Programme (ISSP) 2009.

2.4. Household income data in ISSP

The data collected in each country on household income as part of the International Social Survey Programme (ISSP) during the 1987, 1992 and 2009 waves did not follow a uniform standard. In particular, for some countries family income is measured as gross (before taxes and social contributions) and in other as net of taxes and social contributions. When data were obtained in a categorical format (brackets), the income variable was recoded into the midpoints of the corresponding brackets, following the standard implementation adopted by ISSP. Similarly, the point income value for the top-income bracket was taken from the value already provided in ISSP data, which often correspond to the floor of the top bracket. Income is equalised by dividing it by the square root of household size. Table 2.6 sums up the characteristics of family income in ISSP for the countries analysed in the long run (with regards to top-bottom earnings ratios). Poland and Sweden cannot be tracked in the long run because the value of income or household size is not collected in the first wave.

Table 2.6. Description of the household income variables collected for ISSP for countries for which data was available in 1987, 1992 and 2009

		Type of variable		Type of household/family income		Period		Additional Information	
		Categorical (brackets)	Continuous	Net	Gross	Monthly	Yearly	Currency	Other
Austria	1987/92	●		×		-		ATS	
	2009	●		×		-		EUR	
Australia	1987/92	●			×		-	AUD	
	2009	●			×		-	AUD	
Switzerland	1987/92	●		×		-		CHF	
	2009	●		×		-		CHF	
Germany	1987/92	●	●	×		-		DM	Continued variable mixed with categorical

	2009	●	●	×	-			EUR	Continued variable mixed with categorical
United Kingdom	1987/92	●			×		-	GBP	
	2009	●			×		-	GBP	
Hungary	1987/92	●			×		-	HUF	Period not specified, assumed from 2009
	2009	●			×		-	HUF	
Italy	1987/92	●		×			-	L.	Estimation by interviewer
	2009	●		×			-	EUR	
Norway	1987/92	●			×		-	NOK	
	2009		●		×		-	NOK	Rounded
New Zealand	1987/92	●			×		-	NZD	
	2009	●			×		-	NZD	
Slovenia	1987/92		●	×			-	SIT	Uncertain
	2009		●	×			-	EUR	
USA	1987/92	●			×		-	USD	
	2009	●			×		-	USD	
Poland	1987/92							PLN	No value in W1
	2009		●	×			-	PLN	
Sweden	1987/92							SEK	No value in W1
	2009		●	×			-	SEK	

In cases in which the distribution of perceptions and concerns is analysed by income groups, missing data on income were imputed assuming selection on observables. Missing values were therefore imputed with a model based on multiple imputation by chained equations (MICE with 20 repetitions) which was built using socio-demographic characteristics (age, gender, employment status, level of education, number of household members) and the respondents' self-placement in the income distribution. The imputation for which the mean of imputed values was closest to the non-missing sample mean was kept.

2.5. Decomposition of the variance in between- and within-group components

In Figure 4.2 in *Does Inequality Matter?*, the share of each group of covariate was obtained through a Shapley-Owen method of decomposition. As discussed by Shorrocks (2012_[124]), it consists in estimating the importance of each set of covariate in the explained part of the model, by calculating the weighted average of the change in the dependent variable (perception of top 10% income share) after interchangeably excluding every covariate used in the full model. Equivalised income corresponds to the importance of household disposable equivalised income put to the third polynomial degree. Age correspond to the respondent's age put to the third polynomial degree. Employment status is a categorical variable which indicates whether the respondent is employed or not, and whether they have ever been employed. Education level is a categorical variable which indicates whether the respondent's highest level of education corresponds to below secondary studies, secondary studies or tertiary studies.

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