Misperceiving Inequality

Vladimir Gimpelson* Daniel Treisman†

May 2015

Abstract

Since Aristotle, a vast literature has suggested that economic inequality has important political consequences. Higher inequality is thought to increase demand for government income redistribution in democracies and to discourage democratization and promote class conflict and revolution in dictatorships. Most such arguments crucially assume that ordinary people *know* how high inequality is, how it has been changing, and where they fit in the income distribution. Using a variety of large, cross-national surveys, we show that, in recent years, ordinary people have had little idea about such things. What they think they know is often wrong. Widespread ignorance and misperceptions of inequality emerge robustly, regardless of the data source, operationalization, and method of measurement. Moreover, we show that the perceived level of inequality—and not the actual level—correlates strongly with demand for redistribution and reported conflict between rich and poor. We suggest that most theories about political effects of inequality need to be either abandoned or reframed as theories about the effects of *perceived* inequality.

JEL Codes: D31, D63, D83, H24, H54, I30

Key words: inequality, income distribution, biased perceptions, preferences for redistribution

---

* Higher School of Economics, Moscow, vladim@hse.ru, and IZA. V.Gimpelson acknowledges support from the NRU HSE Basic Research Program.
† Daniel Treisman, Department of Political Science, University of California, Los Angeles, treisman@polisci.ucla.edu, and National Bureau of Economic Research. We thank Graeme Blair, Dan Corstange, Christian Dippel, Tim Frye, Miriam Golden, John Huber, Slava Kapeliushnikov, Kimuli Kasara, Hanzhang Liu, Rick McAlexander, Péter Mihályi, Tinghua Yu, and other participants at seminars at Columbia University and the Higher School of Economics for helpful comments.

1 Introduction

Economic inequality is believed to have important political consequences. In democracies, where the poor majority can vote to tax the rich, higher inequality is thought to result in more generous social policies. *Ceteris paribus, unequal democracies should redistribute more than equal ones.* In dictatorships, the greater is the income gap, the more the poor can gain by overthrowing their rulers and seizing their wealth. *Unequal autocracies should be more prone to revolution*. By the same token, the more skewed are the distributions of property and income, the more elites should fear the consequences of extending the franchise. *High inequality should discourage democratization.*

These arguments—familiar from works by Aristotle, Marx, and numerous successors—seem highly plausible. But what if most citizens do not *know* whether they are relatively poor or relatively rich? Everyone knows his own income, of course, but not necessarily the distribution into which it fits. What if the masses have little notion of how much wealth the elites have accumulated and whether the gap is growing or shrinking? What if even the rich cannot gauge how strong is the motive for the poor to revolt? In such cases, the neat link between actual inequality levels and political outcomes evaporates.

The goal of this paper is to show that such uncertainty and misperception are ubiquitous. We present evidence from a number of large-scale, cross-national surveys that in recent years ordinary people have known little about the extent of income inequality in their societies, its rate and direction of change, and where they personally fit into the distribution. What they think they know is often wrong.[1] This finding is robust to data sources, definitions, and measurement instruments. For instance, perceptions are no more accurate if we reinterpret them as being about wealth rather than income.

A strange inconsistency underlies much recent scholarship. On the one hand, theories assume that individuals correctly perceive the income distribution. On the other hand, scholars complain that the data available to test these same theories—in developed democracies and, even more so, in poorer, less free societies—are "dubious" (Ahlquist and Wibbels 2012) and "massively unreliable" (Cramer 2005). Yet, if experts throw up their hands at the quality of the data, it is strange to assume the general public is better informed. And if analysts fault the figures available today—despite the most sophisticated statistical agencies the world has ever seen—data quality must have been much worse during the nineteenth century heyday of revolution and democratization.

The implications of this point for theories of redistribution, revolution, and democratization, are far-reaching. If these are to be retained at all, they need to be reformulated as theories not about actual inequality but about the consequences of *beliefs* about it, with no assumption that the two coincide. We show that, although actual levels of inequality—as captured by the best current estimates—are not related to preferences for

[1] Nor can one rely upon the "wisdom of crowds" to ensure that average estimates are unbiased even if individual ones are incorrect, since beliefs about prevailing inequality are likely to correlate across individuals who are exposed to the same media sources and interact with each other.

redistribution, *perceived* levels of inequality are (see also Niehues 2014).[2] The actual poverty rate correlates only weakly with the reported degree of tension between rich and poor; but the *perceived* poverty rate is a strong predictor of such inter-class conflict.

A number of previous papers have pointed out inconsistencies in people's perceptions of inequality, using surveys and experiments, mostly within a single country (Norton and Ariely 2011, Chambers, Swan and Heesacker 2014, Cruces, Perez-Truglia and Tetaz 2013, among others). We build on these works. Our contribution is to provide the most general and comprehensive investigation of the topic to date, using multiple cross-national surveys, exploring numerous aspects of income and wealth inequality, and deriving the implications for influential arguments about the politics of redistribution, revolution, and democratization.

The next section reviews major theories relating inequality to political outcomes. Section 3 uses cross-national surveys to demonstrate widespread misperceptions by respondents of the income distribution, the respondent's place in it, and recent change in inequality. Section 4 provides evidence that beliefs about inequality are more strongly correlated with preferences over redistribution and perceptions of political and social tension than are actual inequality levels. Section 5 concludes.

2 Inequality and Politics

Various theories associate countries' levels of economic inequality with important political outcomes. These outcomes include the extent of income redistribution (in democracies); the incidence of revolution and other political violence (in non-democracies); and the emergence and stability of democracy and dictatorship.[3]

One argument contends that democracies with greater market-generated inequality will redistribute more. In a stylized model, Meltzer and Richard (1981) showed that the larger is the gap between the median and mean incomes, the greater is the fiscal transfer from rich to poor that majority-rule voting will produce. Subsequent papers built this mechanism into other models that aimed to explain the pace of economic growth, the fiscal consequences of decentralization, and the extent of government debt (Persson and Tabellini 1994a,b; Cukierman and Meltzer 1989).

A second literature blames inequality for the outbreak of revolutions, coups, civil wars, and other forms of political violence. The greater the incomes and land-holdings of the rich, the more the poor stand to gain by forcibly expropriating them (Huntington 1968, p.375). "A large group of impoverished citizens, facing a small and very rich group of well-off individuals, is likely to become dissatisfied with the existing socioeconomic status quo and demand radical changes," write Alesina and Perotti (1994, p.362). "As a result, mass violence and illegal

[2] Of course, these might fail to correlate because the national statistics on inequality are wrong. It could be that the true level of inequality, while unrelated to the best estimates of statisticians, is in fact closely related to the average guess of ordinary people, which is in turn related to political outcomes. However, it requires a great leap of faith to suppose that ordinary people can guess the level of inequality more accurately than expert statisticians—with all the censuses, surveys, and sophisticated statistical techniques at their disposal—and an even bigger leap of faith to think this could be the case in most or all countries.

[3] Some theories about inequality do not assume that individuals know the income distribution—and are therefore not subject to our critique. We return to this point in Section 5.

seizures of power are more likely the more unequal the distribution of income is." One review found it to be "almost a universal assumption that an inequitable distribution of resources and wealth will provoke violent rebellion" (Cramer 2005; see also Goldstone 2014, p.11).

A third approach, related to the first two, sees inequality as driving the evolution of political regimes. Since elites in unequal autocracies anticipate high levels of redistribution under democracy, they fight hard to prevent it. Boix (2003), therefore, predicts a negative relationship between inequality and democratization, unless the elites are somehow protected from expropriation, for instance by the mobility of their assets. Acemoglu and Robinson (2006) agree but add that the poor have weak incentives to seek democracy if inequality is very low (taxing the rich will benefit them little). Thus the odds of democratization should trace an inverted U: it is unlikely at either very high or very low inequality, but more likely at intermediate levels. Both theories crucially assume that the demand of poor citizens for democracy is based on accurate knowledge of the extent of inequality.

Despite their intuitive appeal, all three sets of theories have proved hard to substantiate empirically. Reviewing recent literature, Lupu and Pontusson (2011, p.316) report a "current consensus… that inequality does not matter for the politics of redistribution, at least not in any direct and particularly significant way." Ansell and Samuels (2011, pp.2-3) concur that: "results have consistently called into question… that pressures for redistribution increase with inequality."[4] Does economic inequality prompt political violence? "For almost half a century," wites Østby (2013, p.206), "scholars have tried to test this assumption, finding little empirical support for a statistical relationship between the two variables." What about regime type? The search for signs of a connection has yielded only "mixed results" say both Houle (2009, p.598) and Haggard and Kaufmann (2012, p.495). A sophisticated statistical inquiry found "no evidence that domestic inequality is related to regime outcomes once spatial correlation is accounted for" (Ahlquist and Wibbels 2012, p.461).

Scholars have suggested a number of reasons why the simple relationship might not hold—from conditional effects to non-linear functional forms. A large gap between rich and poor might not lead to redistribution because attitudes towards inequality are mediated by: beliefs about the fairness or unfairness of the distribution (Alesina and Angeletos, 2005a, 2005b; Alesina, Cozzi, and Mantovan 2012), beliefs about social mobility (Piketty 1995, Benabou and Ok 2001, Alesina and Ferrara 2005; Ravallion and Lokshin 2000), or other societal norms (Alesina and Giuliano 2009). Religious organizations might build coalitions spanning poor and rich, thus alleviating conflict between the two classes (Huber and Stanig 2011). Inequality might not translate into civil unrest if organizations do not exist to mobilize the poor or if assets of the rich are in a form that is hard to expropriate (Boix 2003).

While many of these factors may, indeed, help to break the link between inequality and political outcomes, we suggest a simpler explanation. All the theories discussed so far depend on the assumption that key actors have an accurate measure of the degree of income inequality in their society. Yet, given how difficult it is to estimate the distribution of income and property—for skilled professionals, let alone time-constrained,

[4] See also Neckerman and Torche (2007) and Lenz (2004), who finds only mixed evidence of a relationship between inquality and redistribution across American states.

statistically unsophisticated citizens—this assumption is implausible. People may fail to respond to inequality in the ways posited because, quite simply, they do not know how high it is.

A few papers have explored misperception of the income distribution, but usually in a single country. Norton and Ariely (2011) found that respondents systematically underestimated the inequality of wealth in the US. Chambers, Swan, and Heesacker (2013) reported that Americans also made mistakes in assessing the trends. Respondents "overestimated the rise of income inequality over time" since 1960, and beliefs about the trend varied systematically between political liberals and conservatives.[5] Using a survey experiment in Argentina, Cruces, Perez-Truglia, and Tetaz (2013) found "systematic biases in individuals' perceptions of aggregate income distributions" as well as in perceptions of their own relative position. Respondents' estimates of where they stood in the national distribution turned out to be strongly related to their place in the local income distribution, or, even more narrowly, to that within their reference group. Inferring inequality for the nationwide population from small, non-representative samples obviously produces biased results. Fernandez-Albertos and Kuo (2013, p.16) found that, among survey respondents in Spain, only 14 percent could correctly identify into what decile in the national income distribution they fell, and that respondents tended to place themselves closer to the median than their income actually implied.

In a pioneering paper on which we build, Niehues (2014) used results from the International Social Survey Project (ISSP 2009) to estimate the average perception of the income distribution for respondents in 24 countries, and compared these to actual income distributions as recorded in the national statistics. She identified systematic misperceptions. She also found that, although the actual level of inequality did not correlate cross-nationally with preferences for redistribution, the *(mis)perceived* level of inequality did.[6] Engelhardt and Wagener (2014) also noted a correlation between a measure of perceived inequality and preferences for redistribution. They distinguished between a measure of perceived social mobility and one of actual mobility, derived from different questions in the ISSP, and found that the perceived level of mobility was more effective at reconciling people to inequality than the actual level.

3 Misperceiving the income distribution

3.1 Do people understand the level of inequality?

The ISSP survey, conducted in 2009 in 40 countries, focused on social inequality. One question (14a) showed respondents five diagrams, accompanied by verbal descriptions, of different "types of society." Respondents were asked which diagram and description best fit their country. While the question does not explicitly refer to income or wealth and could conceivably be interpreted in terms of some other kind of social stratification, the previous

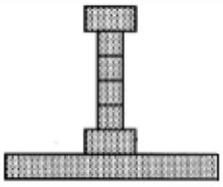
[5] cf. Bartels (2008), who also discovered differences in perceived inequality between liberals and conservatives.

[6] Where we replicate Niehues, we use the full set of 40 countries rather than just the subset of 23 European countries plus the USA that she included.

questions in the survey asked about "pay" and "earnings," so an interpretation in terms of income is the most natural one.

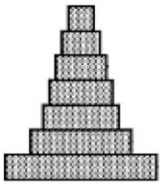
Figure 1: Characterizing the type of society

Q14. These five diagrams show different types of society. Please read the descriptions and look at the diagrams and decide which you think best describes <country> ..



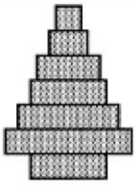
Type A

A small elite at the top, very few people in the middle and the great mass of people at the bottom.



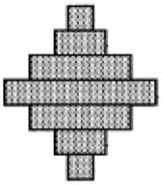
Type B

A society like a pyramid with a small elite at the top, more people in the middle, and most at the bottom.



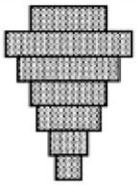
Type C

A pyramid except that just a few people are at the bottom.



Type D

A society with most people in the middle.



Type E

Many people near the top, and only a few near the bottom.

Source: International Social Survey Project survey (2009) questionnaire.

Responses varied greatly across the 40 countries (see Table A1 in appendix). While in Latvia 68 percent thought their society resembled the steep pyramid (Type A), in Denmark fewer than two percent picked this option; 56 percent of Danes saw their country as a diamond, with most people in the middle (Type D).

How often were the respondents right? To explore this, we first estimate a Gini coefficient corresponding to each of the diagrams (similarly to Niehues 2014). To do this, we assume that each of the seven bars represents an income class and that the income gap between each two adjacent categories is the same (we code the average income in the bottom bar as 1 and that in the top bar as 7).[7] We take the area of each bar to represent the share of the population in that income class and calculate the Gini coefficient using the formula:

$$G_n = 2\sum_{i=1}^{n} y_i\left(\frac{i-1/2}{n}\right) / \sum_{i=1}^{n} y_i - 1$$

where n is the number of observations (i.e. the total area of the figure), indexed by i, and y_i is the income of the i'th observation. Since the number of groups is small (seven), we use a correction for the bias associated with calculating the Gini from grouped data, as recommended by Van Ourti and Clarke (2011).[8] The resulting Gini coefficients associated with each of the five diagrams are: (A) .42, (B) .35, (C) .30, (D) .20, (E) .21.

[7] This might, at first, seem an arbitrary assumption, but in fact the diagrams are completely meaningless if one does *not* assume this or something similar. If, instead, the income gaps between the seven bands are allowed to vary, then each of the five diagrams could be made to fit almost *any* distribution of income simply by adjusting the income cutoffs in a certain way.

[8] The correction is to multiply the Gini calculated as above by $k^2(n^2-1)/n^2(k^2-1)$, where k is the number of groups, seven in this case.

We then calculated what proportion of respondents chose the diagram that had the Gini coefficient closest to their country's actual Gini coefficient (we call this the "correct" diagram for that country). For countries' actual Gini coefficients, we refer to the Ginis for equivalized household disposable income from the Standardized World Income Inequality Database (SWIID, version 5.0).[9] This standardizes observations collected from a variety of sources, including the United Nations University's World Income Inequality Database, the OECD Income Distribution Database, Eurostat, and the World Bank, among others, and employs a multiple-imputation algorithm to fill in certain missing data points.[10] These features endow SWIID with obvious advantages over other data sources on inequality for comparative cross-country research. We use the data for 2009 to correspond to the ISSP survey date, and, since the survey questionnaire did not tell respondents whether the diagrams referred to pre- or post-tax-and-transfer incomes, we consider the Gini coefficients for both. Since diagrams D and E have almost exactly the same Gini coefficient, we collapse them into one group to avoid categorizing respondents as wrong if they pick one of these rather than the other.[11]

Respondents turn out to be wrong about their country's income distribution most of the time. Worldwide, 29 percent of respondents chose the "correct" diagram if we refer to their country's post-tax-and-transfer Gini and 24 percent got it right if we use the pre-tax-and-transfer measure. For reference, a purely random choice among the five possible answers would get the answer right 22.5 percent of the time for post-tax-and-transfer incomes and 20 percent of the time for pre-tax-and-transfer incomes.[12] In other words, respondents worldwide were able to pick the "right" diagram only slightly more often than they would have done if choosing randomly.

The percentage correct varied from country to country (see Table 1). If we focus on post-tax-and-transfer incomes, the rate of correct answers ranges from just five percent in Ukraine—where almost everyone overestimated inequality—to 61 percent in Norway. In only five out of the 40 countries did a majority guess correctly. (Using *pre*-redistribution incomes instead, a majority guessed right only three times out of 40.) In five countries—Estonia, the Slovak Republic, Croatia, Hungary, and Ukraine—90 percent or more picked the wrong distribution.[13]

---

[9] For details see Solt (2009, 2014).

[10] The database provides 100 imputations for each data point; we use the average of the imputations.

[11] Even fewer correctly guess the post-tax-and-transfer Gini if types D and E are kept separate.

[12] The rate is not simply 20 percent in the first case because the Gini coefficients for options D and E are treated as the same. Denote the frequencies with which (A), (B), (C), and (D or E) are the correct answers as, respectively, a, b, c, and d. The proportion correct under random choice of a diagram will be: .2a + .2b + .2c + .4d. For the pre-tax-and-transfers Ginis, it turns out that in this group of countries a = .875, b = .1 , c = .025, and d = 0; for the post-tax-and-transfers Ginis, which are probably the more relevant: a = .15, b = .3 , c = .45, and d = .125. So the expected proportion of answers correct is 20 percent for the pre-tax-and-transfer Ginis and 22.5 percent for the post-tax-and-transfer Ginis.

[13] Again, this is using post-redistribution incomes; using pre-redistribution incomes, 90 percent got the answer wrong in 11 countries, more than one quarter of the total.

Table 1: Percentage of respondents choosing the diagram with the Gini coefficient closest to the correct one for their country, 2009

	If the question refers to:	
	Post-tax-and-transfer income	Pre-tax-and-transfer income
Norway	61	2
Denmark	59	2
Cyprus	54	4
Israel	51	17
Iceland	51	18
South Africa	49	49
Argentina	45	45
United Kingdom	40	13
Italy	39	32
Sweden	38	7
Spain	37	15
Venezuela	35	30
Russia	34	34
Belgium	33	7
Turkey	32	36
Finland	32	6
Philippines	32	32
New Zealand	30	6
Portugal	30	34
United States	29	12
Austria	28	15
Australia	28	6
Bulgaria	26	26
South Korea	26	35
Taiwan	25	36
Switzerland	24	6
Japan	24	10
Chile	23	23
China	21	21
Germany	21	17
Latvia	20	68
France	17	17
Czech Republic	16	28
Slovenia	13	23
Poland	13	34
Estonia	10	30
Slovak Republic	8	39
Croatia	6	51
Hungary	6	52
Ukraine	5	5
Total	*29*	*24*
Expected percent correct if random	*22.5*	*20*

Source: Authors' calculations from ISSP (2009, Question 14a) and SWIID database (Solt 2014).
Note: Diagrams D and E combined. If these kept separate, expected percent correct is 20 in both columns, and total percent correct is 24 for both. The two columns correlate at r = -.34: since the pre-tax-and-transfer Gini is almost always substantially above the post-tax-and-transfer Gini, the diagram that is "right" for pre-tax-and-transfer income tends to be "wrong" for post-tax-and-transfer income.

In some countries, the errors were not just widespread but extreme. According to available data, Ukraine had one of the most equal income distributions in the world in 2009: it came first (out of 114 countries with data) for pre-redistribution equality and 14th (out of 114) for post-redistribution equality. Its Gini coefficient, for either, was around .28, less than that for Diagram C. Yet less than five percent of Ukrainian respondents chose option C,

while 63 percent picked the steep pyramid of Diagram A. A significant proportion of respondents in some countries could not even hazard a guess, and said they did not know—11 percent in Austria, 13 percent in Russia, 16 percent in Portugal, and 24 percent in the US—while up to seven percent simply refused to answer this question.

Were most people at least *close*? To check this, we examined what proportion of respondents were within one diagram of the correct one (for instance, if the correct diagram was B, we measured how often the respondents picked A, B, or C). With only five options to choose between, getting within one place of the correct option is not a very difficult task. Picking randomly among the five diagrams, respondents should be within one place of the correct diagram 68 percent of the time if focusing on post-tax-and-transfer income and 43 percent of the time if focusing on pre-tax-and-transfer income.[14] In fact, for post-tax-and-transfer income they were right 69 percent of the time, just one percentage point better than if they picked randomly. For pre-tax-and-transfer income, 58 percent were within one diagram of the correct answer, 15 percentage points better than if they chose randomly. But still 42 percent were very far from the correct choice. And the errors were highest in countries where one might expect people to be the best informed. If they were focusing on pre-tax-and-transfer income, more than 70 percent were at least two places from the correct answer in Denmark, Norway, Finland, Sweden, and—perhaps less surprisingly—Ukraine.[15]

Might we be exaggerating the ignorance of respondents because we do not know whether they were focusing on pre- or post-tax-and-transfer income? To check this, we tried coding respondents as correct if they picked *either* the diagram that was "correct" assuming pre-tax-and-transfer income *or* the diagram that was "correct" assuming post-tax-and-transfer income. The probability of picking one or the other of these purely by chance was .39 in the average country.[16] In fact, on average 46 percent got the "correct" answer, defined in this way. Even bending over backwards to give respondents the benefit of the doubt, we still find they performed only slightly better than chance.

Assigning the values 1 through 7 to the bars in each diagram is arguably the most natural interpretation. But the results are almost identical if we make alternative assumptions. To check robustness, we repeated the calculations using one tighter distribution, with the bars representing incomes of 1, 1.5, 2, 2.5, 3, 3.5, and 4, and two more spread-out distributions: (A) with bars equalling 1, 3, 5, 7, 9, 11, and 13, and (B) with bars valued 1, 2, 4, 7, 11, 16, and 22. We even tried assuming that respondents in more genuinely unequal societies tended to

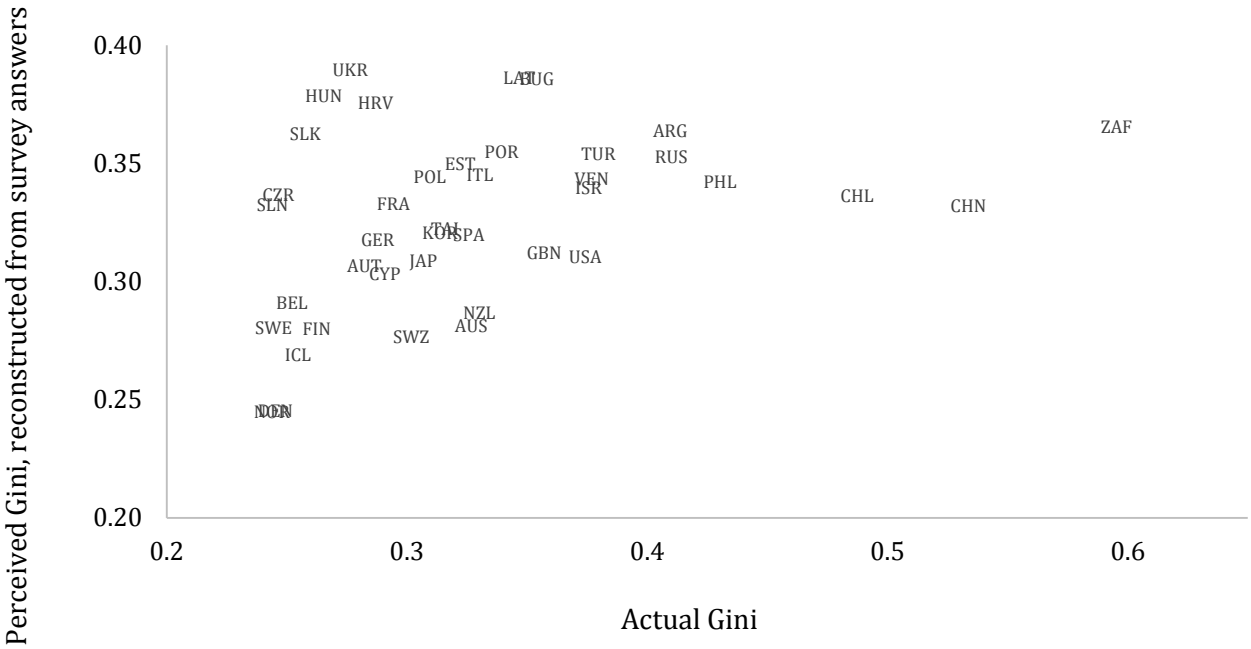
[14] Again, denote the frequencies with which (A), (B), (C), and (D or E) are the correct answers as, respectively, a, b, c, and d. The proportion within one diagram of the correct one under random choice of a diagram will be: .4a + .6b + .8c + .6d. Again, for pre-tax-and-transfers income, a = .875, b = .1 , c = .025, and d = 0, while for post-tax-and-transfers income, a = .15, b = .3 , c = .45, and d = .125. So the expected proportion of answers correct is .43 for the pre-tax-and-transfer Ginis and .68 for the post-tax-and-transfer Ginis.

[15] Another way to explore this is to calculate the average gap between the Gini of the diagram that the respondent guessed and the correct Gini for his country. If all respondents picked randomly among the five options, the average error across all respondents in the survey would be .11 in the case of post-tax-and-transfer income and .18 in the case of pre-tax-and-transfer income. In fact, the respondents' average errors were only slightly smaller than these "random" levels: .09 for post-tax-and-transfer income and .15 for pre-tax-and-transfer income.

[16] Of the 40 countries, in 27 the two "right" answers were different options from among A, B, and C; the probability for a respondent to pick one or the other of these at random is .4. For 8 countries, the same option (from among A, B, and C) was right for both pre- and post-tax-and-transfer income; for these, the probability of getting the right answer by chance is .2. For the remaining 5 countries, the two "right" answers were A and "D or E"; the probability of being right by chance in these cases is .6. So on average, the probability of being right is .385.

suppose the bars to be more widely spaced out—specifically, we used the values (1, 2, 3, 4, 5, 6, 7) for the countries with actual Gini coefficients among the bottom third of the sample; (1, 3, 5, 7, 9, 11, 13) for countries in the middle third; and (1, 2, 4, 7, 11, 16, 22) for those in the third with the highest actual Gini coefficients. Conducting the analysis under these four alternative assumptions, and using the Ginis for both post-tax and pre-tax incomes, the pattern proved remarkably consistent. Across all eight permutations, the share of respondents who chose the "right" diagram for their country ranged between 22 and 26 percent.

Figure 2: Inequality--Perceptions and Reality, 2009



Sources: SWIID (Solt 2014) and ISSP (2009).
Note: Actual Gini is for post-tax-and-transfer income. Perceived Gini is reconstructed from responses to ISSP question 14a. Correlation: r = .37.

Figure 2 plots the average *perceived* degree of inequality in each of the 40 countries against their *actual* post-tax-and-transfer inequality. The perceived degree of inequality, which we will call G_{PI}, is simply an average of the Gini coefficients for diagrams (A) to (E), weighted by the proportion of respondents from the given country that chose the diagram in question. The G_{PI}'s calculated in this way range from just under .25 for Denmark and Norway to .39 for Ukraine. It turns out that the correlation between perceived and actual inequality is quite weak (r = .37). In part, that might be because the perceived Ginis can be no higher than the Gini associated with the most unequal diagram in the ISSP question, that is .42. In four of the countries—the Philippines, Chile, China, and South Africa—the actual Ginis were higher than this. Yet even dropping these four countries, the correlation does

not increase much (r = .41).[17] Some countries where respondents perceived the greatest inequality—such as Ukraine—actually had among the lowest levels in the world. In others—such as the US—respondents saw relatively low inequality although actual levels were quite high.

Another way to explore what ordinary people know about inequality is to see how accurately they understand the salary structure in their country. The ISSP asked respondents how much they thought workers in five occupations typically earned. These occupations were "doctor in general practice," "chairman of a large national corporation," "shop assistant," "unskilled factory worker," and "cabinet minister in the national government." Unfortunately, the way the question was posed differed across countries, with respondents asked about *pre*-tax income in some and *post*-tax income in others. We focus on those countries for which the question refers to *pre*-tax income since media accounts, from which people probably get information about this, usually refer to the gross pay for different professions. We compared respondents' average estimates of earnings in different occupations with information about the actual average earnings in those occupations, which we collected mostly from national statistical agencies and sometimes from press reports (in the case of cabinet minister compensation; see appendix table A2 for references to sources).

Table 2 shows the average guess of respondents in each country about what these occupations paid, expressed as a proportion of our best estimate of the actual gross pay. We also show, in square brackets, the percentage of the respondents whose guesses were either too large or too small by more than one third. As can be seen, respondents were often far off the mark. Out of 45 cases for which we could find information on the actual salary, the average guess of respondents was within plus or minus 10 percent of the correct answer in only nine cases. In only 16 cases—that is slightly more than one third of the time—was the average answer within plus or minus 20 percent of the correct answer.

Some average guesses were spectacularly wrong. In the Philippines, the mean salary for general practice doctors in 2008 was about $5,500, according to a World Bank international wage survey. Yet the average Filipino respondent's estimate was $144,000. In South Africa, respondents reckoned that the chairman of a large national corporation earned about $77,000. The actual average pay for CEOs was $1.7 million, according to a study of 56 major South African companies. In all countries with data, respondents underestimated the pay of top businessmen; the average shortfall was 57 percent.[18] Even for more menial occupations, respondents often had little sense of the wage rate. Estimates of the earnings of unskilled factory workers were 50 percent too high in Norway and almost a third too low in the UK. The *median* guess tends to be closer to the actual level than the average guess, but still, for the cases with data, on average about one half of respondents were more than 20 percent off. And the underestimation of CEOs' earnings was much greater: the median US respondent underestimated this by 85 percent.

[17] The Spearman correlation coefficient (between countries' *ranks* in actual and perceived inequality)—ρ = .41—is also low.

[18] Osberg and Smeeding (2006, pp.470-71), examining similar figures from the ISSP 1999 survey, found that US respondents tended to "underestimate top-end inequality more than is common in other countries." Interestingly, this did not seem to be the case in 2009, when US respondents on average were only 18 percent below the correct figure for CEO salaries.

Table 2: Respondents' estimates of average pre-tax income in different occupations (as proportion of *actual* average pre-tax income, 2009 or year close to it)

	(1) *Shop assistant*	*(2)* *Unskilled factory worker*	*(3)* *Doctor (GP)*	*(4)* *Cabinet minister*	*(5)* *Chairman of large national company*
Australia				1.54 [52]	0.78 [86]
Austria				0.76 [64]	
Bulgaria	1.00 [29]				
Cyprus	0.73 [32]	1.03 [13]	2.40 [89]		
Denmark	1.09 [13]	0.96 [32]	1.43 [40]	1.66 [36]	
Finland				1.25 [56]	
Germany			1.11 [56]	1.43 [46]	0.73 [94]
Hungary		0.75 [58]	1.04 [43]		
Iceland	0.82 [30]			1.11 [22]	
New Zealand			1.24 [47]	0.72 [58]	
Norway	1.54 [13]	1.54 [15]	1.90 [36]	0.92 [79]	0.25 [97]
Philippines		0.85 [59]	26.48 [67]		
South Africa				0.74 [85]	0.05 [100]
Sweden	0.79 [14]	0.93 [6]	0.84 [34]	6.83 [55]	0.18 [96]
United Kingdom	1.30 [25]	0.70 [63]	0.99 [44]	1.82 [55]	0.23 [98]
United States	1.17 [40]	0.93 [42]	2.08 [60]	2.21 [64]	0.82 [95]

Sources: See appendix Table A2.
Note: Percent of respondents whose guess was off by more than plus or minus 33 percent in square brackets.

Not only were the average answers often wrong, the dispersion of guesses was sometimes quite extreme. Almost all respondents in all countries were off by more than plus or minus one third when they tried to guess the earnings of a top CEO. Most respondents in most countries were this far off when estimating how much cabinet ministers were paid. Guesses tended to be a bit closer for less well-paid occupations such as shop assistant. But in the UK, almost two thirds of respondents were more than one third off when estimating the average earnings of an unskilled factory worker.

Table 2 also allows some inferences about *how* the income scale is misperceived. If, in a given country, the ratio of the perceived income of doctors to the actual income of doctors (i.e. the figure in column 3) is greater than the corresponding ratio for factory workers, this implies that the perceived ratio of income between doctors and factory workers is greater than the actual ratio of income between doctors and factory workers.[19] We see that the inequality between doctors (or cabinet ministers) and factory workers (or shop assistants) is overestimated in most countries. However, the inequality between corporate executives and low-paid occupations is massively *underestimated* in those countries for which data are available.

A third source of evidence relates to poverty. Do most people know what percentage of their compatriots are poor? It turns out that, on this too, ignorance and misconceptions are common. In 2010, the Eurobarometer

[19] The figure in the doctor column represents d^p / d^a where d^p is the perceived average earnings of doctors and d^a is the actual average earnings of doctors. A little algebra shows that if $d^p / d^a > f^p / f^a$, where f indicates the factory worker's average earnings, then $d^p / f^p > d^a / f^a$ --that is, the perceived ratio of doctor to factory worker earnings is greater than the actual ratio.

asked European respondents whether the share of the poor in their country's total population was "less than 5 percent," "around 5 percent," "around 10 percent," "around 20 percent," or "around 30 percent or more." Of course, respondents might have their own definitions of poverty. But if we go by the EU-favored definition (income of less than 60 percent of the median equivalized income after social transfers), or by the national definitions of the poverty line (usually identical to the EU-favored definition or within a percentage point or two of it), the average response was often quite wrong.

Poverty rates in Europe in 2010 ranged between 9 and 27 percent by the EU definition (10 and 27 percent using national poverty lines). In the average European country, almost one third of the respondents who guessed their country's poverty rate guessed a figure that was more than 10 percentage points above or below the true level. In Cyprus, Hungary, Poland, Malta, and Spain, a majority of those who guessed were more than 10 percentage points off. In most cases, respondents overestimated poverty, but in Spain, where the poverty rate was actually 21.4 percent, about half of the respondents who hazarded a guess thought it was around 10 percent or less.[20]

Table 3: Percentage of respondents that got the poverty rate wrong by more than 10 percentage points, 2010

Cyprus	59	Slovakia	25
Hungary	56	France	25
Poland	52	Lithuania	24
Malta	52	Latvia	24
Spain	51	Belgium	19
Italy	46	Bulgaria	18
Portugal	45	Romania	12
Ireland	45	Luxembourg	8
United Kingdom	43	Finland	6
Estonia	42	Austria	6
Germany	42	Netherlands	5
Greece	37	Sweden	4
Czech Republic	36	Denmark	3
Slovenia	35	*Total*	*30*

Source: Eurobarometer 2010, Eurostat 2010.
Note: Percent of those who offered a guess. In the average country, another five percent said they did not know.

Even if individuals are often wrong about the level of inequality in their society, it could still be that their perceptions correlate cross-nationally with the actual levels. If so, the misperceptions might not matter so much for cross-national research. In fact, Figure 2 already showed that the correlation between perceived and actual inequality is low (r = .37). Still, this could be because of the particular measures we used or because of the

[20] Aalberg (2003, p.97) found with a survey in 1991 that poverty was overestimated on average by respondents in West Germany, the Netherlands, Britain, and the US.

assumptions we had to make to construct Gini coefficients for the perceived distributions. To check this, Table 4 shows the correlation coefficients between five alternative measures of actual economic inequality and four measures of perceived inequality.

Table 4: Correlation coefficients between objective and subjective measures of inequality

		Objective measures				
		Gini for pre-tax-and-transfer income	Gini for post-tax-and-transfer income	90/10 ratio for post-tax income	Gini for wealth, 2010	Wealth share of top 10%, 2009
Subjective measures	Average perceived Gini, reconstructed from survey answers	0.01	0.37	0.36	-0.17	0.09
	Percent choosing diagram A	-0.04	0.28	0.37	-0.08	0.23
	Average diagram Choice	-0.01	0.40	0.39	-0.15	-0.02
	Average ratio of perceived earnings of CEO and unskilled factory worker	0.32	0.25	0.05	0.16	0.02

Sources: SWIID 5.0, OECD, SEDLAC, Eurostat, LIS, Credit Suisse (2010), ISSP (2009), and authors' calculations.
Note: estimates for 2009 where possible, and for 2008 or 2010 when 2009 is not available.

One possible concern is that the ISSP respondents might have been thinking about wealth—not income—inequality (see Bagchi and Svejnar 2013). Cross-national data on wealth are harder to find. However, for several years the investment bank Credit Suisse has generated estimates of wealth inequality for a range of countries, using household balance sheet and other data (Credit Suisse 2010, pp.84-7). We use the Credit Suisse estimates of the Gini coefficient for wealth (for 2010, the first year available) and of the wealth share of the top 10 percent of the population (for 2009).[21] Besides the Gini coefficient, another common indicator of income inequality is the 90/10 ratio (i.e. the ratio between income at the 90th percentile and that at the 10th percentile). We also include this, using data for 2009 from the OECD and other sources.

To capture perceived inequality, we supplement G_{PI}, our estimated Gini coefficient for perceived income, with three other measures derived from the ISSP survey. First, to avoid additional assumptions, we simply use the percentage of respondents in the given country that selected diagram (A), the most unequal pyramid. Second, we constructed a measure of the average choice among the diagrams where (A), the one with the lowest median income, is scored as 5 and (E), the one with the highest median income, is scored as 1. Finally, using the question that asked respondents to guess the earnings in different occupations, we calculated a measure of the ratio of perceived earnings of a CEO in a large national company to those of an unskilled factory worker, averaging across all respondents who gave estimates for both. As Table 4 shows, none of these measures of objective inequality and perceived inequality correlated cross-nationally at higher than r = .40.

In sum, respondents do only slightly better than chance when asked to identify the shape of the income distribution in their country. They are often quite wrong about what various occupations—especially the most

[21] Estimated Ginis for wealth ranged from .57 in Spain to .88 in Switzerland.

elite ones—pay. A sizeable proportion of the population in many European states thinks that poverty is either much higher or much lower than it is. And, using a variety of different measures, we found at most a weak cross-national correlation between actual and perceived levels of inequality.

3.2 Do people know their place in the distribution?

According to Meltzer and Richard (1981), the median voter will vote for redistribution if his income is below the mean. But does the median voter *know* whether his income is below the mean? More generally, can most people tell into which part of the national income distribution they fall? To examine this, we exploit data from the Life in Transition Survey, taken in 2010 (LiTS 2010) and from the fifth wave of the World Values Survey, conducted between 2005 and 2009 (WVS 5). LiTS covers 34 countries including 29 emerging (mostly transition) economies and five advanced European economies. WVS 5 includes 58 countries, both developing and developed.

The ideal survey for answering this question would record: (A) respondents' own income, and (B) their beliefs about where they fall in the national income distribution. Comparing their incomes and self-placements with statistics on the country's true income distribution, one could then judge how often respondents were right. However, neither LiTS nor any other cross-national survey we know of collects data on both (A) and (B). We therefore present indirect evidence.

In both LiTS and WVS 5, respondents were asked in which decile in the national income distribution they thought they fell. Assuming the survey samples were as representative as their organizers intended and as—for LiTS—subsequent scrutiny confirmed (Cojocaru and Diagne 2015), one tenth of the respondents should fall within each of the 10 deciles. A histogram of responses to the question should map out the uniform distribution: one should see a flat line at 10 percent, with no hills or valleys.

That is not what one sees (Figure A1 in the appendix). In most countries in the LiTS, the two central deciles (5^{th} and 6^{th}) together capture not 20 percent but more than 40 percent of respondents. In the WVS, two thirds of those who answered thought they were in the bottom half of the national distribution. Those refusing to answer or pleading ignorance made up seven percent of the sample on average—and one third in Italy and more than one fifth in the Netherlands, Great Britain, and Mali. A few countries—Australia, Canada, the US, Great Britain, and Romania—are closer to the uniform distribution.[22] But in all the others respondents either bunched in the middle or somewhat to the left of center. If representative, these surveys indicate major misperceptions.

However, it is possible that the polls do not adequately represent all income groups. If they oversample the middle of the income distribution, it would hardly be surprising that respondents disproportionately place themselves in the middle. To address this, we adopt a different tactic. From respondents' answers to other questions, it is possible to identify some who are almost certainly among the richest in their societies and others who are almost certainly among the poorest. We explore whether these respondents, when asked, locate themselves in the expected income deciles.

[22] At least in the WVS; UK respondents when surveyed by LiTS clustered in the center.

LiTS surveys ownership of various consumer durables. For instance, one question asks whether anyone in the respondent's family owns a car. In developed countries like the UK or Sweden, such information reveals little since car ownership is close to universal. But in six of the surveyed countries—Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, and Ukraine—national statistics reveal that one third of households or fewer were car owners (see Table 5). Given the expense of automobile ownership relative to household incomes, we should expect these households to cluster at the top of the distribution. In Azerbaijan, the average price of a car was $13,300 at the time of the survey—almost four times the average annual per capita income.[23]

Table 5: Car owners' self-placement in the income distribution

	Percent of households that owned a car, 2010		*Percent of those reporting a car in the household who placed themselves in the following deciles:*										*Percent who placed themselves in bottom half*	*s.e.*
	National statistics	*In LiTS survey*	*lowest*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*highest*		
Azerbaijan	23	28	7	7	16	15	34	11	6	3	1	0	79	(2.4)
Belarus	33	44	1	4	11	17	28	23	8	4	1	0	61	(2.3)
Kazakhstan	28	36	1	3	14	18	27	20	9	4	1	1	63	(2.6)
Kyrgyzstan	17	34	1	1	6	19	49	15	6	2	0	0	77	(2.3)
Moldova	19	30	4	5	10	13	46	9	6	5	1	0	77	(2.5)
Ukraine	20	25	4	8	20	27	23	12	4	0	0	0	82	(2.0)

Sources: LiTS 2010; *Statistika SNG. Statisticheskii' biulleten'*, No. 9, September 2012, p.80; Republic of Moldova, National Bureau of Statistics.

Yet if car-owners in these countries belong in the top few income deciles, most did not realize this. As Table 5 shows, more than 60 percent of such respondents in all six countries thought they earned less than the national median income. Almost all of them are bound to be wrong.

Owning two houses is usually a sign of wealth. In all 40 LiTS countries, at most one in four respondents said that his or her family owned a second residence, and in all but three countries the frequency was less than one in six. Yet most such property owners did not consider themselves especially rich. On average, 60 percent of the secondary residence owners placed themselves in the bottom half of the income distribution. In Uzbekistan, only three percent of respondents lived in households with a second residence, yet almost two thirds of these thought their incomes were *below* the national median. Such anomalies were somewhat rarer in the developed countries. Still, in France, Italy, and Great Britain, 40 percent or more of second residence owners placed themselves in their country's bottom half.

Neither of these indicators is perfect. An even clearer sign of high income might be owning *both* a car and a second residence. In the average LiTS country, about seven percent of respondents fit this description (see Table A3 in the appendix). But again, most such respondents did not place themselves among the rich. On average, 57

[23] From www.stat.gov.az., converted from Manats at 1.245M/$.

percent of them thought they belonged in the bottom half of the income distribution, and only three percent located themselves in the top two deciles. The same pattern emerges for other consumer durables.

Table 6: Owners of second home, self-placement in the income distribution

	Percent that said someone in their household owned a secondary residence (LiTS 2010)	*Percent of those reporting a secondary residence who placed themselves in the following deciles:*										*Percent who placed themselves in bottom half of distribution*	
		lowest	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*highest*		s.e.
Albania	5	0	0	3	5	14	17	12	29	7	13	23	(5.8)
Armenia	6	0	3	5	29	45	11	5	0	2	0	81	(5.1)
Azerbaijan	3	0	4	7	13	35	15	7	12	0	7	59	(9.3)
Belarus	10	4	4	6	16	30	21	9	6	1	0	60	(5.0)
Bosnia	5	2	0	5	14	37	8	17	15	0	0	58	(6.6)
Bulgaria	12	6	6	16	22	30	11	7	2	0	0	80	(3.7)
Croatia	19	3	5	7	14	31	19	11	6	2	1	61	(3.4)
Czech Republic	5	0	0	5	8	28	28	23	5	2	0	41	(6.6)
Estonia	16	1	4	19	30	24	16	3	2	1	0	78	(3.4)
France	10	1	0	5	11	26	25	14	8	2	3	43	(4.8)
Georgia	6	5	5	16	8	52	5	3	2	2	0	86	(4.7)
Germany	6	0	0	3	5	20	24	34	6	0	0	28	(6.1)
Great Britain	5	2	0	8	12	19	23	15	14	6	3	40	(5.4)
Hungary	2	4	6	7	14	33	14	17	4	0	0	64	(10.0)
Italy	13	0	0	4	9	29	27	17	11	1	0	42	(4.1)
Kazakhstan	3	0	0	3	15	32	19	16	9	6	0	50	(8.8)
Kosovo	7	0	0	8	15	31	23	7	10	3	3	54	(5.6)
Kyrgyzstan	5	0	8	8	16	42	12	6	8	0	0	74	(6.3)
Latvia	10	6	6	24	18	27	9	7	0	1	0	81	(3.7)
Lithuania	9	3	9	13	25	31	12	3	1	2	0	81	(4.0)
Macedonia	12	3	6	21	18	29	11	8	3	0	2	77	(3.8)
Moldova	4	2	4	23	13	24	16	14	4	0	0	66	(7.3)
Mongolia	18	6	10	15	18	36	6	3	1	0	1	85	(2.7)
Montenegro	14	0	2	7	8	28	15	22	11	6	1	45	(4.1)
Poland	4	0	7	11	13	20	21	17	7	0	2	51	(6.6)
Romania	7	4	4	10	13	29	18	18	4	0	0	60	(5.6)
Russia	5	6	6	16	13	29	13	10	4	0	0	70	(5.3)
Serbia	14	2	7	16	21	29	12	7	4	0	0	76	(3.0)
Slovakia	10	1	2	6	8	27	23	18	12	1	0	43	(5.0)
Slovenia	13	4	2	7	20	30	17	13	6	1	0	62	(4.3)
Sweden	25	0	3	6	11	20	23	24	8	3	1	40	(3.3)
Tajikistan	4	0	0	9	7	20	46	12	5	0	0	36	(7.1)
Turkey	6	2	2	13	7	32	21	10	10	1	2	56	(6.2)
Ukraine	4	6	7	15	25	24	13	5	1	0	0	77	(5.3)
Uzbekistan	3	0	4	4	14	43	5	7	18	0	2	65	(7.0)
Average	9	2	4	10	14	30	17	12	7	1	1	60	

Sources: LiTS 2010.

In these cases, many people who were almost certainly among the wealthiest in their country seemed to think their incomes were below average. Their guesses ranged across the spectrum, suggesting considerable doubt. Might these respondents have been answering insincerely because they were embarrassed or even afraid to reveal their high income? If so, they would hardly have admitted to owning a second home, which is just as

clear an indication of unusual wealth. Acknowledging possession of expensive property while claiming to be relatively poor is more consistent with confusion than with an intent to deceive.

What about the poor? Do *they* understand where they fit in the income distribution? LiTS also asked whether anyone in the respondent's household had been approved to receive "targeted social assistance/guaranteed minimum income" in the previous year. (Preceding questions had asked about unemployment benefit, housing support, and child support, so this question can be understood to refer to income support for the poor.) In the five developed countries, national statistics suggest that few citizens receive such aid—about six percent of households in both France and Sweden, and less than 1 percent in Germany. So it seems likely that those LiTS respondents that were approved for such assistance came from the *poorest* decile.

Table 7: Recipients of income support, self-placement in the income distribution

	Percent of households that received income support, 2010		*Percent of those reporting income support who placed themselves in the following deciles:*										*Percent who placed themselves above the bottom two deciles*	*s.e.*
	National statistics	*In LiTS survey*	*lowest*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*highest*		
France	6.3	3.6	14	14	35	22	13	3	0	0	0	0	72	(7.5)
Germany	< 1	5	11	33	32	5	9	5	0	0	0	0	52	(6.7)
Great Britain		1.4	7	30	30	16	9	7	0	0	0	0	62	(10.3)
Italy *		1.3	23	0	18	34	25	0	0	0	0	0	77	(12.7)
Sweden	5.7 **	1.1	0	29	32	8	18	0	0	5	8	0	71	(13.7)

Sources: LiTS 2010; German Federal Statistical Agency; Vie-publique.fr; European Commission; Institut national de la statistique et des études économiques.
Notes: * applied for targeted income support, not necessarily received; ** 2008.

Many of them thought otherwise. While most did put themselves in the bottom half of the distribution, only a few thought they belonged right at the bottom (see Table 7). A majority of such aid recipients in all five countries placed themselves above the bottom fifth of the distribution.

Going hungry is another common sign of poverty. Had respondents taken any measures recently in response to declining income, LiTS asked. Some reported having "reduced consumption of staple foods such as milk, fruits, vegetables, or bread." In the five developed European countries, the proportion saying this ranged from 3 percent in Sweden to 20 percent in Italy. We might expect such respondents to fall in the bottom two deciles. But, again, these respondents did not see things that way. In Italy, more than half of those that had cut staple food consumption thought they were in the fifth decile or higher, and in France and Sweden more than one third thought this (Table 8, Panel A).

We see a similar pattern for the relatively rich countries included in the sixth round of the World Values Survey (2010-14). This survey asked respondents if their families had "gone without enough food to eat" during the previous year. It also asked where they thought their household fit on a scale "on which 1 indicates the lowest income group and 10 the highest income group" in the country. This wording is less ideal than that in the previous round (WVS 5), which explicitly referred to income "deciles," but unfortunately WVS 5 had no similar question about food deprivation. In the countries with per capita GDP at purchasing power parity above $30,000 in 2013,

the proportion of the population with inadequate access to food, according to the FAO, ranged from under 5 percent in Australia, Germany, the Netherlands, South Korea, Spain, and the US to 17 percent in Trinidad and Tobago. Among the WVS respondents in these countries, the share admitting to having gone without enough food "sometimes" or "often" in the past year ranged from two percent in Qatar to 29 percent in Bahrain. One would think that such respondents came only from the lowest income deciles. Yet among those having gone without enough food, sizable proportions in most countries thought they belonged in the top six income groups. This was true of more than one third of those having experienced hunger in Bahrain, Germany, Hong Kong, Qatar, Singapore, South Korea, Trinidad and Tobago, and the US.

Table 8: Respondents in houses with too little food, self-placement in the income distribution

(A) LiTS 2010

	Percent with inade-quate access to food (2010-12) (FAO)	*Percent of households that had had to cut consumption of staple foods, 2009-2010 (LiTS)*	*Percent of those having had to cut consumption of staple foods who placed themselves in the following deciles:*										*Percent of these who placed them-selves in 5th decile or higher*	*s.e.*
			lowest	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*highest*		
France	<5	13	9	11	26	20	20	10	3	1	1	0	34	(4.2)
Germany	<5	8	6	10	34	21	15	8	5	1	0	0	29	(4.9)
Great Britain	<5	9	15	19	24	20	14	4	1	3	0	1	21	(3.3)
Italy	<5	20	4	13	15	16	23	17	9	1	0	0	51	(3.6)
Sweden	5.3	3	0	17	22	17	14	17	6	0	8	0	44	(8.5)

(B) WVS 2010-14 (countries with GDP per capita PPP > $30,000 in 2013)

	Percent with inade-quate access to food (2010-12) (FAO)	*Percent of households that had "often" or "sometimes" gone without enough food in last year*	*Percent of those saying "often" or "sometimes" who placed themselves in the following income groups:*										*Percent of these who placed them-selves in 5th decile or higher*	*s.e.*
			lowest	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*highest*		
Australia	<5	5	22	19	10	11	17	5	4	0	0	2	28	(6.1)
Bahrain	n.a.	29	2	4	8	9	11	13	13	11	6	2	55	(2.7)
Germany	<5	3	22	25	11	4	28	6	2	1	0	0	37	(6.4)
Hong Kong	n.a.	7	18	4	14	13	19	14	8	7	3	0	51	(5.9)
Japan	14.2	5	41	15	10	9	3	2	0	2	2	2	11	(2.8)
Netherlands	<5	3	25	33	6	2	6	0	0	0	0	0	6	(3.5)
New Zealand	5.3	8	31	13	10	9	10	1	4	10	0	1	28	(5.5)
Qatar	n.a.	2	25	8	7	4	16	12	17	11	0	0	56	(10.1)
Singapore	n.a.	8	2	4	5	16	27	24	15	6	0	2	74	(3.4)
South Korea	<5	9	15	10	10	20	22	15	4	2	0	0	44	(5.1)
Spain	<5	6	19	8	25	11	15	9	4	0	0	0	29	(5.2)
Sweden	5.3	3	17	20	17	19	14	10	3	0	0	0	27	(8.3)
Trinidad & Tobago	17.1	13	17	5	14	11	31	11	7	3	0	0	52	(4.3)
United States	<5	11	16	15	18	10	19	7	4	5	2	2	39	(3.4)

Sources: LiTS 2010; FAO Statistical Yearbook 2012; World Values Survey, 2010-14.

In short, these surveys suggest that the rich tend to think that they are poorer than they are, and the poor tend to think that they are richer than they are. Both believe they are closer to the national median than is, in fact, the case.

3.3 Do people know how inequality is changing?

Perhaps ordinary people do not know the level of inequality or where they fit in the distribution but can still sense when the gap between rich and poor is growing. If so, the dynamics of inequality might still drive political behavior. To measure such change, we use the Gini coefficient for pre-tax-and-transfers income from SWIID 5.0. According to these figures, change in the Gini coefficient between 2007 and 2012 ranged from a fall of 7.7 percentage points in Bolivia to a rise of 6.5 percentage points in Spain. Among the 61 countries for which SWIID provides data for both 2007 and 2012, 32 saw increases in inequality and 29 saw decreases.

Could citizens detect the trend of inequality in their country? To judge this, we exploit a survey taken in the spring of 2013 by the Pew Global Attitudes project. Representative samples of the population in 40 countries were asked: "Do you think the gap between the rich and the poor in (survey country) has increased, decreased, or stayed the same in the last five years?" For 22 of these 40 countries, we could compare respondents' answers to data on how the Gini coeffcient for income had actually changed in the preceding five years.

We categorize countries where the Gini changed by less than plus-or-minus one percentage point as having "stayed the same." With this classification, the Gini decreased in eight of these 22 countries, increased in six, and "stayed the same" in eight. Note that if respondents chose randomly between these three options, they would have been right about one third of the time. In fact, the average percentage of respondents in a given country that got the answer right was just slightly higher than this—34.6 percent (see Table A4 in the appendix).[24] In more than 90 percent of the countries, a plurality of respondents—and usually a large majority—believed that the gap between rich and poor had increased in the previous five years. The only exceptions were Malaysia, El Salvador, and Bolivia, where a plurality said that inequality had "stayed the same."

Repondents might have focused on wealth rather than income inequality. If we use the wealth distribution estimates of Credit Suisse, then a larger percentage of respondents in the average country were right. This is simply because the inequality of wealth, increased in a larger share of the countries than did the inequality of income between 2007 and 2012, so the tendency to assume rising inequality was more often correct.[25] But whereas for income the proportion of respondents that thought inequality had increased at least correlated cross-nationally with the actual change in the Gini coefficient (r = .58), the proportion perceiving rising inequality did not correlate at all with the actual change in wealth inequality. In other words, although most respondents

[24] For another nine of the 40 countries, although the data for 2012 were not available the change in the Gini between 2007 and *2011* was available. Including these countries, the percentage in the average country picking the right answer increases to 38.7 percent. Using the post-tax-and-transfer income Ginis, the percentage getting the right answer was even lower.

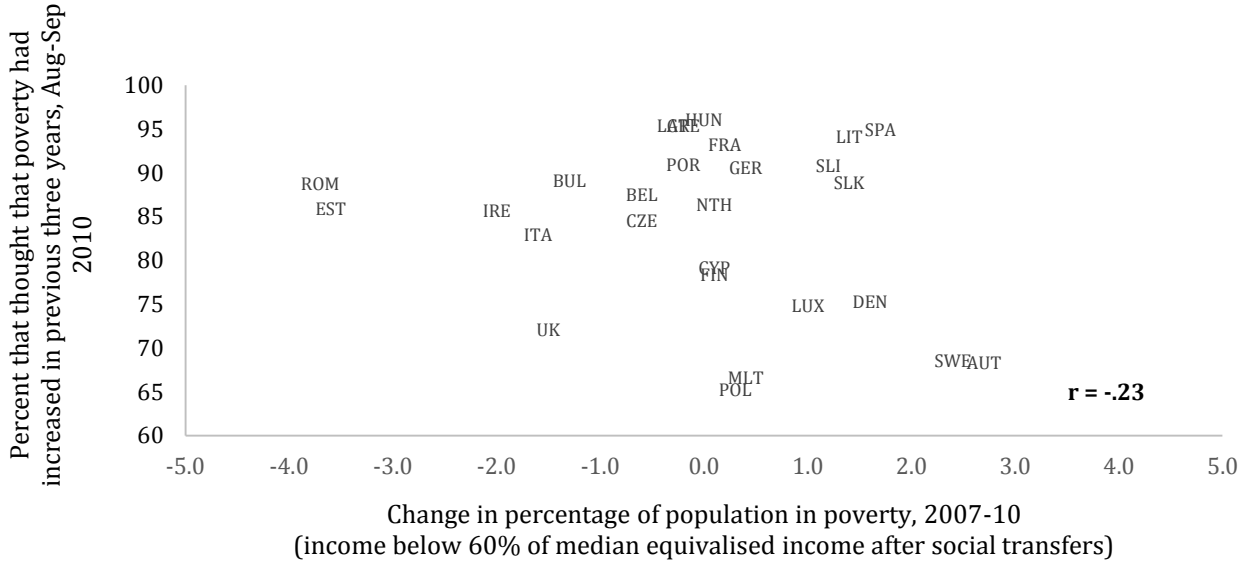
[25] We use the change in the share of wealth of the top 10 percent to assess the trend since the Credit Suisse Databook gives this for mutiple years but provides Ginis only starting in 2010.

worldwide thought inequality had risen, respondents were not more likely to think this in the countries that had actually experienced the biggest increases in wealth inequality.

Table A5 repeats the analysis using results from an almost identical survey conducted by the Pew Global Attitudes project in the summer of 2002. At that point, even larger majorities in almost all countries believed that inequality was increasing. In reality, the 27 countries surveyed by Pew for which inequality data were available were again evenly split, with nine experiencing decreases in the Gini, 10 showing increases, and eight recording only changes smaller than plus or minus one percentage point (which we again code as "stayed the same"). The rate at which respondents in the average country correctly identified the direction of change—36.6 percent—was again only slightly better than chance.

People appear to know just as little about trends in the rate of poverty. A Eurobarometer survey in August-September 2010 asked respondents in 27 countries whether poverty had increased, decreased, or stayed the same in their country in the previous three years. According to Eurostat, poverty had actually increased in eight of these countries, decreased in six, and stayed the same in 13 in 2007-10 (again coding as "stayed the same" countries where the rate changed by less than plus-or-minus one percentage point). Yet in all 27 of these countries, more than 65 percent of respondents thought that poverty had increased, and on average 31 percent thought it had "strongly increased." Moreover, the percentage of respondents who thought that poverty had risen correlated negatively with the actual change during these years (r = -.23). In Romania, 89 percent of respondents thought the number in poverty had increased; in fact, it had fallen by almost four percentage points (see Figure 3).

Figure 3: Trend in Poverty--Perceptions and Reality, Europe 2007-2010



Sources: Eurobarometer (74.1) and Eurostat.

In short, in recent years respondents from across the globe have tended to assume that inequality and poverty were rising. If focusing on the income distribution, respondents identified the direction of change only slightly better than chance. If focusing on the wealth gap, they were right more often because this *did* increase in more countries. However, the proportion convinced that the wealth gap was rising was not larger in countries where it was actually increasing relatively faster. Even in places where the wealth share of the top 10 percent and top 1 percent fell slightly—such as Canada and the US—two thirds or more believed it had increased.

The overestimation of the surge in inequality could reflect a response to global financial crisis. The 2002 and 2013 Pew surveys both occurred about five years after a major crisis (although the 1997-8 one affected a smaller number of countries). The 2010 Eurobarometer survey on poverty came in the midst of one. We lack data to explore whether the patterns would differ in a period of global growth. Attention to inequality on the part of politicians and the media may also fuel the belief in its rise. Whatever the cause, the conclusion remains: ordinary people are often wrong about how the gap between rich and poor has been changing.

4 Perceived inequality and political phenomena

If the public does not know how high inequality is, we should not expect the actual inequality level to predict policy preferences and political behavior. But *perceived* inequality could still be politically important. The evidence we can offer here is only suggestive; we do not take a strong position on causality. Still, results of various surveys are consistent with the notion that it is perceptions—not the reality—of inequality that matter for political outcomes.

First, consider preferences over redistribution. In one question, the ISSP asked respondents whether it was "the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes." Respondents could choose among the options: "strongly agree," "agree," "neither agree nor disagree," "disagree," "strongly disagree," and "can't choose." Since the first five of these represent ordinal categories, we constructed a dependent variable measuring support for government redistribution that takes the values one to five.

We then estimated how support for redistribution related to both actual and perceived inequality. For actual inequality, we used the country's actual Gini coefficient for income; for perceived inequality, we used the answers to Question 14a, in which respondents chose which diagram best matched the structure of their society. We explored this question at both the country and the individual level (see Table 9). At the country level, we regressed (by OLS) the average level of support for redistribution on the country's actual Gini coefficient (we tried those for both pre- and post-tax-and-transfers income) and on the country's average perceived Gini (G_{PI}, as constructed in Section 3.1). At the individual level, we regressed (by ordered probit) the individual's level of support for redistribution (on the 5-point scale) on her country's actual Gini coefficient and on that individual's perceived Gini (i.e. the Gini coefficient associated with the diagram she chose in response to Question 14a). In fact, in the individual case we could distinguish between the effect of the average perception of inequality in the country (G_{PI}) and the individual's idiosyncratic perception (the Gini of her chosen diagram, controlling for G_{PI})

(Table 9, columns 9-11). The former may capture common perceptions based on shared exposure to cultural or media stimuli, while the latter relates to the individual's particular impressions based on her characteristics and experience.

Table 9: Inequality perceptions and support for government redistribution

	Dependent variable: Government should reduce differences in income.										
	(A) Country level, OLS: average response where 5 = "strongly agree," 1 = "strongly disagree."					*(B) Individual level, ordered probit: 5 = "strongly agree," 1 = "strongly disagree."*					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Gini (pre-tax-and-transfers)	-.57 (.84)					-.61 (.75)					
Gini (post-tax-and-transfers)		-.03 (.58)		-1.51** (.60)	-1.52*** (.55)		-.15 (.42)			-1.42*** (.46)	-1.68*** (.40)
Perceived Gini (country average)			7.35*** (.96)	8.52*** (.98)	8.17*** (1.07)				5.56*** (1.12)	7.13*** (.93)	6.91*** (.99)
Perceived Gini (respondent)								3.11*** (.35)	1.92*** (.19)	1.94*** (.19)	1.86*** (.18)
Ln GDP per capita					-.04 (.09)						-.02 (.08)
Ln population					-.01 (.05)						.01 (.04)
Constant	4.12*** (.39)	3.87*** (.20)	1.46*** (.33)	1.57*** (.29)	2.03* (1.20)						
N	40	40	40	40	40	53,633	53,633	50,632	50,632	50,632	50,212
R^2	.01	.00	.45	.52	.53						
Pseudo R^2						.00	.00	.02	.03	.03	.04

Source: ISSP 2009, SWIID 5.0. Penn World Tables 8.0 for GDP per capita, World Bank WDI for population.
Notes: Robust standard errors, clustered by country in panel B. Column 11 also includes controls for sex, age, marital status, and higher education (coefficients not shown).

It turns out that neither the pre-tax nor the post-tax actual income Ginis are positively related to support for redistribution at either the country or the individual level. However, perceived inequality is highly significant in both cases. In countries where inequality was generally thought to be high, more people supported government redistribution. But demand for redistribution bore no relation to the actual level of inequality. In fact, given the average belief about inequality, higher actual inequality was associated with *lower* demand for redistribution. Breaking down perceptions into their general and idiosyncratic components, we found a stronger effect of the general perception in the country than of the individual's idiosyncratic perceptions. Still, both seemed to matter in the way expected.

What about the claim that greater income inequality leads to more intense confrontation between classes, up to and including revolution? One ISSP question asked respondents how much conflict there was in their country "between poor people and rich people." The four possible answers (besides "can't choose") ranged from "no conflicts" to "very strong conflicts." Again, we created an ordinal scale and ran probit regressions to

analyze the relationships at the individual level. We also used OLS to measure relationships at the level of country averages.

Table 10: Inequality perceptions and perceived conflict between rich and poor

	Dependent variable: Perception of conflict between rich and poor.										
	(A) Country level, OLS: average response where 4 = "very strong conflicts," 1 = "no conflicts"					*(B) Individual level, ordered probit: 4 = "very strong conflicts," 1 = "no conflicts"*					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Gini (pre-tax-and-transfers)	.63 (.77)					.74 (.74)					
Gini (post-tax-and-transfers)		1.77*** (.56)		1.16* (.62)	.41 (.57)		1.69*** (.57)			1.15* (.61)	.33 (.50)
Perceived Gini (country average)			4.42*** (1.29)	3.52** (1.53)	4.60*** (1.53)				3.98*** (1.36)	2.80* (1.50)	4.03*** (1.48)
Perceived Gini (respondent)								1.99*** (.40)	1.13*** (.19)	1.14*** (.19)	1.18*** (.19)
Ln GDP per capita					.15** (.06)						.19*** (.06)
Ln population					.11*** (.03)						.14*** (.03)
Constant	2.17*** (.37)	1.87*** (.20)	1.01** (.40)	.93** (.39)	-1.44 (.87)						
N	40	40	40	40	40	52,196	52,196	49,517	49,517	49,517	49,108
R^2	.01	.14	.19	25	.47						
Pseudo R^2						.00	.01	.01	.01	.02	.04

Source: ISSP 2009, SWIID 5.0. Penn World Tables 8.0 for GDP per capita, World Bank WDI for population.
Notes: Robust standard errors, clustered by country in panel B. Column 11 also includes controls for sex, age, marital status, and higher education (coefficients not shown).

At the country level, post-tax-and-transfer inequality was significantly associated with greater reported tension between classes, although pre-tax-and-transfer inequality was not (Table 10, panel A). However, the effect of actual inequality was dwarfed by that of *perceived* inequality, which was about three times larger. And the effect of actual inequality disappears if one controls for the country's income and population (column 5). At the individual level, results are similar: the post-tax-and-transfer Gini and individual perceptions are both significant, but perceptions have a larger effect than reality; and the effect of actual inequality—but not perceptions—disappears if one controls for income and population.

Tables 9 and 10 use measures of perceived inequality and of preferences for government redistribution that come from the same survey. As already noted, we do not make strong claims here about causality. It might be that inequality perceptions affect demand for redistribution. But it is also possible that those who favor

redistribution "perceive" more inquality than there is in order to rationalize their preferences, or that both result separately from some third factor. We defer a systematic examination of this to a future paper.

Still, it is useful to assess how robust the relationships are, using data from other surveys. In 2009, the Eurobarometer asked respondents how much tension there was in their countries: A) between poor and rich, and B) between managers and workers. We explored whether our measure of perceived inequality derived from the ISSP survey could predict answers to these questions about class conflict taken from the Eurobarometer (see Table 11).

The limited overlap in country coverage between the Eurobarometer and ISSP reduces our usable sample to just 17 countries. But among them, perceived inequality related strongly and positively to perceived tension between rich and poor and between managers and workers, while actual inequality was either insignificant or *negatively* related to the reported level of conflict.

Table 11: Inequality perceptions and perceived social conflict, Eurobarometer 2009, country level, OLS

	Dependent variable: Percent saying that "there is very much tension…"									
	(A) … between rich and poor					*(B) … between managers and workers*				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Gini (pre-tax-and-transfers)	45.88 (41.46)					51.08 (36.72)				
Gini (post-tax-and-transfers)		53.04 (80.37)		-249.84** (96.75)	-265.74** (93.72)		50.07 (75.18)		-162.79** (68.56)	-187.13** (62.41)
Perceived Gini			232.62** (91.06)	391.03*** (93.80)	470.13*** (127.46)			182.21* (92.45)	285.43*** (82.62)	468.70*** (114.38)
Log GDP per capita					10.26 (19.69)					25.29 (18.21)
Log population					1.86 (2.88)					2.68 (2.96)
Constant	8.83 (20.46)	15.19 (25.57)	-45.16 (27.40)	-22.72 (17.91)	-107.01 (67.15)	4.78 (17.94)	14.53 (23.48)	-30.75 (28.62)	-16.13 (27.30)	-193.96** (70.31)
N	22	22	17	17	17	22	22	17	17	17
R^2	.02	.02	.38	.67	.75	.03	.02	.25	.38	.70

Source: EB 2009, SWIID 5.0, Penn World Tables 8.0 for GDP per capita, World Bank WDI for population.
Notes: OLS, Robust standard errors.

Finally, how do beliefs about the poverty rate relate to preferences over social policy and perceptions of interclass tensions? As Tables A6 and A7 in the appendix demonstrate, using Eurobarometer data from 2010, both the actual poverty rate and the belief that it was high correlated with the demand for government to take anti-poverty measures. However, only perceptions about poverty—not the actual rate—were positively associated with perceived conflict between rich and poor.

To sum up, there is little evidence of a link between the actual degree of inequality and citizens' demands for government redistribution or perceptions of class conflict. However, the levels of inequality and poverty that citizens *imagined* to exist did correlate strongly and robustly with such political demands and perceptions. We cannot make strong causal claims here about this relationship. But the patterns are consistent with the hypothesis and the intuition that it is beliefs about inequality rather than the actual phenomenon that influence political outcomes.

5 Conclusion

A variety of theories assert that economic inequality influences the characteristics, survival, and policies of governments. Many of these assume that citizens accurately observe the prevailing level of inequality, at least on average. However, a review of various surveys suggests that this assumption is implausible.

Meltzer and Richard (1981, p.923) demonstrated that, in a simple model of redistribution under majority rule, the level of taxation and spending rises with the gap between median and average incomes. Yet, as we showed, many survey respondents who could not afford enough to eat and who qualified for aid to the very poor nevertheless thought they belonged in the middle or even the upper half of the income distribution. Others whose consumption patterns placed them among the richest in their country thought their incomes were below average. Given such confusion, it seems doubtful that the median voter generally *knows* whether she would lose or gain from redistribution. We showed evidence that demand for redistribution tends to vary not with the actual level of inequality but with the level that people believe to prevail.[26]

Acemoglu and Robinson (2006, p.36) argued that, ceteris paribus, more "inter-group inequality makes revolution more attractive for the citizens" of an authoritarian state. The calculus for the poor seems straightforward: "with revolution, they get a chance to share the entire income of the economy (minus what is destroyed in revolution), whereas in nondemocracy, they obtain only a small fraction of these resources." The rich should respond to the revolutionary threat with repression (if inequality is very high) or by democratizing (if inequality is intermediate). Yet, as we saw, in many countries citizens have little notion of how much the rich earn. They do little better than chance at guessing how income is distributed. Revolution, repression, and democratization might relate to predominant beliefs about inequality—and we showed evidence that the perceived intensity of class conflict did vary with those beliefs. But if potential revolutionaries are so uncertain

[26] The Meltzer Richard (1981, p.941) model assumes that voters are "fully informed." Even if voters are misinformed about inequality, one can imagine some versions of the political game in which the parties would nevertheless converge on the policy the median voter *should* prefer if he had correct information—thus preserving the prediction that higher inequality should lead to higher redistribution (we thank John Huber for pointing this out). This is correct if we assume that the parties can only offer policies that are genuinely feasible given a balanced budget (and not just those the voters *believe* to be feasible), that parties remain committed to their proposals, and that they compete by offering a vector of net transfers to the voters. If, by contrast, the parties compete by proposing a linear tax rate (as in Meltzer Richard 1981, pp.920-21) and voters infer—based on their perhaps incorrect beliefs about the income distribution—what the equal lump sum transfers will be, then, at least in a one-shot model, the parties should converge on the tax rate that the median voter *believes* will maximize his utility. The transfers feasible at that tax rate may not be what the voters expect, which may lead to frustration later. But if a party offers a tax rate different from the one that the median voter *thinks* will maximize his utility, the other party can win for sure by offering the tax rate that the median voter believes is optimal from his point of view. In this case, higher inequality will *not* necessarily be associated with higher redistribution.

about the size of the existing gap between rich and poor, we should not expect their political behavior to track the actual degree of inequality.

Not all arguments about inequality assume that individuals perceive it accurately. The claim that concentration of wealth enables the rich to dominate politics, depressing participation by the poor, does not presuppose any widespread knowledge of the Gini coefficient (Goodin and Dryzek 1980, Solt 2008). Nor does the point that inequality can lead to underinvestment in human capital by the poor if their borrowing is constrained (Galor and Zeira 1993). Ansell and Samuels' (2010) argument that income inequality motivates the rich to seek democracy as an institutional defense against expropriation by the state requires only that the rich know that they have something to lose.

A growing literature has explored cross-national differences in atittudes towards inequality and has argued that a belief in high social mobility or in the fairness of the economic system, as well as various norms, may reconcile people to large gaps between rich and poor (Alesina and Giuliano 2009, Benabou and Tirole 2006). We find these arguments plausible and intuitive—with one modification. What these beliefs and norms reconcile people to is not the actual level of inequality but the level they *imagine* to exist.

Showing that perceptions of inequality are a better predictor of political preferences than is the actual level, we do not argue that the latter is measured correctly. Indeed, there are many reasons why inequality is difficult to measure. But that does not invalidate our main point: it makes it in another way. If the experts cannot assess inequality accurately, it strains credulity to suppose the man in the street can gauge it intuitively. And the difficulty of measuring the actual income distribution does not affect our second point: that perceptions of inequality—whether or not they are accurate—*do* correlate with political preferences.

We defer to a future paper analysis of what causes perceptions of inequality. But several hypotheses seem plausible. First, individuals may exhibit the "What You See Is All There Is" fallacy (Kahneman 2011) and generalize from their immediate reference group to the country at large (Cruces, Perez-Truglia, and Tetaz 2013). Those living in villages where incomes and property are relatively equal may underestimate their country's gap between rich and poor. Those working in professions with large variation in earnings may believe inequality to be higher than those in occupations where wage differences are smaller.

A second likely cause of beliefs about inequality is the media in general and television in particular. Globalization of media might cause people in poor countries to compare their consumption to that glimpsed in rich Western states, leading them to exaggerate the degree of inequality and relative deprivation within their country (Pop-Eleches 2009). The more sensationalistic and celebrity-focused is television, the greater may be popular awareness of the extremes of income and consumption. Meanwhile, greater travel—both domestic and international—could also influence the traveller's beliefs about relative incomes.

A third possible determinant is ideology, which may predispose people to "see" the level of inequality that their beliefs and values convince them must exist (Alesina and Fuchs-Schundeln 2007). Citizens in post-socialist countries appear to be particularly sensitive to inequality, perhaps reflecting the ideological legacy of communism (Corneo and Gruner 2002). Socialists in all countries may exaggerate the income gaps around them, while conservatives may underestimate them. A Marxist may assume that capital is becoming ever more

concentrated. A believer in free markets may suppose that wealth is trickling down to all. Shocks experienced by individuals during their formative years can leave scars in values and perceptions that last for life (Guiliano and Spilimbergo 2014).

Fourth, besides mistaking their reference group for a valid sample, individuals may succumb to other psychological effects. A desire to blend in may cause them to believe their own income is closer to average than it actually is. The "self-enhancement" bias leads people at times to see themselves as better off than they actually are (Loughnan et al 2011). Individuals may also fail to distinguish clearly between reports of high inequality worldwide and high inequality in their own country. And they may confuse changes in the trend with information about the level: when inequality has been rising, they may assume it must be high; when it has been falling, they may believe it to be low. At the same time, they may suppose that a recession—which shifts the incomes of the poor downward—must increase inequality, when in fact recessions sometimes decrease the income gap by shrinking the capital income of the rich more than the wage income of the poor. On the other hand, reports of rapid growth that arouse unrealistic expectations may lead people to believe that income has been diverted to the rich (Verme 2014).

Whatever the causes, the gap between perceptions and reality—or, at least, statisticians' best estimates of reality—is clear. And misperceptions must have been even greater in less data-rich and scientifically sophisticated eras. Besides inequality, we suspect that misperceptions also affect how people respond to inflation, unemployment, and other economic phenomena (Gimpelson and Oshchepkov 2012).

Often, in the social sciences, it is useful to model social processes *as if* people had certain information or made certain calculations, even when we know this is unlikely to have been the case. An influential argument holds that a theory should be judged not on the realism of its assumptions but on the accuracy of its empirical predictions (Friedman 1953). However, several decades of work seeking empirical connections between actual inequality levels and political preferences or behavior have turned up little. At this point, it may be more fruitful to root theories in more psychologically plausible assumptions.

References

Aalberg, Toril. 2003. *Achieving Justice: Comparative Public Opinions on Income Distribution*. Leiden, Netherlands: Brill.

Acemoglu, Daron and James A. Robinson. 2006. *Economic Origins of Dictatorship and Demcoracy*. New York: Cambridge University Press.

Ahlquist, John S., and Erik Wibbels. 2012. "Riding the Wave: World Trade and Factor-Based Models of Democratization." *American Journal of Political Science* 56(2): 447-464.

Alesina A., G.-M. Angeletos. 2005a. "Fairness and Redistribution." *American Economic Review* 95(4): 960-980.

Alesina A., G.-M. Angeletos. 2005b. "Corruption, Inequality, and Fairness." *Journal of Monetary Economics* 52(7): 1227–1244.

Alesina, A., G. Cozzi, and N. Mantovan. 2012. "The Evolution of Ideology, Fairness and Redistribution." *The Economic Journal* 122: 1244–1261. doi: 10.1111/j.1468-0297.2012.02541.

Alesina, A., N. Fuchs-Schundeln. 2007. "Good-Bye, Lenin, or Not?" *American Economic Review* 97: 1507-1528.

Alesina, A. F., and Paola Giuliano. 2009. "Preferences for redistribution." National Bureau of Economic Research, working paper w14825.

Alesina, A. and Eliana La Ferrara. 2005. "Preferences for redistribution in the land of opportunities." *Journal of Public Economics*: 897-931.

Alesina, A., and Roberto Perotti. 1994. "The political economy of growth: a critical survey of the recent literature." *The World Bank Economic Review* 8(3): 351-371.

Alesina, A., and Roberto Perotti. 1996. "Income distribution, political instability, and investment." *European Economic Review* 40(6): 1203-1228.

Ansell, Ben and David Samuels. 2010. "Inequality and democratization: A contractarian approach." *Comparative Political Studies* 43(12): 1543-1574.

Bagchi S., and J. Svejnar. 2013. "Does Wealth Inequality Matter for Growth? The Effect of Billionaire Wealth, Income Distribution, and Poverty" IZA DP No. 7733.

Benabou, R., and E. Ok. 2001. "Social mobility and the demand for redistribution: the POUM hypothesis." *Quarterly Journal of Economics* 116(2): 447– 487.

Bénabou, R. and J.Tirole. 2006. "Belief in a Just World and Redistributive Politics." *Quarterly Journal of Economics* 121(2): 699-746.

Boix, Carles. 2001. "Democracy, Development, and the Public Sector." *American Journal of Political Science* 45: 1–17.

Boix, Carles. 2003. *Democracy and redistribution*. New York: Cambridge University Press.

Chambers, J., L.Swan and M.Heesacker. 2014. "Better Off Than We Know: Distorted Perceptions of Incomes and Income Inequality in America." *Psychological Science* 25(2): 613–618.

Cojocaru A. and Mame Fatou Diagne. 2015. "How reliable and consistent are subjective measures of welfare in Europe and Central Asia? Evidence from the second Life in Transition Survey." *Economics of Transition* 23(1):75–103. DOI: 10.1111/ecot.12056.

Conyon, M. J., N. Fernandes, M.A. Ferreira, P. Matos, & K. Murphy. 2011. *The executive compensation controversy: A transatlantic analysis.* http://digitalcommons.ilr.cornell.edu/ics/5/.

Corneo G. and H.P. Gruner. 2002. "Individual Preferences for Political Redistribution." *Journal of Public Economics* 83: 83-107.

Credit Suisse. 2010. *Credit Suisse Global Wealth Databook*. Credit Suisse Research Institute (https://publications.credit-suisse.com/tasks/render/file/index.cfm?fileid=88DC07AD-83E8-EB92-9D5C3EAA87A97A67).

Cruces, Guillermo, Ricardo Perez-Truglia, and Martin Tetaz. 2013. "Biased perceptions of income distribution and preferences for redistribution: Evidence from a survey experiment." *Journal of Public Economics* 98: 100-112.

Cukierman, A., and A.H. Meltzer. 1989. "A political theory of government debt and deficits in a neo-Ricardian framework." *American Economic Review*: 713-732.

Easterly, William. 2007. "Inequality Does Cause Underdevelopment." *Journal of Development Economics* 84 (2): 755-776.

Engelhardt and Wagener. 2014. "Biased Perceptions of Income Inequality and Redistribution." University of Hannover, DP no.526.

Fernandes, Nuno, Miguel A. Ferreira, Pedro Matos, and Kevin J. Murphy. 2010. "The Pay Divide: (Why) Are U.S. Top Executives Paid More?" University of Southern California: unpublished.

Fernandes, Nuno, Miguel A. Ferreira, Pedro Matos, and Kevin J. Murphy. 2013. "Are US CEOs paid more? New international evidence." *Review of Financial Studies* 26(2): 323-367.

Fernandez-Albertos, Jose and Alexander Kuo. 2013. "Relative Income, Information, and Progressive Taxation: Evidence from a Survey Experiment." Cornell University: unpublished.

Friedman, Milton. 1953. "The Methodology of Positive Economics." In Milton Friedman, *Essays in positive economics*. Chicago: University of Chicago Press.

Galor O., and J. Zeira. 1993. "Income Distribution and Macroeconomics." *The Review of Economic Studies* 60: 35-52.

Gimpelson, Vladimir, and Aleksei Oshchepkov. 2012. "Does more unemployment cause more fear of unemployment?" *IZA Journal of Labor & Development* 1(1): 1-26.

Goldstone, Jack A. 2014. *Revolutions: A Very Short Introduction*, New York: Oxford University Press.

Goodin, Robert, and John Dryzek. 1980. "Rational Participation: The Politics of Relative Power." *British Journal of Political Science* 10(3): 273-92.

Gurr, Ted Robert. 1970. *Why Men Rebel*. Princeton: Princeton University Press.

Haggard, S., and R.Kaufman. 2012. "Inequality and Regime Change: Democratic Transitions and the Stability of Democratic Rule." *American Political Science Review* 106(3): 495-516.

Hirschman, Albert O. 1973. "The changing tolerance for income inequality in the course of economic development." *World Development* 1(12): 29-36.

Houle, Christian. 2009. "Inequality and democracy: Why inequality harms consolidation but does not affect democratization." *World Politics* 61(4): 589-622.

Huber, John and Piero Stanig. 2011. "Church-State Separation and Redistribution." *Journal of Public Economics* 95(2011): 828-836.

Kahneman, Daniel. 2011. *Thinking, fast and slow*. New York: Macmillan.

Kenworthy L. and L. McCall. 2008. "Inequality, Public Opinion and Redistribution." *Socio-Economic Review* 6: 35-68.

Kiatpongsan, Sorapop, and Michael I. Norton. 2014. "How much (more) should CEOs make? A universal desire for more equal pay." *Perspectives on Psychological Science* 9(6): 587-593.

Loughnan S., P.Kuppens, J.Allik, K.Balazs, S.de Lemus, K.Dumont, R.Gargurevich, I. Hidegkuti, B.Leidner, L.Matos, J.Park, A.Realo, J.Shi, V.Sojo, Y.Tong, J.Vaes, P.Verduyn, V.Yeung, and N.Haslam. 2011. "Economic Inequality Is Linked to Biased Self-Perception." *Psychological Science* 22(10): 1254–1258.

Lenz, Gabriel S. 2004. "The Consequences of Income Inequality for Redistributive Policy in the United States." In: Neckerman K. M., ed. *Social Inequality.* New York, NY: Russell Sage Foundation, 797-820.

Lichbach, Mark I. 1989. "An evaluation of "does economic inequality breed political conflict?" studies." *World Politics* 41(04): 431-470.

Lupu, N., and J. Pontusson. 2011. "The structure of inequality and the politics of redistribution." *American Political Science Review* 105(02): 316-336.

Luttmer, Erzo. 2005. "Neighbors as negatives: Relative earnings and well-being*." Quarterly Journal of Economics* 120(3): 963-1002.

Meltzer, Alan H., & Scott F. Richard. 1981. "A rational theory of the size of government." *Journal of Political Economy*: 914-927.

Milesi-Ferretti, Gian-Maria, Roberto Perotti, and Massimo Rostagno. 2002. "Electoral Systems and Public Spending." *Quarterly Journal of Economics* 117: 609–657.

Muller, E. N., and M.A. Seligson. 1987. "Inequality and insurgency." *American Political Science Review*: 425-451.

Neckerman, Kathryn M., and Florencia Torche. 2007. "Inequality: Causes and consequences." *Annual Review of Sociology* 33: 335-357.

Norton, M. and Dan Ariely. 2011. "Building a better America—one wealth quintile at a time" *Perspectives on Psychological Science* 6: 9-12.

Oostendorp, Remco. 2012. "The Occupational Wages around the World (OWW) Database: Update for 1983-2008)." World Bank: World Development Report 2013 Background paper.

Osberg, L. and T. Smeeding. 2006. ""Fair" Inequality? Attitudes towards Pay Differentials: The United States in Comparative Perspective." *American Sociological Review* 71: 450-473.

Østby, G. 2013. "Inequality and political violence: A review of the literature." *International Area Studies Review* 16(2): 206-231.

Persson, T., and Tabellini, G. 1994a. “Does centralization increase the size of government?” *European Economic Review* 38(3): 765-773.

Persson, T. and G. Tabellini. 1994b. “Is Inequality Harmful for Growth?” *American Economic Review* 84: 600-621.

Pickering, A., and J. Rockey. 2011. “Ideology and the Growth of Government.” *Review of Economics and Statistics* 93(3): 907-919.

Piketty, Thomas. 1995. “Social Mobility and Redistributive Politics.” *Quarterly Journal of Economics* 110: 551–584.

Pop-Eleches, Grigore. 2009. “Economic Reference Group Salience in Post-Communist Eastern Europe: Causes and Consequences.” Princeton University: unpublished. *URL: https://www. princeton. edu/~ gpop/PC% 20ref% 20groups% 20GPE% 20Dec09. pdf, accessed on*, *11*, 2014.

Ravallion, Martin, and Michael Lokshin. 2000. "Who wants to redistribute? The tunnel effect in 1990s Russia." *Journal of Public Economics* 76(1): 87-104.

Solt, Frederick. 2008. “Economic inequality and democratic political engagement.” *American Journal of Political Science* 52(1): 48-60.

Solt, Frederick. 2009. “Standardizing the World Income Inequality Database." *Social Science Quarterly* 90(2): 231-242.

Solt, Frederick. 2011. “Diversionary nationalism: economic inequality and the formation of national pride.” *Journal of Politics* 73(03): 821-830.

Solt, Frederick. 2014. “The Standardized World Income Inequality Database." Working paper. SWIID Version 5.0, October 2014.

Tilly, Charles. 1978. *From Mobilization to Revolution.* Reading, MA: Addison-Wesley.

Van Ourti, T., and P. Clarke. 2011. “A simple correction to remove the bias of the Gini coefficient due to grouping.” *Review of Economics and Statistics* 93(3): 982-994.

Verme P. 2014. “Explaining the Gap Between Facts and Perceptions of Inequality.” *Inequality in Focus* 2(4): 5-8 (http://www.worldbank.org/content/dam/Worldbank/document/Poverty%20documents/inequality-in-focus-january2014-final.pdf).

Appendix

Table A1: Perceived Type of Society, 2009

	Type A: Steep pyramid: A small elite at the top, very few people in the middle and the great mass of people at the bottom.	**Type B: Regular pyramid:** A society like a pyramid with a small elite at the top, more people in the middle, and most at the bottom.	**Type C: Pyramid with few poor:** A pyramid except that just a few people are at the bottom.	**Type D: Diamond:** A society with most people in the middle.	**Type E: upside down type C:** Many people near the top, and only a few near the bottom.	**Can't Choose**	**No Answer**	**N**
Latvia	67.6	20.0	5.3	2.3	3.7	1.0	0.0	1,069
Ukraine	62.9	20.0	4.5	2.3	1.5	8.4	0.3	2,012
Bulgaria	59.5	25.9	5.0	3.0	0.5	5.8	0.3	1,000
Hungary	52.0	30.7	5.7	3.4	1.2	5.0	2.0	1,010
Croatia	51.4	25.8	5.8	4.9	1.7	9.9	0.6	1,201
South Africa	49.4	29.2	8.0	7.8	2.6	2.7	0.4	3,305
Argentina	44.7	35.3	9.2	6.9	1.9	2.1	0.0	1,133
Slovak	39.1	35.9	8.2	6.3	1.5	7.8	1.3	1,159
Turkey	36.0	32.3	10.8	8.0	2.9	2.9	7.1	1,569
Poland	34.4	30.7	12.9	11.9	3.5	6.5	0.1	1,263
Russia	34.3	31.2	11.0	7.7	3.0	12.9	0.0	1,603
Portugal	33.9	29.5	9.9	6.1	3.9	15.7	1.0	1,000
Italy	32.0	39.0	11.7	10.6	1.9	3.6	1.2	1,084
Philippines	31.6	38.9	11.1	10.0	6.4	2.0	0.0	1,200
Estonia	30.5	44.7	10.0	9.2	1.6	4.0	0.0	1,005
Venezuela	29.9	34.7	16.6	10.3	4.5	2.5	1.6	999
Czech Republic	28.2	34.3	17.6	13.7	2.2	4.0	0.0	1,205
Chile	23.2	45.9	12.7	12.6	2.7	2.6	0.3	1,505
Slovenia	23.0	27.4	23.7	10.7	2.4	9.5	3.4	1,065
China	21.1	45.9	12.7	14.0	3.3	3.0	0.0	3,010
South Korea	19.0	34.8	25.6	15.0	4.9	0.8	0.0	1,599
Taiwan	18.3	36.5	25.4	15.7	2.4	1.8	0.0	2,026
France	17.5	49.0	16.5	12.1	1.6	1.3	2.0	2,817
Israel	17.1	51.4	14.1	8.6	1.0	6.2	1.7	1,193
Germany	16.9	31.8	20.7	16.7	3.8	10.0	0.0	1,395
Spain	15.2	37.3	19.6	15.5	3.3	4.7	4.5	1,215
Austria	15.0	22.5	28.1	20.5	2.8	11.2	0.0	1,019
United	13.4	40.2	18.2	21.1	3.4	2.8	1.0	958
United States	12.3	29.3	10.8	19.6	2.1	23.5	2.5	1,581
Japan	10.0	34.9	23.9	18.1	3.6	8.9	0.5	1,296
Iceland	9.5	18.3	19.1	46.7	4.4	1.4	0.6	947
Belgium	7.0	31.6	20.8	29.8	2.8	5.9	2.2	1,115
Sweden	6.8	22.1	28.2	36.0	1.8	3.2	2.0	1,137
Australia	6.4	27.6	22.5	36.9	2.5	1.2	2.9	1,525
Switzerland	6.4	23.8	24.5	38.3	4.4	2.6	0.0	1,229
New Zealand	6.3	30.1	25.4	33.9	1.6	1.5	1.3	935
Finland	6.2	20.6	32.1	35.3	1.3	2.5	2.1	880
Cyprus	4.3	22.7	54.4	12.3	1.0	5.3	0.0	1,000
Norway	2.0	10.4	22.9	54.6	6.9	1.9	1.3	1,456
Denmark	1.5	10.1	24.2	55.8	3.4	3.2	1.8	1,518
Total	25.6	31.9	16.5	17.0	2.8	5.1	1.1	55,23

Source: ISSP 2009.

Table A2: Estimated actual average earnings (US dollars, 2009 or year close to it)

	Doctor (GP)	Chairman of large national company	Shop assistant	Unskilled factory worker	Cabinet minister
Australia		2,400,000 v			170,199 i
Austria					334,524 s
Bulgaria			3,306 b		
Cyprus	66,247 c		19,472 b	16,690 c	
Denmark	138,137 d		49,830 d	59,287 d	160,189 d
Finland					175,907 t
Germany	120,926 a	3,627,291 u			196,412 j
Hungary	17,159 c			7,099 c	
Iceland			27,980 c		88,800 k
New Zealand	68,202 p				167,639 m
Norway	114,277 h	1,700,000 v	48,076 h	51,320 h	210,000 l
Philippines	5,452 c			2,056 c	
South Africa		1,700,000 v			190,325 g
Sweden	88,154 e	1,771,889 u	36,863 e	34,980 e	169,412 f
UK	135,915 r	2,806,070 u	17,757 r	32,576 r	111,939 r
United States	168,550 n	5,266,950 u	24,630 n	28,840 n	199,700 o

Note: unless otherwise noted converted to dollars at average exchange rate for year (from WDI).

Sources:

a German Statistical Agency, for 2010: https://www.destatis.de/EN/FactsFigures/NationalEconomyEnvironment/EarningsLabourCosts/EarningsEarningsDifferences/Tables/Flyer_VSE2006.html

b average annual earnings for service and sales employees in wholesale, retail, and repair of motor vehicles in 2010, from Eurostat.

c OWW Database of World Bank for latest year from 2006 - 2008; See Remco Oostendorp, 2012, "The Occupational Wages around the World (OWW) Database: Update for 1983-2008)." World Development Report 2013 Background paper.

d Senior govt officials, central govt sector; medical doctors; shop sales assistants; manufacturing laborers; standardized monthly salary in DKK, 2010, from Statbank Denmark, http://www.statbank.dk/statbank5a/SelectVarVal/saveselections.asp

e directors and chief executives, private sector; medical doctors; shop salesperson; manufacturing labourers; from Statistics Sweden, for 2009, http://www.statistikdatabasen.scb.se

f: http://www.swedishwire.com/politics/364-swedish-ministers-gets-pay-raise

g http://www.iol.co.za/news/south-africa/salary-hikes-for-politicians-1.420367#.VKoo1HtbjsA

h from Statistics Norway, for 2009, physicians; elementary occupations in wholesale and retail; elementary occupations in manufacturing; https://www.ssb.no/statistikkbanken/selectvarval/saveselections.asp

i http://www.dailytelegraph.com.au/prime-minister-kevin-rudd-gives-mps-a-3-pay-rise/story-e6freuy9-1225779054052?nk=749a3e046eca9261ddecc253d64394ce

j as of early 2012, from http://www.thelocal.de/20120516/42579.

k for PM http://icelandreview.com/news/2009/05/12/no-government-salaries-exceed-pm, 2009

l 2010, PM; http://www.newsinenglish.no/2010/03/09/blasted-bureaucrats-earn-more-than-the-prime-minister/

m including expense account, http://www.legislation.govt.nz/regulation/public/2009/0340/latest/DLM2508218.html

n US Bureau of Labor Statistics for 2009, for unskilled factory worker "team assembler"; "retail salesperson"; http://www.bls.gov/oes/2009/may/oes_stru.htm

o from January 2010.

p OECD for 2008 (New Zealand 2007), http://www.oecd-ilibrary.org/sites/gov_glance-2011-en/06/02/index.html?contentType=%2Fns%2FChapter%2C%2Fns%2FStatisticalPublication&itemId=%2Fcontent%2Fchapter%2Fgov_glance-2011-32-en&mimeType=text%2Fhtml&containerItemId=%2Fcontent%2Fserial%2F22214399&accessItemIds=

r from Annual Survey of Hours and Earnings, 2010 (for 2009) Results, http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-210656; for cabinet ministers: "senior officials in national government".

s http://www.wien-konkret.at/politik/politikergehaelter/ from July 2008

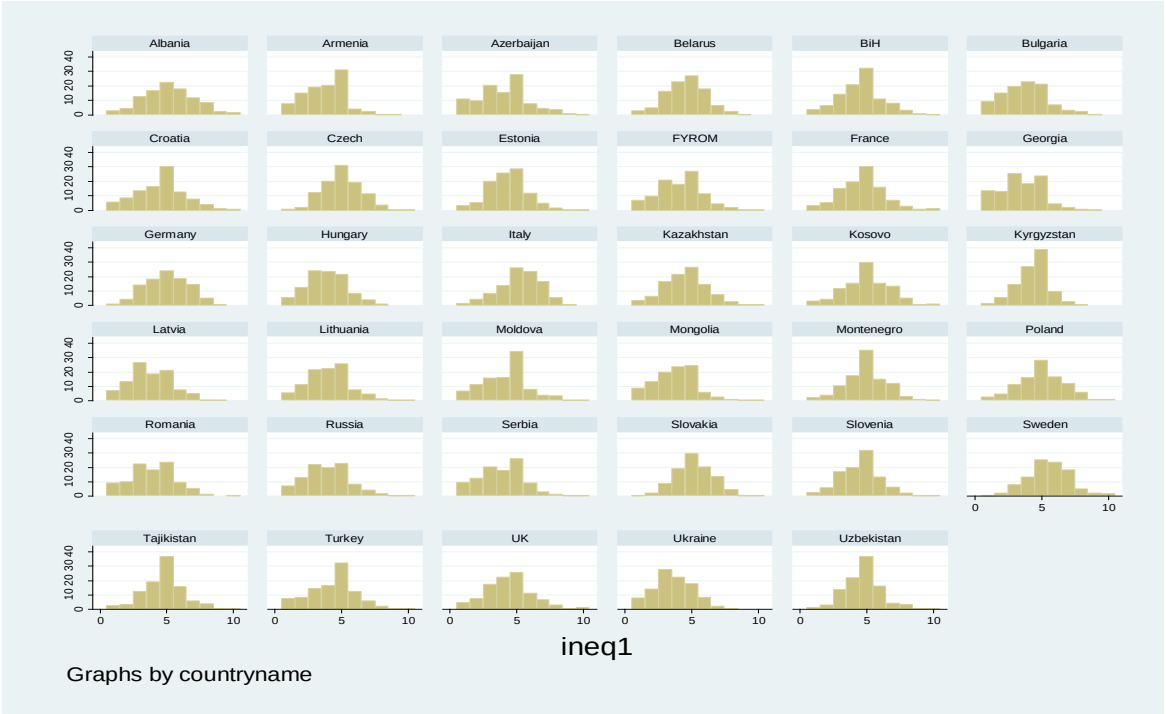
t for 2011, not including extra salary if member of parliament as well: http://valtioneuvosto.fi/tietoa-valtioneuvostosta/perustietoa/en.jsp

u Conyon et al. 2011, p.42, for 2008; converted from Euros at 1 E = $1.3919, end of 2008 rate quoted by Conyon et al.

v Fernandes et al. 2010, for 2006.

Figure A1: Respondents' Self-Placement into Income Deciles

A. LiTS 2010



B. WVS 2005-09

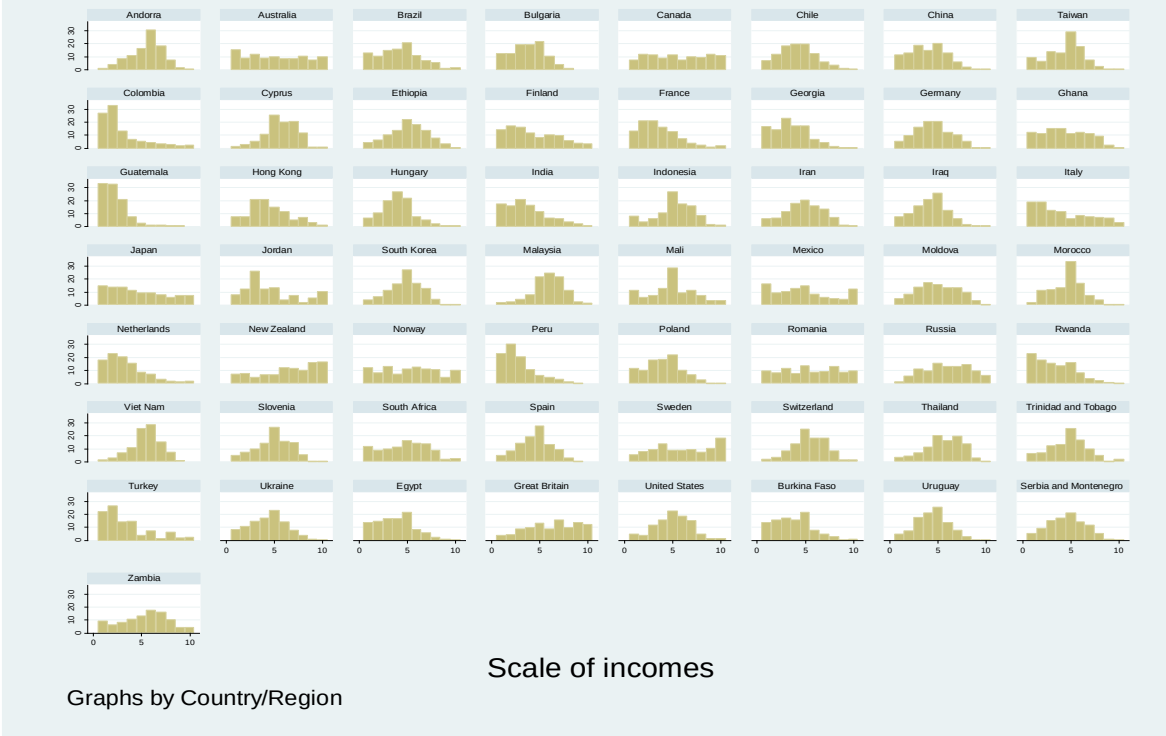


Table A3: Owners of second home *and* car, self-placement in the income distribution

	Percent that said someone in their household owned a secondary residence and a car (LiTS 2010)	*Percent of those reporting a car and a secondary residence who placed themselves in the following deciles:*										*Percent that put themselves in bottom half of income distribution*	*s.e.*
		lowest	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*highest*		
Albania	4	0	0	2	4	14	20	10	27	9	14	19	(6.3)
Armenia	3	0	4	3	26	45	11	10	0	3	0	76	(7.4)
Azerbaijan	1	0	0	8	8	45	13	9	18	0	0	60	(14.7)
Belarus	6	2	3	0	8	33	25	13	10	2	0	46	(6.4)
Bosnia-Herzegovina	4	0	0	6	11	42	9	19	14	0	0	59	(7.3)
Bulgaria	8	3	3	13	25	28	15	10	3	0	0	72	(4.9)
Croatia	16	1	4	8	15	31	21	11	7	2	1	58	(3.8)
Czech Republic	5	0	0	3	8	28	29	23	5	2	0	40	(6.6)
Estonia	11	1	5	16	32	22	18	4	1	0	0	77	(4.1)
France	10	0	0	6	11	26	26	15	8	2	3	42	(4.9)
Georgia	3	3	11	11	8	59	8	0	0	0	0	92	(5.4)
Germany	6	0	0	3	4	21	25	33	6	0	0	28	(6.2)
Great Britain	5	2	0	6	12	19	23	15	14	6	3	39	(5.5)
Hungary	2	5	4	8	9	34	16	20	5	0	0	59	(10.5)
Italy	13	0	0	1	9	30	27	18	11	1	0	41	(4.1)
Kazakhstan	2	0	0	5	0	37	24	10	15	10	0	42	(11.0)
Kosovo	6	0	0	5	11	33	26	9	10	3	3	49	(6.2)
Kyrgyzstan	3	0	10	4	6	43	18	4	15	0	0	63	(9.3)
Latvia	7	3	4	21	20	28	10	10	0	1	0	76	(4.3)
Lithuania	7	4	5	10	28	30	15	4	1	3	0	76	(5.0)
Macedonia	9	3	5	17	18	32	11	9	3	0	2	74	(4.7)
Moldova	2	3	4	24	9	25	12	18	3	0	0	66	(9.9)
Mongolia	9	4	10	17	14	39	5	5	1	0	1	83	(4.0)
Montenegro	12	0	1	3	5	31	16	24	12	7	1	39	(4.4)
Poland	3	0	6	5	14	24	17	21	9	0	2	49	(7.5)
Romania	6	4	4	7	15	30	15	20	5	0	0	60	(6.2)
Russia	3	7	2	12	21	30	8	13	4	0	0	72	(6.7)
Serbia	11	3	6	11	19	31	14	9	4	1	0	71	(3.6)
Slovakia	9	0	0	6	8	25	24	20	13	1	0	39	(5.2)
Slovenia	11	3	1	5	19	32	18	13	7	1	0	60	(4.6)
Sweden	23	0	3	6	11	19	25	24	8	4	1	39	(3.5)
Tajikistan	4	0	0	8	6	19	50	15	0	0	0	33	(7.9)
Turkey	4	3	0	11	0	33	28	13	9	1	3	46	(7.6)
Ukraine	2	0	8	20	15	25	14	11	2	0	0	68	(8.5)
Uzbekistan	2	0	0	4	19	43	2	9	23	0	0	66	(10.1)
Average	*7*	*1*	*3*	*8*	*13*	*31*	*18*	*13*	*8*	*2*	*1*	*57*	

Source: LiTS 2010

Table A4: Do people know how inequality is changing, 2013?

	Rich-poor gap increased	Rich-poor gap decreased	Rich-poor gap stayed same	Don't know or no answer	Actual change in Gini, 2007-12, % pts.	Right answer	Percent that got right answer
Argentina	57	15	24	4	-2.55	Decreased	15
Australia	64	4	25	7	-0.03	Same	25
Bolivia	32	26	37	4	-7.75	Decreased	26
Brazil	50	25	24	1	-1.49	Decreased	25
Britain	72	3	21	4	-0.04	Same	21
Canada	76	2	18	4	0.29 [a]	Same	18
Chile	51	13	34	2	-0.64 [a]	Same	34
China	69	17	9	4	2.02	Increased	69
Czech Rep.	82	2	15	2	-0.99	Same	15
El Salvador	38	17	43	2	-3.42	Decreased	17
France	81	3	16	0	1.48	Increased	81
Germany	88	1	11	0	-1.28	Decreased	1
Greece	88	3	8	1	4.63	Increased	88
Indonesia	60	10	29	1	4.60	Increased	60
Israel	81	2	13	4	-0.08 [a]	Same	13
Italy	88	3	8	1	0.25	Same	8
Malaysia	32	22	38	8	0.10	Same	38
Mexico	59	13	22	6	-0.34	Same	22
Nigeria	80	7	10	3	-0.97 [a]	Same	10
Pakistan	83	3	7	7	6.08 [a]	Increased	83
Philippines	66	9	24	1	0.16	Same	24
Poland	71	12	12	4	-2.09	Decreased	12
Russia	74	8	16	3	1.11 [a]	Increased	74
S. Africa	66	14	18	2	2.26 [a]	Increased	66
S. Korea	79	5	16	1	-0.23	Same	16
Senegal	69	12	16	4	2.59 [a]	Increased	69
Spain	90	3	7	0	6.49	Increased	90
Turkey	70	18	9	3	-1.01	Decreased	18
Uganda	75	13	5	7	2.54 [a]	Increased	75
United States	67	5	25	3	1.48	Increased	66
Venezuela	40	22	35	2	-3.55	Decreased	22
Egypt	53	9	32	7			
Ghana	69	10	17	4			
Japan	58	7	32	2			
Jordan	54	7	33	7			
Kenya	80	13	7	1			
Lebanon	87	2	11	1			
Palest. ter.	73	7	16	4			
Tunisia	71	12	15	2			
Mean: those with data for 2012					-0.16		34.6
Mean (all)	67.7	9.9	19.2	3.2	0.31		38.7

Source: Pew Global Attitudes Survey spring 2013, SWIID 5.0 dataset, authors' calculations.
Note: [a] change in Gini 2007-2011. Rich-poor gap coded as having "stayed the same" if the Gini changed by less than one percentage point. Figures calculated using pre-tax-and-transfer income Gini. Using *post*-tax-and-transfer income Gini, mean percent right is 34 percent using all countries and 33 percent using just those with data for 2012.

Table A5: Do people know how inequality is changing, 2002?

	Rich-poor gap "got worse"	Rich-poor gap "got better"	Rich-poor gap stayed same	Don't know/ refused	Actual change in Gini, 1996-2001, % pts.	Right answer	Percent that got right answer
Argentina	94	2	3	2	2.1	Worse	94
Britain	68	17	10	5	-1.6	Better	17
Bulgaria	86	5	5	4	0.1	Same	5
Canada	77	10	9	4	1.5	Worse	77
Czech Rep.	84	7	5	3	-2.1	Better	7
France	82	12	4	2	-1.7	Better	12
Germany	90	6	3	1	2.0	Worse	90
Ghana	61	9	26	3	3.4	Worse	61
Italy	64	12	23	2	-0.7	Same	23
Japan	56	16	24	3	5.4	Worse	56
Jordan	65	15	19	1	2.1	Worse	65
Kenya	85	12	3	0	-4.5	Better	12
Lebanon	84	9	6	2	n.a.	n.a.	
Mexico	63	15	20	2	0.8	Same	20
Pakistan	53	13	17	17	2.0	Worse	53
Peru	81	4	13	2	0.0	Same	13
Philippines	73	18	5	4	-0.2	Same	5
Poland	85	8	4	2	-5.4	Better	8
Russia	92	4	3	2	9.6	Worse	92
S. Africa	73	18	5	4	-0.5	Same	5
S. Korea	83	6	10	1	-2.8	Better	6
Slovakia	91	5	2	2	3.0	Worse	91
Tanzania	63	23	5	9	-1.3	Better	23
Turkey	86	8	4	2	-0.7	Same	4
Uganda	77	14	7	3	6.8	Worse	77
Ukraine	44	51	5	1	-7.7	Better	51
United States	67	15	12	6	-0.1	Same	12
Uzbekistan	88	8	3	1	-4.6	Better	8
Mean	75.5	12.2	9.1	3.2	0.2		36.6

Source: Pew Global Attitudes Survey summer 2002, SWIID 5.0 dataset, authors' calculations.
Note: Rich-poor gap coded as having "stayed the same" if the Gini changed by less than one percentage point.

Table A6: Poverty perceptions and support for government redistribution

	Dependent variable: Agreement or disagreement with statement that poverty in (OUR COUNTRY) is a problem that needs urgent action by the government							
	(A) Country level, OLS: average response				*(B) Individual level, ordered probit: 4 = "totally agree", 1= "totally disaree"*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Actual poverty rate (Eurostat, 2010)	.05*** (.01)		.02*** (.01)	.02*** (.01)	.08*** (.02)		.06*** (.01)	.05*** (.01)
Proportion that think 20% or more are poor		.01*** (.00)	.01*** (.00)	.01*** (.00)				
Respondent thinks that 20% or more are poor						.64*** (.06)	.57*** (.05)	.51*** (.04)
Ln GDP per capita				-.00 (.13)				-.31*** (.10)
Ln population				-.02 (.02)				-.01 (.04)
Constant	2.64*** (.19)	2.89*** (.10)	2.64*** (.11)	2.90*** (.64)				
N	27	27	27	27	26,232	26,232	26,232	25,865
R^2	.41	.67	.73	.74				
Pseudo R^2					.03	.04	.05	.06

Source: Eurobarometer 2010, Eurostat 2010. Penn World Tables 8.0 for GDP per capita, World Bank WDI for population.
Notes: Robust standard errors, clustered by country in panel B. Panel B also controls for gender, age, education, and marital status (not shown).

Table A7: Poverty perceptions and perceived class tension

	Dependent variable: Estimated degree of tension between poor and rich people							
	(A) Country level, OLS: average response				*(B) Individual level, ordered probit: 3 = "lot of tension", 1= "no tension"*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Actual poverty rate (Eurostat, 2010)	-.00 (.01)		-.04*** (.01)	-.03*** (.01)	-.01 (.02)		-.02 (.02)	-.04** (.02)
Percent that think 20% or more are poor		.68*** (.21)	.99*** (.15)	1.14*** (.19)				
Respondent thinks that 20% or more are poor						.45*** (.07)	.48*** (.07)	.41*** (.05)
Ln GDP per capita				.13 (.10)				-.39* (.23)
Ln population				.01 (.01)				.06 (.04)
Constant	2.22*** (.23)	1.82*** (.10)	2.22*** (.15)	1.60*** (.43)				
N	27	27	27	27	25,949	25,949	25,949	25,596
R^2	.00	.38	.59	.62				
Pseudo R^2					.00	.02	.02	.03

Source: Eurobarometer 2010, Eurostat 2010. Penn World Tables 8.0 for GDP per capita, World Bank WDI for population.
Notes: Robust standard errors, clustered by country in panel B. Panel B also controls for gender, age, education, and marital status (not shown).