Attitudes to Income Inequality: Experimental and Survey Evidence

Andrew E. Clark
(Paris School of Economics- CNRS)

Conchita D'Ambrosio
(Université du Luxembourg)

Handbook of Income Distribution, 2A

Chapter: 13

The original e-mail from Tony and François invited a chapter on "attitudes to inequality":

"*You should feel free to write as much, or as little, as the topic warrants*"

That's great!

We started off with a given: inequality surely matters to people.

Because everyone seems to think it does.

But there’s got to be more to it than that, right?

But what did they mean by **inequality**?
And what did they mean by **attitudes**?

Inequality

To answer the first question, we look at income inequality only, and consider this latter to refer to disparities in incomes between individuals (i.e. there is income inequality when some individuals receive different incomes than others).

As opposed to many of the other concept of well-being, inequality does not exist at the individual level: income inequality is rather measured only at the aggregate, often societal, level.

The key axiom in the measurement of inequality is the **Pigou-Dalton** principle of transfers, according to which inequality increases whenever a transfer of income from a poorer to a richer individual takes place.

Individuals actually live in the society in question: their own income forms part of the income distribution in which we are interested.

As such, any disparity in incomes will generate an effect at the individual level: inequality affects individual well-being also due to the fact that any disparities in income will directly impact on how much richer and poorer they are than others.

Attitudes

Individual attitudes to inequality are reactions to inequality.

To consider reactions, we are broadly going to distinguish between

- what people say (**survey evidence**), and
- what they are observed to do (**experimental evidence**).

The reference group

We organise our discussion of attitudes to income inequality by appealing to the notion of the reference group (RG): this is the **collection of individuals whose incomes are germane to me**.

The term RG was first used by **Hyman** (1942) in work on the evaluation of the **rankings** that individuals **assign to themselves**, and refers to the group or individuals to which or whom they compare themselves for the purpose of **self-appraisal**.

The term RG has subsequently been refined and expanded in numerous contributions across the social sciences, with various definitions of the term now being proposed.

The reference group

Kelley (1952) distinguishes between two roles that any such reference group can play, and hence proposes separate definitions of comparative and normative reference groups.

The comparative reference group

The comparative RG is in the spirit of the original interpretation by Hyman.

The reference group acts as the **standard of comparison for self-appraisal**: it is the comparison of the individual's own income to that of others in this reference group that yields status.

Income inequality in the comparative RG

Self-appraisal depends on comparisons to those richer and poorer to the individual, and thus to income inequality.

The normative reference group

The normative RG is the source of norms, attitudes and values of the individuals concerned.

Income inequality in the normative RG

Inequality in the normative reference group is dispassionate (in the sense that it is non-comparative), and is an evaluation which is independent of the individual's position in the distribution.

Can think of this as a "veil of ignorance" evaluation, or a normative opinion about the distribution of income in our own countries in the 19th century, even though we do not appear in that distribution.

Both groups can be further distinguished according to whether the individual in question ***is*** or ***is not a member*** of the reference group.

Reinterpreting Shibutani's (1955) proposed conception of the terms, a **comparative** RG is the point of comparison allowing the individual's **own status** to be calculated when the individual is **part** of the group (as in Hyman).

However, the individual need not (yet) be part of the reference group. When the individual is not part of the group, but aspires to be, the reference group acts as a **relative aspiration**, that is as the group of which the individual desires to be a member.

A normative RG is that whose perspectives constitute the frame of reference for the individual, and again a distinction between membership and non-membership can be effected.

In the latter case, individuals may adopt the behaviour of the group as a result of anticipatory socialization (see Merton and Kitt, 1950).

The structure of the chapter: attitudes to income inequality

Inequality

The reaction of an individual to income inequality (disparities in income) will depend on both the role assumed by:

- the reference group: Comparative/Normative
- her membership status in the group: Is/Is Not a member

Attitudes

- Survey evidence: what people say
- Experimental evidence: what people do

The comparative view

Here individuals are not indifferent to others, and compare to them in order to evaluate their own status in society.

An individual's perception of inequality may depend on where she stands in the income distribution.

Survey evidence

If the individual **is** a member of this reference group then higher incomes for others will reduce her well-being, while lower incomes have the opposite effect.

Alternatively, if she **is not** in the reference group, but aspires to be in, then higher incomes will have a positive effect on her well-being.

$U_i=U(x_i,x_{ref})$

Jukka: relative income concerns (if member)
Koen: SWB=F(many things)

Many papers on membership. E.g.: Luttmer (2005) US National Survey of Families and Households

TABLE I
BASELINE REGRESSION

Dependent variable: *Self-reported happiness*	(1) Baseline		(2) Only main respondent		(3) IV for own income	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
PUMA ln *earnings (predicted)*	−0.239**	0.066	−0.248**	0.083	−0.296**	0.076
ln *Household income*	0.123**	0.020	0.111**	0.024	0.361**	0.102
ln *Value of home*	0.068**	0.021	0.073**	0.025		

Clark (1996). BHPS (UK): very local comparisons

Log hourly pay: $\ln(HP_i)$	0.111	0.039	0.060
	(0.060)	(0.068)	(0.066)
Log Hours	-0.251	-0.246	-0.250
	(0.061)	(0.061)	(0.061)
Log spouse's	-0.121	-0.056	-0.047
hourly pay: $(\ln(HP_s))$	(0.044)	(0.052)	(0.059)
Dummy: $HP_i > HP_s$	---	0.171	---
		(0.074)	
Log spouse's hourly pay	---	---	-0.069
(when $HP_s > HP_i$)			(0.037)

Estimated only on couples where both partners are in work. Includes other standard control variables.

Others have replicated these broad findings with work on life satisfaction and local area average incomes: Ferrer-i-Carbonell for Germany, and Brodeur and Fleche for the US.

Some papers on non-membership. E.g. Senik (2004). RLMS (Russia)

A smaller number of recent papers have uncovered empirical results where some measure of individual well-being is **positively** correlated with reference group income or earnings: the more others earn, the *more satisfied* I am.

This finding has been interpreted as demonstrating **Hirschman's tunnel effect** (Hirschman and Rothschild, 1973): while others' good fortune might make me jealous, it may also provide information about my own future prospects.

Some papers on non-membership. E.g. Senik (2004). RLMS (Russia)

The distinction between **status (-)** and **signal (+)** **depends** on how likely you are to end up in the future with your reference group's current income, and thus on mobility.

$U_i=U(x_i,x_{ref})$

Status and Signal can coexist (D'Ambrosio and Frick, 2012).

Measures of inequality ($\mathbf{x}_{\mathbf{ref}}$): rank, relative income, per capita income, overall mean income, and sum of the income gaps with respect to richer and poorer individuals.

Let's focus on the latter, which are also used by experimentalists.

Deprivation

Each individual feels deprived only in comparison with others located at higher points of the income scale:

$$\begin{aligned} d_i(x) &= \left(x_j - x_i\right) && \text{if } x_i < x_j \\ &= 0 && \text{else} \end{aligned}$$

Deprivation

Total deprivation felt by an individual is:

$$D_i(x) = \sum_{j \in B_i(x)} \frac{x_j - x_i}{n}.$$

Deprivation, in the whole society, is the sum of these sentiments:

The Yitzhaki measure
which is equal to the Absolute Gini

Deprivation

Other measures have been proposed in the literature based on income share differentials (Chakravarty, 1997, Kakwani, 1984), known as mesures of **relative deprivation**. Kakwani introduces the relative deprivation curve. The area under the deprivation curve is the **Gini coefficient**, the index of relative deprivation.

$$\sum_{i} B_i(x) \qquad n$$

Deprivation, in the whole society, is the sum of these sentiments:

The Yitzhaki measure
which is equal to the Absolute Gini

Satisfaction

Each individual feels satisfied only in comparison with others located at lower points of the income scale:

$$S_i(x) = \sum_{j \in W_i(x)} \frac{x_i - x_j}{n}.$$

What about time?

Does individual well-being depend on the individual's history?

Does it depend on other individuals' histories?

Deprivation: Bossert and D'Ambrosio (BD, 2007)

BD modify Yitzhaki's index to take into account the part of deprivation generated by an agent's observation that others in it reference group move on to a higher level of income than himself.

The parameter reflects the relative weight given to these dynamic considerations, and the standard Yitzhaki index is obtained as a special case.

Relative deprivation of an individual in BD framework is determined by the interaction of two components:

1. the average gap between the individual's income and the incomes of all individuals richer than him (the traditional way of measuring individual deprivation);
2. a function of the number of people who were ranked below or equal in the previous-period distribution but are above the person under consideration in the current distribution.

BD use an axiomatic approach to derive classes of indices that capture these ideas.

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BD use ses of indices t

For all $(x^0, x^1) \in \mathbb{R}^{2n}_+$, where $\alpha \in [1, \infty)$ is a parameter,

$$D_i^{\alpha}(x^0, x^1) = \frac{\alpha^{|\text{number of people that passed}|}}{n} \sum_{j=i+1}^{n} (\overline{x}_j^1 - \overline{x}_i^1).$$

A Dynamic-Status-Concerned Utility Function

The focus of the income distribution literature has been on measuring (income) deprivation and satisfaction.

(Interdependent) preferences only appear implicitly in the previous literature, where **it is assumed that well-being of an individual depends negatively on relative deprivation and positively on relative satisfaction.**

Experimentalists, on the other hand, have proposed alternative specifications of utility functions and make use of interdependence in preferences to explain the behavior of subjects that repeatedly violate the game theoretical predictions.

Deprivation and satisfaction are very similar to the concepts of disadvantageous and advantageous inequality of Fehr and Schmidt's (1999) individual utility function, defined by:

$$U_i(y) = y_i + \alpha \frac{\sum_{j \in B_i(y)} (y_j - y_i)}{n} + \beta \frac{\sum_{j \in W_i(y)} (y_i - y_j)}{n},$$

where $\alpha \leq \beta \leq 0$ are parameters

Disadvantageous inequality / relative deprivation

Advantageous inequality / relative satisfaction

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Disadvantageous inequality / relative deprivation

Advantageous inequality / relative satisfaction

According to Fehr and Schmidt, individuals dislike inequitable distributions. "They experience inequity if they are worse off in material terms than the other players in the experiment, and they also feel inequity if they are better off. (...) (H)owever, we assume that, in general, subjects suffer more from inequity that is to their material disadvantage than from inequity that is to their material advantage."(Fehr and Schmidt, 1999, p.822.).

D’Ambrosio and Frick (2012) test FS and add concerns for history when making assumptions about individual utility.

D'Ambrosio and Frick (2012) test FS and add concerns for history when making assumptions about individual utility.

The functional form:

Well-being of an individual as measured by the **degree of personal satisfaction with respect to own income** depends at time *t* on four components.

i) The **absolute component**, that is, the standard of living of the individual at time *t*;

ii) the **relative component**, that is, the income of the individual compared to that of others at the same time *t*.

Both components have a **dynamic counterpart**:

iii) the **absolute dynamic component**, that is, how the individual performed in terms of **own income** from time $t - 1$ to time *t*;

iv) the **relative dynamic component**, that is, how the individual performed from $t - 1$ to *t* with respect to **others' incomes**.

The Utility Function

$$U_i^t(y^{t-1}, y^t) = \underbrace{\tau y_i^t}_{\text{i) Abs.}} + \underbrace{\vartheta \frac{y_i^t - y_i^{t-1}}{y_i^{t-1}}}_{\text{ii) Abs.Dyn.}} + \underbrace{\kappa \frac{\sum_{j \in BB_i(y^t)} (y_j^t - y_i^t)}{n\lambda(y^t)} + \chi \frac{\sum_{j \in WW_i(y^t)} (y_i^t - y_j^t)}{n\lambda(y^t)}}_{\text{iii) Rel.}} + \underbrace{\varepsilon \frac{\sum_{j \in WB_i(y^t)} (y_j^t - y_i^t)}{n\lambda(y^t)} + \eta \frac{\sum_{j \in BW_i(y^t)} (y_i^t - y_j^t)}{n\lambda(y^t)}}_{\text{iv) Rel.Dyn.}} \tag{7}$$

where $\tau, \vartheta, \kappa, \chi, \varepsilon, \eta$ are parameters indicating the weight on the individual's utility of alternative income specifications.

The Results: Ysat

ABS.	0.091**	0.055**	0.054**
	(0.004)	(0.006)	(0.006)
Deprivation	-0.877**	-	-
	(0.031)	-	-
Satisfaction	0.353**	-	-
	(0.018)	-	-
ABS. DYN.	-	0.437**	-
	-	(0.014)	-
ABS. DYN.: Positive % change	-	-	0.168**
	-	-	(0.020)
ABS. DYN.: Negative % change	-	-	-1.039**
	-	-	(0.035)
REL.: Deprivation	-	-1.151**	-1.126**
	-	(0.039)	(0.039)
REL. DYN.: Deprivation	-	0.659**	0.711**
	-	(0.114)	(0.114)
REL.: Satisfaction	-	0.462**	0.454**
	-	(0.022)	(0.022)
REL. DYN.: Satisfaction	-	-1.305**	-1.195**
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The absolute dynamic component has the expected signs, positive for those experiencing an income growth, negative otherwise. Losses have a greater effect than gains, confirming the presence of loss aversion.

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Germans are satisfied with respect to poorer individuals and feel deprived when compared to richer ones only when the comparison takes place with respect to individuals that are and were ahead or behind in both years (REL. deprivation and REL. satisfaction). Germans are interested in keeping their status: being still richer than the same individuals increases satisfaction and being still poorer has the reverse effect.

ABS.	0.091**	0.055**	0.054**
	(0.004)	(0.006)	(0.006)
Deprivation	-0.877**	-	-
	(0.031)	-	-
Satisfaction	0.353**	-	-
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The sign of the coefficients reverse for satisfaction with respect to passers and passees, indicating that signal has an additional role together with status. The comparision with those that are behind but were ahead in the previous period (REL. DYN satisfaction) has a negative effect on Germans' satisfaction with income or life. This fact can be interpreted as containing a negative information, signalling to the individual that he could be one of them tomorrow.

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For satisfaction with income, the coefficient of the relative dynamic deprivation component (REL. DYN. deprivation) is positive. Germans do not prove any feeling of deprivation with respect to individuals who have passed them, actually, being passed makes them more satisfied with their income. Being passed is seen as good auspice for future gains. For life satisfaction, the coefficient of the relative dynamic deprivation component (REL. DYN. deprivation) is not significant.

The separation of the relative income performance with respect to richer individuals in two components has the advantage of reconciling two views – status vs. signal - that were, so far, considered in opposition in the literature.

Both status and signal influence individual well-being.

Germans enjoy keeping their status, that is, being constantly richer increases income satisfaction and being constantly poorer has the opposite effect;

At the same time, the presence of newly richer and poorer individuals plays the informational role described in Hirschman's tunnel effect.

Experimental evidence

The experimental economics literature has modelled inequity or inequality aversion

(yesterday's relative income concerns).

The two terms are very often used as synonyms in the literature to refer to one single phenomenon: that "people resist inequitable outcomes; i.e. the fact that they are willing to give up some material payoff to move in the direction of more equitable outcomes" as Fehr and Schmidt (1999, p.819), to whom the definition of inequity aversion is due, put it.

Correct term is inequality aversion.

Fehr and Schmidt (FS, 1999) incorporate inequality in the individual utility function as all of the pairs of the differences between the individual's own income and others' incomes.

Bolton and Ockenfels (BO, 2000) propose an inequality-averse utility function which depends on the individual's own income and their share of the total income.

$$U_i(x) = U_i\left(x_i, \frac{x_i}{\sum_{j=1}^{n} x_j}\right)$$

In most experiments, these two models (FS and BO) yield similar predictions.

However, the predicted outcomes can differ for games where there are three or more players, since BO is not sensitive to all of the inequalities in payoffs.

In the **BO** formulation, individuals want the average payoff of others to be as **close** as possible to their own but do **not dislike the presence of richer and poorer individuals per se**; in FS, individuals dislike inequality in all of the outcomes.

The ultimatum game. Responders frequently reject offers that are under 25% of the total sum. The vast majority of offers are between 40% and 50% of the sum to be shared.

The dictator game. This yields distributions of income between the two players that are less egalitarian. Even so, positive amounts of money are still offered. The survey of 616 such experiments in Engel (2011) concludes that dictators give on average 28.35%.

Dynamic bargaining games.

Pareto inferior solutions are reached due to the players' inequality aversion. For example, it is found that a majority (51%) of bargaining partners will reject the unequal payoff distribution of (46, 75) in favour of the Pareto-inferior equal split of (45, 45).

Public-good game. Individuals do not contribute nothing (contribute an average of 40-60% of their endowment).

Money-burning. Zizzo and Oswald (2001) show a remarkable amount of destruction. Just under two-thirds of players burnt some money, and the average player had just shy of half their earnings burnt.

Results do change when no manna from heaven

One of the critiques of ia models and experiments to test them is that they often neglect the procedure which is behind the money to be allocated. Money appears here out of nowhere as ‘manna from heaven’.

In the majority of experiments, income is an allocation, so that having more than others is not seen as being deserved.

Results do change when no manna from heaven

However, in many real-world applications individuals likely believe that they earn more than others because they deserve to do so.

As might be imagined, when income is considered to reflect effort rather than luck the results do change.

Unequal offers are more likely to be accepted.

Results do change when bigger size of stakes

Inequality aversion is lower when the stakes are high.

See on this point the discussion in Eckel and Gintis (2010), who conclude that this fact does not refute the theory but is rather a proof of the rationality of subjects who take the costs of their behaviour into account.

Hypothetical preferences (e.g. Solnick and Hemenway,1998)

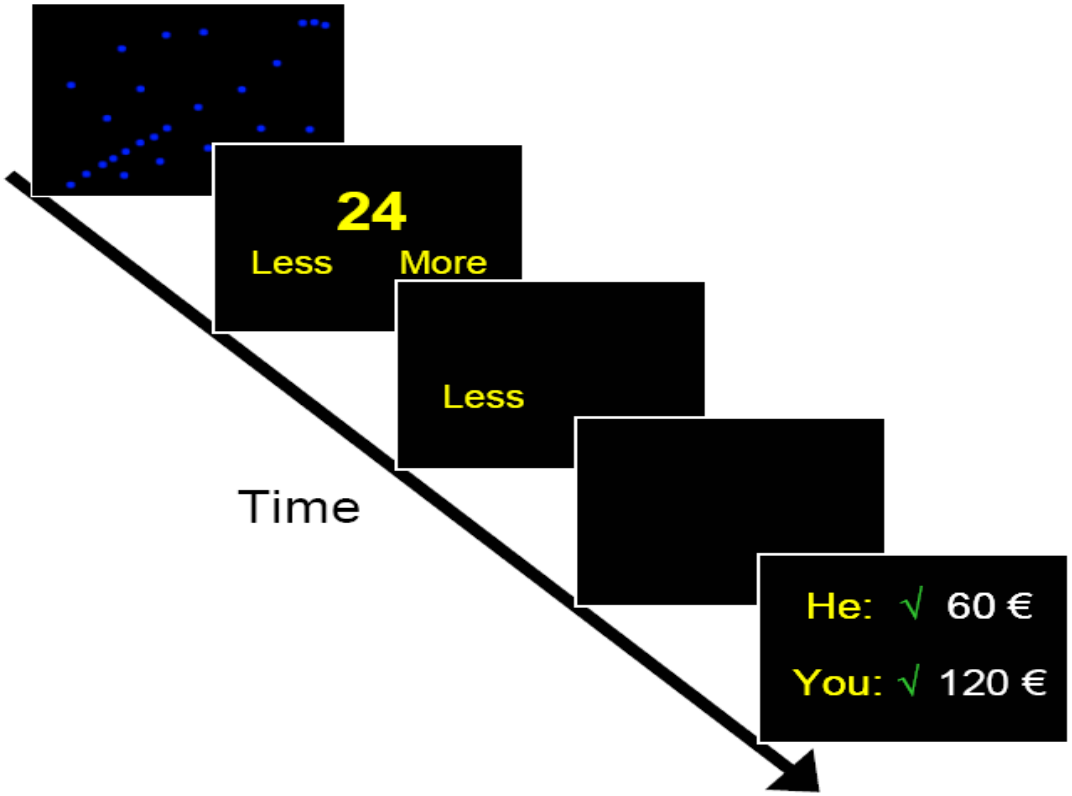
The approach here is to allow individuals to make choices over hypothetical states of the world in order to understand how important absolute and relative outcomes are to them.

- **A**: Your current yearly income is $50,000; others earn $25,000.
- **B**: Your current yearly income is $100,000; others earn $200,000.

Individuals have a marked preference for A over B.

Neuro Experiments: e.g. MRI Fließbach,

Weber, Trautner, Dohmen, Sunde, Elger, Falk, (2007)



Dots (1.5s)

Estimation (max. 1.5

Response Feedback
(250ms)

Delay (0.2-1.7s)

Reward Feedback
(4s)

Payoffs vary according to whether the individual gets the task right, and also randomly when the task is correct.

The results show that relative incomes matter.

Holding the subject's own earnings constant, the amount earned by the other player is significantly correlated with blood oxygenation level-dependent (BOLD) responses in the ventral striatum, one of the regions of the brain known to be involved in the processing of rewards.

Field experiments

Perhaps starting with Stouffer et al.

Card, Mas, Moretti, Saez (2012): revelation of information on peers' earnings. Inform a random subset of employees at three UC campuses about the site.

Survey some weeks later finds lower job satisfaction for those with pay below the reference group median and a greater intention to look for a new job. The effect on both for those who were relatively well-paid was insignificant. There is some evidence of an actual quitting effect.

Kuhn et al. (2011): Each week, the Dutch Postcode Lottery (PCL) randomly selects a postal code, and distributes cash and a new BMW to lottery participants in that code.

There are 430,000 postcodes in the Netherlands (around 20 households per code).

A winning participant wins €12,500 per ticket. In addition, one participating household in the winning postcode receives a new BMW.

Households in postcodes surveyed six months after the prize was won.

Post-lottery characteristic:	Non-winning postcodes		Winning postcodes	
	(1) Participants	(2) Non-participants	(3) Participants	(4) Non-participants
Monthly expenditures: (euro, at the survey date)				
Food at home	464.91	471.40	494.55	450.26
Food away from home	83.64***	97.87	124.50***	89.67
Transportation	189.89	192.34	213.87	211.81
Other monthly	254.50**	255.32	335.72**	279.53
Total monthly[1]	995.12**	1002.48	1180.88**	1025.55
Car variables (non-BMW winners only):				
Acquired car since lottery date? [4]	0.156	0.173**	0.170	0.236**
Number of cars (up to 2)	1.203	0.929***	1.212	1.023***

PCL nonparticipants who live next door to winners have significantly higher levels of car consumption than other nonparticipants

The normative approach

Evaluation of the overall degree of income inequality in the reference group, *without* making any comparisons to others.

Survey evidence

Inequality and well-being

There are many equations estimated such as:

$$W_{ijt} = \alpha + \beta Y_{it} + \gamma Ineq_{jt} + \varepsilon_{it}. \qquad (3)$$

Ineq here is almost always Gini.

Table 1 provides a representative sample of estimation results for γ above.

There are 27 rows:

- In 14 γ is < 0
- In 5 it is > 0
- In 6 it is = 0
- In one we don't know
- And in the last, it is both positive and negative.

Probably fair to say that this is inconclusive.

Experimental attitudes to inequality

The experimental economics contributions to inequality aversion from the more aggregate perspective have appealed to two different approaches:

1) inequality and risk aversion with a parametric social welfare function;

2) general social welfare functions.

Experimental attitudes to inequality

1) In inequality and risk aversion with a parametric social welfare function two types of experiments have been run.

The first is similar to that adopted in the experiments on status or relative income that is the choice between alternative societies with different income distributions behind the veil of ignorance (the "*hypothetical grandchild*").

The second is based on the leaky-bucket experiment.

An individual's relative risk aversion is interpreted as the social-inequality aversion from a utilitarian social welfare function's perspective, following Atkinson's (1970).

This aversion is evaluated using an imaginary grandchild example: Respondents were asked to consider the well-being of their imaginary grandchild in alternative societies which are characterized by different uniform income distributions.

Their task was then to choose the alternative that would be in the best interests of this grandchild.

Respondents were also told that they **did not know their grandchild's position** in the income distribution, and that they should place equal probability on all outcomes.

This experiment yields a measure of (relative risk) inequality aversion, measured as the amount the society is willing to give up in order to bring about a more egalitarian distribution of income.

The aversion to inequality is reflected in the concavity of the social welfare function: the more convex is the overall social indifference curve, the more averse the society is to inequality (with a value of zero corresponding to inequality-neutrality).

The more inequality-averse the individual is, the more they are willing to trade-off expected income in order to achieve a more equal income distribution.

The median value of inequality aversion in these experiments is in the interval between **two** and **three**.

Amiel, Creedy, Hurn (1999) belongs to the second type of experiment in method 1), in which social inequality aversion is estimated via the leaky-bucket experiment.

A sample of students were asked to indicate the amount of 'lost money' that they were willing to accept for a transfer of money from a richer to a poorer individual, loss due to administrative costs.

The median value of inequality aversion was estimated to be between **0.1** and **0.22**, which is much lower than the existing estimates from hypothetical grandchildren.

However, the circumstances of the two experiments are very different, making a clear comparison of the results rather difficult.

Also Pirttilä, Uusitalo, (2008).

2) general social welfare functions.

In the income-distribution literature the indices that are deemed appropriate to measure inequality are those which conform to the Lorenz dominance criterion.

These indices fulfill four basic axioms: scale invariance, symmetry, the population principle and the Pigou-Dalton transfer principle.

The first three properties are commonly assumed in the majority of indices of well-being; only the principle of transfers is at the heart of inequality measurement.

Attitudes towards inequality have been interpreted by some authors as the **reaction of the general public to these four basic properties**.

These are the contributions of group 2), where a general social welfare function is assumed without any a priori functional form.

The main question that these authors try to answer is what inequality seems to be for the general public and whether these four basic axioms are reflected in individuals' views.

The seminal book is this area is Amiel and Cowell (1999). Given that the defining concept for inequality measurement is the Pigou-Dalton transfer principle, we discuss only those experimental results which cover this aspect of inequality.

Amiel and Cowell (1999) report that the majority of the respondents reject the transfer principle when it is presented to them as a numerical problem. However, when the question is explained verbally a much larger proportion, around 60% of the sample, agree with it.

Notes.

Is the Gini the "best" measure of the distribution for the normative evaluation? Gini moves relatively little over time, making multicollinearity a distinct possibility in cross-country work.

Others are possible, such as the income share of the top quintile, D9/D1, p95/p50, the percentage in poverty, or even rank in the income distribution.

Ebert and Welsch (2009) is relatively unusual in comparing the fit of different distribution measures, in explaining life satisfaction, and concluding that "*the overall degree of inequality aversion is larger than that implied by the standard measures applied in empirical analysis*"

Notes.

Fairness.

Above measures of income are objective: they measure what others in the society actually earn. This is of course not necessarily what individuals believe that others earn.

ISSP question:

"*We would like to know what you think people in these jobs actually earn. Please write in how much you think they usually earn each year, before taxes. (Many people are not exactly sure about this, but your best guess will be close enough. This may be difficult, but it is important, so please try.). First, about how much do you think a bricklayer earns?*"

And then: what these individuals should earn each year before taxes, regardless of what they do actually receive.

Asked for a bricklayer, Doctor in general practice, bank clerk, an owner of a small shop, the chairman of a large national company, a skilled worker in a factory, a farm worker, a secretary, a city bus driver, an unskilled factory worker, and a cabinet minister in a national government

.

Can use these to create a subjective (individual-level) measure of the fairness of the income distribution. Take top and bottom occupations:

Legitimate Inequality = ln[(PIMD/Plunskilled)/(JIMD/Jlunskilled)]

Legitimate inequality > 0 for those who believe income gaps should be smaller.

For example, Schneider finds an average value of the first term in the square brackets of around 644, and the average value of $JI_{MD}/JI_{unskilled}$ just over 300. This yields a value of legitimate inequality of around 0.75. LI is negatively correlated with life satisfaction.

Osberg and Smeeding (2006) use the entire set of individual responses to calculate the perceived and just Gini. Most people are in favour of some levelling of incomes, while almost no-one believes that all incomes should be the same. On average, the ratio of the Gini coefficients is 0.75. In some countries, such as the US and Japan, this figure is around 0.8, in others such as Spain and Sweden it is under 0.7.

Perceptions of the fairness of the income distribution affect the relationship between income inequality and life satisfaction.

They also affect behaviour in the lab (decisions depend on whether income is earned or allocated).

The "*manna from heaven*" aspect of much of income in laboratory experiments may make them less good predictors of behaviour in the real world, where income is earned.

Notes.

Preferences for redistribution

If we want to know about individuals' attitudes regarding income inequality, why don't we just ask them if they want less of it?

Key predictions here regarding individuals' positions in the income distribution, both now and what they expect in the future (POUM).

Empirically, both current income and predicted or experienced mobility do predict the individual's desire to redistribute income.

Alesina *et al*. (2004) show that the effect of inequality on happiness is larger in value in Europe than in the USA: because of greater perceived social mobility in the USA than in Europe

Fairness plays a role here too. Those who believe that income is due to hard work (or that the poor are lazy) are less willing to redistribute.

And the actual inequality does increase the desire to redistribute.

Notes.

Other outcome measures. We have looked at swb and the desire to redistribute.

Other intriguing work has highlighted significant empirical correlations between (almost always) the Gini coefficient and:

- Agreeableness (Big Five): -
- Violent behaviour: +
- Self-enhancement: +
- Female Preferences for facial masculinity: +
- Trust: -
- Political Participation: -
- Support for globalisation: -

It should be noted that causality is often lacking in this literature.

End of lecture but much more in the chapter!