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by Eva Camacho-Cuena and Christian Seidl

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Eva Camacho-Cuena and Christian Seidl

Abstract

Using an experiment with material incentives, this paper investigates the violation of Lorenz relations in the case of dominant and single–crossing Lorenz curves. Our experimental design consists of two treatments: an income distribution treatment and a lottery treatment. Both treatments were conducted in Italy and Spain. In each treatment, subjects were asked to judge ten multiple–outcome lotteries or ten n–dimensional income distributions in terms of both ratings and valuations. This $2 \times 2 \times 2$ experimental design, allows us to investigate the response–mode (rating versus valuation) and framing (lotteries versus income distributions) effects in subjects' perceptions concerning the two types of Lorenz relations. We found the existence of a marked response–mode effect, as only the ratings of the lotteries and income distributions confirm both Lorenz relations, whereas the valuations violate them. The framing effect is significant only for the Spanish data. For this data the sign of the framing effect depends on the type of the Lorenz relation considered. For crossing Lorenz curves, a higher conformity corresponds to the lottery frame, for Lorenz dominance a higher conformity corresponds to the income distribution frame.

Keywords: Income Distributions, Lotteries, Lorenz Curves, Inequality and Risk Aversion, Response–Mode Effects.

JEL Number: C91, D31, D63, D81.

1 Introduction

Consider two distributions of payoffs, say x and y with the *same mean*, μ, where the probability mass of x is concentrated on the higher payoffs, while the probability mass of y is concentrated on the lower payoffs. Therefore, x provides a high payoff with a high probability, and a low payoff with a low probability, whereas y provides a low payoff with a high probability and a high payoff with a low probability. In this case, the Lorenz curve of x, $\mathrm{L}(x)$, will, in most cases, either dominate or cut the Lorenz curve of y, $\mathrm{L}(y)$, from below.

There are several methods to elicit preferences between two different distributions of payoffs: choices, ratings and valuations. The choice method refers to the observation of subjects' choices when they are asked to choose the more preferred one from a pair of different distributions of payoffs. Under the rating method, subjects are asked to rate distributions on a point scale. Under the valuation method, subjects are asked for their monetary values assigned to the distributions.[1] Traditional economic reasoning rules out response–mode effects, that is, subjects are assumed to express the same preferences irrespective of which mode of preference elicitation is applied.

Moreover, when studying subjects' perception of Lorenz dominance, there are different frames to present to them the different distributions of payoffs. We will consider here two of them: lotteries[2] and income distributions. In the case a distribution of payoffs is presented as a lottery, the payoffs represent the different prizes, whereas, when presented as an income distribution, the payoffs represent the different income levels. Both frames are of outstanding economic significance. Traditional economic considerations would assume that, in the case of the lotteries, risk averse subjects would prefer x to y, and, in the case of income distributions, inequality averse subjects would prefer to become a member in a society in which income distribution x obtains rather than in a society in which income distribution y obtains (provided that the subjects have to make their choices under a veil of ignorance regarding their income level in a particular society).

In this paper, we investigate the response–mode effects in subjects' perceptions with respect to Lorenz dominance and single–crossing Lorenz curves. The experimental design used consisted of two treatments. In the first treatment we presented to the subjects ten multiple–outcome lotteries, and in the second treatment ten n–dimensional income distributions whose entries corresponded exactly to the entries in the lotteries. In order to test whether response–mode effects affect the perception of the Lorenz relationships, subjects were asked in each treatment to judge each particular lottery or income distribution in terms of ratings and in terms of valuations. In both treatments we used material incentives. This paper is a follow–up work of a study on preference reversals between lotteries and income distributions (Camacho et al. (2004)). We use the data collected in this experimental study to investigate subjects' perceptions with respect to Lorenz dominance and single–crossing Lorenz curves.

In Section 2 we describe the experimental design. In Section 3 we report our results, and, finally, in Section 4 we summarize the main findings of our study.

2 The Experiment

The experiment was conducted at the ESSE laboratory at the University of Bari in Italy, as well as at the LEE laboratory at the University Jaume I in Castellón, Spain. Subjects were volunteers recruited from students in different departments at these universities.

The experimental design consisted of two treatments, one concerning ten lotteries, and the other one concerning ten income distributions. Each treatment encompassed two parts, a rating part, and a valuation part, and in every experimental session only one of the treatments was applied. We conducted a total of 21 sessions that lasted about 1 hour each. Because of obviously absurd statements, we had to eliminate the data of 3 subjects. This left us the Italian data of 52 subjects for the lottery treatment and of 56 subjects for the income distribution treatment. The Spanish data come from 51 subjects for the lottery treatment and from 50 subjects for the income distribution treatment. In order to prevent anchor effects, each subject was admitted to only one treatment and one experimental session.

We conducted the experiments before the introduction of the euro at the end of the year 2001. In this way we avoid possible money illusion effects and transitory effects due to the subjects' being poorly acquainted with a new currency. For the sake of comparability, however, in this paper we present all figures and tables in terms of euros.

For the presentation of lotteries and income distributions we checked several formats, and found the format based on the design used by Lopes (1984, 1987) and Schneider and Lopes (1986) to convey best the messages contained in the multiple–dimensional lotteries and income distributions of our experiment. The format used for the sessions conducted in Italy is displayed in Figures 1, 2, and 3. Each lottery and income distribution had the same expected value of approximately €1,800, save for differences in rates of exchange and rounding errors in order to secure decent numbers in terms of the local currencies.[3] The distributions in Figure 1 are negatively skewed, the distributions in Figure 2 are positively skewed, and the distributions in Figure 3 are unimodal, rectangular, and bimodal. The ordering of the distributions in Figures 1 to 3 was adopted for the presentation of the results in this paper. The ordering of their presentation for the Italian subjects is shown in square brackets. The ordering for the Spanish subjects was exactly opposite to the ordering for the Italian subjects.[4] The exact parameters of the distributions (mean, standard deviation, skewness, kurtosis,[5] minimum, maximum, range, and Gini coefficient) are shown in Table 1.

Insert Figures 1, 2 and 3 about here

Insert Table 1 about here

The lotteries and income distributions can be arranged as Lorenz curves. Two Lorenz curves either intersect or one dominates the other. We show the types of Lorenz relations of our experimental design in Figure 4: An increasing arrow means that the Lorenz curve of the lottery or income distribution in a row cuts the Lorenz curve of the lottery or income distribution in the corresponding column from below, where intersections within two percentage points from the lower and the upper bounds were ignored. A horizontal arrow means that the Lorenz curve of the lottery or income distribution in a row dominates the Lorenz curve of the lottery or income distribution in the corresponding column. A tilde means that parts of the corresponding Lorenz curves coincide.

Insert Figure 4 about here

In each session, the subjects were arranged in groups of about ten. At the beginning of the session, the subjects were asked to read carefully the instructions and the payment regulations. To make sure that they had properly understood the instructions,[6] we required that subjects pass a test before starting with the experiment. The test consisted of ten multiple–choice questions, which could be easily answered by any subject who had carefully read the instructions.[7] Subjects were informed that for each incorrectly answered question they had to face a 10% cut of their final payoff from the experiment. If they answered 5 or more questions incorrectly, they were excluded from any payoff.[8]

Recall that we applied two treatments: a lottery treatment and an income distribution treatment. Within each treatment, the subjects were given two booklets, both depicting either 10 lotteries or 10 income distributions, as shown in Figures 1 to 3.

Let us first consider the lottery treatment. The lottery prizes were arranged in terms of 100 tally marks. Subjects were told that each tally mark, depicted in the lottery figures in the booklets, represented exactly one ticket equal in value to the amount listed on the left hand side of the lottery figure. For instance, in Lottery 1 there were 31 tickets bearing the prize "€2,582.28", 22 tickets bearing the prize "€2,065.83", etc. These prizes were paid in tokens. The subjects had an equal chance to draw one of the 100 tickets in a particular lottery. The subjects were asked to state on a 20–point rating scale their degree of happiness (1 means very unhappy, 20 means very happy) to play a particular lottery, in the first booklet. In the second booklet, they were asked to state their *certainty equivalents* (CEs for short) of the ten lotteries as selling prices. The CEs were elicited by way of the Becker–DeGroot–Marschak (BDM) incentive scheme.[9]

The payment to subjects ran as follows: Concerning the first booklet, exactly two out of the ten lotteries were randomly selected for each subject, and the higher rated lottery[10] was played out and constituted one source of tokens. Concerning the second booklet, one out of the ten lotteries was randomly selected and constituted the second source of tokens stemming from the application of the BDM incentive scheme. A subject's total tokens were the sum of the two token sources. Thus, although a subject's total of tokens came only, in effect, from two lotteries, each subject had an incentive to reveal his or her true preferences and CEs because each lottery had an equal chance of being selected and becoming the source of a subject's payoff.

The income distribution treatment differed only in minor points from the lottery treatment. The subjects were told that each income distribution represented a population of 100 million income earners, and that each tally mark in a distribution represented exactly 1 million income earners.[11] The figures represented monthly disposable incomes because the subjects were more accustomed to monthly salaries in Italy and Spain. The subjects were asked to imagine that they had an equal chance to become one of the 100 million income earners in this population, but they would not know ex ante what their precise income will be in this population. All they would know was the distribution of monthly incomes. They were then asked to state on a 20–point rating scale their degree of happiness about becoming a member of a population characterized by a particular income distribution. The rating scale ranged from 1 (very unhappy) to 20 (very happy).

Thereafter, subjects were asked to imagine that they could alternatively become a member of a population in which all income earners had the *same* monthly income. This income has been termed the *equally distributed equal income* (EDE for short) by the profession. They were invited to indicate the level of income at which they would be *indifferent* between the respective income distribution and the alternative in which each income earner received the same income, viz. the EDE.

In contrast to the lottery treatment, the subjects were informed in the income distribution treatment, that income distributions had to obtain for the group as a whole. Therefore, *one participant* in the group would be randomly selected, and, for this particular person, two income distributions would then be randomly selected. The higher rated income distribution would become the group's income distribution, and all the subjects in this group would be given tokens from independent draws according to this income distribution. Thereby, every subject had to assume responsibility for the income distribution of the whole group.[12] This constituted the first source of a subject's tokens. The second source of a subject's tokens stemmed from the application of the BDM incentive scheme to each subject's statement about the EDE for the selected income distribution. For this income distribution, a number was drawn from a uniform distribution defined on the support of the group's income distribution; if the number drawn was less than the stated EDE, then a draw of a new income level according to the group's income distribution was made; if the number drawn was greater than or equal to the stated EDE, then the subject was given tokens amounting to the number drawn. A subject's total tokens was then the sum of the two token sources. Notice that every subject had the same chance to become a random dictator. Thus, each subject had an incentive to reveal his or her true preferences and EDEs because he or she had a one–in–ten chance to decide for the whole group.

In both treatments, final payoffs (in lire or pesetas) were computed by dividing the total number of a subject's tokens by 500. The subjects received a mean payoff of about €6.50.

3 Results

When screening the data, we noticed that subjects made different use of the 20–point rating scale. Some dwelled more on the lower end, some on the upper end, and some on the extremes. To avoid assigning different weights to the subjects, we calibrated the rating scales, assigning a 1 to the lowest rated lottery or income distribution, and a 10 to the highest rated lottery or income distribution according to the formula:

$$r_i = 1 + [R_i - \min_j\{R_j\}] \frac{9}{\max_j\{R_j\} - \min_j\{R_j\}} \,,$$

where the R_i's denote the noncalibrated and the r_i's the calibrated ratings.

Recall that all our experimental lotteries and income distributions have the same mean. Then, for nonintersecting Lorenz curves, risk averse (inequality averse) subjects should prefer the lottery (income distribution) whose Lorenz curve is closer to the diagonal.[13] Risk loving (inequality loving) subjects, should prefer the lottery (income distribution) whose Lorenz curve is farther away from the diagonal (see Lopes (1984), p. 475).

What about intersecting Lorenz curves of two lotteries or income distributions with the same mean? Suppose that the Lorenz curve associated with x, $\mathrm{L}(x)$, cuts the Lorenz curve associated with y, $\mathrm{L}(y)$, from below. Then risk averse or inequality averse subjects, who want to avoid the risk of a relatively low prize or income level, should prefer the lottery or income distribution x, whose associated Lorenz curve is farther away from to the diagonal at the lower end, whereas risk loving or inequality loving subjects, who appreciate the chance of a relatively high prize or income level, should prefer the lottery or income distribution y, whose associated Lorenz curve is farther away from the diagonal at the upper end (See Lopes (1987), p. 270).

If response–mode effect were absent, then subjects should state their preferences according to their risk and inequality attitudes, irrespective of the mode used to elicit their preferences: ratings or valuations. This does not deny that subjects' responses may be affected by a framing effect, in that they exhibit different preferences for particular distributional shapes when they are framed one time as a lottery and the other time as an income distribution. For instance, a particular subject may, at the same time, be risk loving when dealing with lotteries and inequality averse when dealing with income distributions. Within a particular frame, however, subjects should state the same preferences, irrespective of the elicitation mode applied, if response–mode effects were absent.

Our experimental design allows us to study both sides of the medal: the framing effect and the response–mode effect. The former is related to systematic differences between the perception of lotteries and identically shaped income distributions. The later is related to the fact that the elicitation mode of subjects' preferences matters within a given frame. When response–mode effects matter, Lorenz–dominance or single–crossing Lorenz curves would be bad proxies for subjects' preferences because their articulation depends on the elicitation mode applied.[14]

Table 2 provides a summary statistics of the subjects' responses. These data provide the basis for studying the mean conformity with the Lorenz relations.

Insert Table 2 about here

3.1 Mean Conformity with the Lorenz Relations

Based on the data shown in Table 2, Table 3 shows the conformity rates of subjects' mean responses with the Lorenz relations as shown in Figure 4.

Insert Table 3 about here

The entries in Table 3 represent the rates of conformity with the different Lorenz relations that result from the comparison of the ten lotteries or income distributions used as stimulus material in our experimental design as displayed in Figure 4.

In Table 3, the rate of conformity is provided for the two types of Lorenz relations: Lorenz dominance and Lorenz cutting from below, and for the two elicitation modes used: rating and valuations. The entries in Table 3 show the percentages of Lorenz relations confirmed according to Table 2. The number of Lorenz relations confirmed refer to the total number of Lorenz relations according to Figure 4: 32 Lorenz dominance relations and 13 crossing Lorenz curves relations, which amounts a total of 45 Lorenz relations. For instance, the entry 92.3% in the cell "Lotteries/Cutting Lorenz Curves/Ratings/Italy" means that 12 out of the 13 crossing Lorenz curves relations displayed in Figure 4 are confirmed according to the mean responses in Table 2 for the Italian data on lottery ratings. The entries under "All cases" refer to the confirmation rate regarding all 45 Lorenz relations included in Figure 4.

The inverse mirror–image of the first two and the second two columns in Table 3 constitutes a strong evidence of a response–mode effect regarding average responses. Note that, for the rating elicitation mode, the subjects' stated preferences confirm the large majority of Lorenz relations, whereas, for the valuation elicitation mode, we find widespread violation of the Lorenz relations as displayed in Figure 4.

As concerns ratings, the conformity rates of the mean lottery ratings are higher in the case of crossing Lorenz curves than in the case of Lorenz dominance. This means that subjects prefer those lotteries in which the probability of the higher prizes is higher. For dominating Lorenz curves, a conformity rate of 62.5% and 68.7% for the Italian and Spanish data, respectively, again confirms risk aversion, but in a lower degree. Regarding the income distribution ratings, the conformity rates for crossing Lorenz curves are again 100% for the Spanish data but only 76.9% for the Italian data, which means less mean inequality aversion of the Italian subjects. The availability of very high incomes seems to outweigh their small probability in about a quarter of cases for the Italian subjects. For dominating Lorenz curves, inequality aversion considerably exceeds risk aversion for the lottery domain.

As concerns valuations, the conformity rates for lotteries (income distributions) are at rather low levels: 11.1% and 15.6% (8.9% and 15.6%) for the Italian and Spanish data, respectively. Inspecting Figures 1, 2 and 3 we can conclude that the subjects are captured by the top prizes or income levels when valuating a particular lottery or income distribution. This shows that risk attitudes and inequality preferences are largely affected by response–mode effects: In the rating mode, subjects' preferences are more affected by risk and inequality aversion, whereas, in the valuation mode, subjects' preferences seem to be more affected by risk and inequality sympathy. This reflects a greater influence of the top prizes or incomes levels due to the compatibility hypothesis.[15] It predicts that subjects would pay more attention to the most spectacular (i.e., top) prizes or incomes in the valuation of lotteries or income distributions as compared to the rating mode, for which the probability is more compatible.

3.2 Individual Conformity with the Lorenz Relations

Conformity with the Lorenz relations can also be analyzed in terms of individual ratings and valuations. In this sub–section we look at each subject's 45 pairwise comparisons of lotteries and income distributions.

In Table 4 we present a summary statistics of the conformity rate with Lorenz relations.

This conformity rate is computed, for each one of the 45 pairwise comparisons, as the mean percentage of subjects whose responses conform with the Lorenz relations.

Insert Table 4 about here

Although the results are less pronounced than with the mean ratings and valuations, the main results are confirmed.

As far as the response-mode effect is concerned, the majority of ratings conforms with the Lorenz relations, whereas the majority of valuations violates them.[16] A Wilcoxon signed ranks test shows that the differences in the conformity rates between the rating and valuation modes are statistically significant.

As concerns ratings, Lorenz dominance is again more frequently confirmed for the income distributions[17] than for the lotteries. This demonstrates greater inequality aversion than risk aversion for Lorenz dominance. In contrast to that, the rating of Lorenz curves, which cut others from below, conforms less frequently for income distributions than for lotteries. This shows that, in this case, fewer subjects exhibit inequality aversion as compared to those who exhibit risk aversion.

As concerns valuations, the mirror image of the results concerning the ratings is also reflected in the individual data: the valuation rates of lotteries and income distributions which conform with the Lorenz relations are down by one fifth to one fourth of the conformance rates of the ratings.

To analyze the framing effect, we compare the conformity rates within a particular elicitation mode, but between frames, that is, lotteries versus income distributions. In Table 5 we present the results of a Mann–Whitney test. We find that, in the Italian data, the framing effect is only significant for the ratings. In the Spanish data, this effect is found significant in all cases except for the ratings of crossing Lorenz curves. However, this test is based on the differences between means when only the framing effect is considered. Therefore, this test does not allow to differentiate between both effects. Later on, a more detailed joint analysis of the response–mode and framing effects will be provided.

Insert Table 5 about here

Concerning the joint analysis of the response–mode and the framing effects, Table 6 shows the results of the estimation using a logit panel data model with random effects for the Italian and Spanish data. The dependent variable is the conformity with Lorenz relations that should assume, for a particular rating or valuation, the value 1 for perfect conformity with the Lorenz relation, and 0 for perfect nonconformity. The explanatory variables are two dummies. The first, denoted as *Mode*, refers to the response mode, and assumes the value 0 for valuation and 1 for rating. The second, denoted as *Frame*, refers to the framing used and assumes the value 0 for a lottery and 1 for an income distribution.

Insert Table 6 about here

The results shown in this table[18] reinforce our previous findings. Regarding the response–mode effect, the coefficient for the explanatory variable *Mode* confirms that a strong response–mode effect exists. In fact, the sign of this coefficient indicates that the probability of conformity with the Lorenz relations increases as we use rating as an elicitation mode instead of valuation. Moreover, we find no differences between the Italian and the Spanish data for this effect, since the coefficients for both countries do not differ significantly.[19]

Regarding the framing effect, the coefficient for the explanatory variable *Frame* is nonsignificant for both countries. However, we know from Table 5, that framing effects can be more easily observed when we differentiate between crossing and dominant Lorenz curves. Hence, we apply logit panel regressions separately to crossing and dominating Lorenz curves. The results are shown in Tables 7 and 8.

Insert Tables 7 and 8 about here

These tables shows that, although the response–mode effect does not vary between countries, it is higher[20] in the case of crossing Lorenz curves than for the Lorenz dominance cases. In any case, the probability of conformity of the Lorenz relations is higher for the ratings than for the evaluations. However, concerning the framing effect, differences do exist between the Italian and Spanish data. While this effect is not statistically significant both for crossing and dominant Lorenz curves for the Italian data, it is significant for the Spanish data. Note, for this case, that the framing effect has an opposite sign for crossing and dominant Lorenz curves. Moreover, for crossing Lorenz curves, the probability of conformity with Lorenz relations is higher for lotteries than for income distributions. The contrary obtains for dominant Lorenz curves, that is, the probability of conformity is higher in the case of income distributions.

4 Conclusion

Although there is a close relationship between income distributions and lotteries, their joint analysis is much in its infancy. Moreover, multiple–outcome payoff distributions have hardly ever been employed systematically and material incentives were only rarely used.

In this paper we investigate experimentally the violation of Lorenz relations in the case dominant and single–crossing Lorenz curves using multiple–outcome payoffs distributions. We use as stimulus material different types of payoffs distributions: three negatively skewed, four positively skewed, one rectangular, one unimodal, and one bimodal.

Our experimental design consists of two treatments. In the first treatment, the ten distributions of payoffs were presented to the subjects as lotteries, whereas in the second treatment, they were presented as income distributions. In each treatment, subjects were asked to judge the ten multiple–outcome lotteries or n–dimensional income distributions in terms of both ratings and valuations (in terms of their CEs or EDEs using a BDM incentive scheme).

The experiment was administered to more than 200 subjects in Italy and Spain. Subjects' comprehension of the experimental setting was examined before the experiment started. In each session only one treatment was applied and each subject was allowed to participate only in one experimental session.

If no response–mode effect exists, subjects should state their preferences according to their risk attitude and inequality preference, irrespective of whether their preferences are elicited trough ratings or valuations. This does not deny that subjects' responses may be affected by a framing effect. In fact, they may exhibit different preferences for particular distributional shapes when they are framed one time as a lottery and the other time as an income distribution. For instance, a particular subject may be, at the same time, risk loving when dealing with lotteries and inequality averse when dealing with income distributions.

Our results constitute a strong evidence of the existence of a response–mode effect. Taking into account average responses, we observe that subjects' stated preferences confirm the large majority of Lorenz relations when elicited as ratings, whereas, when elicited as valuations, we find widespread violation of the Lorenz relations. This shows that risk attitudes and inequality preferences are largely affected by the response–mode: In the rating mode, subjects' preferences are more affected by risk and inequality aversion, while in the valuation mode, subjects' preferences seem to be more affected by risk and inequality sympathy.

Regarding individual data, the main results continue to hold, although the effects are less pronounced than with the mean ratings and valuations.

As far as the framing effect is concerned, a Mann–Whitney test shows that for the Italian data the framing effect is only significant for the ratings, independently of the type of Lorenz relation. In the Spanish data, this effect is found significant in all cases except for the ratings of crossing Lorenz curves.

Finally, a joint analysis of the response–mode and framing effects based the use of panel logit regressions reinforces our previous findings. Regarding the response–mode effect, we find that the probability of conformity with the Lorenz relations increases as we use rating as the elicitation mode instead of valuation. Moreover, we find no differences between the countries. Regarding the framing effect, it is only significant for the Spanish data: for crossing Lorenz curves, the probability of conformity with Lorenz relations is higher for lotteries than for income distributions. The contrary obtains for dominant Lorenz curves, that is, the probability of conformity is higher in the case of income distributions.

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Instructions, the multiple–choice questions of subjects' test, and the data of the results of this experiment are available from Eva Camacho–Cuena, email: camacho@bwl.uni-kiel.de, upon request.

Notes

[1]Note that, whereas the rating and the valuation methods can be applied to larger sets of distributions, the choice method requires the arrangement of the distributions in terms of pairs, which requires subjects to make $m(m-1)/2$ instead of m comparisons for m distributions. Thus, the choice method of preference elicitation is more appropriate for simple experiments, whereas the rating method is more appropriate for more complicated experimental designs. Note that both methods are equivalent. Having applied both methods, Tversky et al. (1990, p. 213) report: "The data reveal no discrepancy between choice and rating."

[2]For an analysis of lotteries by means of Lorenz curves see Lopes (1984; 1987) and Schneider and Lopes (1986).

[3]Due to such influences the average level of entries in terms of euros was some 3.4% lower in Spain than in Italy. The actual figures for the means were about €1,807 in Italy and €1,745 in Spain.

[4]This approach was adopted to control for ordering effects of presentation. Had we presented the lotteries at random to the subjects, ordering effects would have evened out *if* they were present. The comparison of two orderings of presentation allows, however, ordering effects of presentation to be identified, or to be out. As shown in our earlier paper (Camacho et al. (2004) Section 3.3), we can rule out ordering effects of presentation. Only for the distribution ratings did we observe cultural effects for the Italian and Spanish subjects.

[5]Kurtosis is defined as the fourth central moment of the distribution less 3 (i.e., the value of the fourth central moment of a normal distribution with parameters $\mu = 0$ and $\sigma = 1$).

[6]More complicated experiments often suffer from the subjects' being insufficiently acquainted with the experimental design, the experimental procedure, and the incentive schemes. In this case, they become sources of data distortions which cannot easily be controlled.

[7]The instructions and the test are available from Eva Camacho, email: camacho@bwl.uni-kiel.de, upon request.

[8]Note that this test only served the purpose of inducing subjects to acquaint themselves properly with the setup of the experiment. Indeed, this precaution worked well: Out of 110 subjects in Italy, only five answered only 3 or 4 question incorrectly for the test in each treatment. In Spain only 11 out of 102 subjects answered 3 questions incorrectly in the test in each treatment. All others scored better. This meant that we could rely on the subjects' being sufficiently acquainted with the rules of the experiment.

[9]This means that for any lottery a number was drawn from a uniform distribution defined on the support of this lottery. If the number drawn was less than the CE stated for this particular lottery, the respective lottery was played out and the subject was given tokens amounting to the value of the respective prize. If the number drawn was greater than or equal to the stated CE, then the subject was

given tokens amounting to the number drawn. For a more detailed explanation see Becker et al. (1964).

[10]Ties were resolved by flipping a coin.

[11]This design was adopted to minimize computational errors. We tried to avoid using different dimensions such as having 10 million income earners, and associated tally marks each of which represented 100,000 income earners. Indeed, no subject found this design unrealistic.

[12]Beckman et al. (1994, p. 8) used a similar assumption to "create a group identity," but they employed majority voting instead of a random dictator. This was possible in their experimental setting because they had only two distributions to choose from for any decision.

[13]For lotteries with the same mean, a dominating Lorenz curve is associated with a lottery derived from another lottery by way of a sequence of mean–preserving contractions. In the case of income distributions, these mean–preserving contractions are nothing else but progressive transfers.

[14]Another cause may be due to order effects of stimulus presentation. Recall that they were ruled out for our experiment.

[15]The compatibility hypothesis was originally developed by Fitts and Seeger (1953) and rediscovered by Slovic and MacPhillamy (1974). It states that attributes which are more compatible with the dimension of the response mode are assigned greater weight.

[16]Except for the income distribution ratings of the Italian subjects in the case of cutting Lorenz curves, where the confirmation rate is only 48.9%. However, it is still markedly higher than the conformity rate for valuations.

[17]In a related paper, Traub et al. (2003, p. 23) observed Lorenz dominance conformity rates of 55% and 61% for two treatments (self–concern and social planner) regarding income distributions. Their experimental design was based on asking subjects directly for their preference orderings of twelve income distributions. This method is equivalent to the rating method of eliciting preferences as used in the present paper.

[18]Notice that conformity with the Lorenz relations is either 0 or 1. We model the probability of conformity as the logistic distribution:

$$P(\text{Conformity} = 1) = \frac{e^z}{1+e^z}\,;$$

$$P(\text{Conformity} = 0) = \frac{1}{1+e^z}\,.$$

The value of z is estimated from:

$$z = \beta_0 + \beta_1\,\text{Mode} + \beta_2\,\text{Format}$$

using the logit panel data method with random effects. Note that $\partial P(\text{Conformity} = 1)/\partial z > 0$, so that P(Conformity=1) increases as z increases.

[19]A χ^2-test of the null hypothesis that the values of the two coefficients do not differ significantly shows ($\chi^2_1 = 0.68$ ($p - value = 0.409$)) that it cannot be rejected.

[20]A χ^2-test shows that the null hypothesis that the values of the coefficients for cutting and dominant Lorenz curves within each country are not statistically different can be rejected (The value of the statistic for Italy and Spain is $\chi^2_1 = 4.16$ ($p - value = 0.041$) and $\chi^2_1 = 15.95$ ($p - value = 0.000$), respectively).

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Distribution 1 [1]

Prize/income in €	Tally marks	Number of tally marks
2582.28	IIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	31
2065.83	IIIIIIIIIIIIIIIIIIIIII	22
1549.37	IIIIIIIIIIIIIII	15
1136.21	IIIIIIIIII	10
1032.91	IIIIIII	7
981.27	IIIII	5
877.98	IIII	4
852.15	III	3
826.33	II	2
774.69	I	1

Distribution 2 [4]

Prize/income in €	Tally marks	Number of tally marks
2117.47	IIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	31
1962.54	IIIIIIIIIIIIIIIIIIIIII	22
1817.93	IIIIIIIIIIIIIII	15
1662.99	IIIIIIIIII	10
1508.05	IIIIIII	7
1363.45	IIIII	5
1218.84	IIII	4
1063.90	III	3
908.96	II	2
774.69	I	1

Distribution 3 [5]

Prize/income in €	Tally marks	Number of tally marks
2200.11	IIIIIIIIIIII	12
2127.80	IIIIIIIIIII	11
2065.83	IIIIIIIIII	10
2003.85	IIIIIIIII	9
1941.88	IIIIIIII	8
1879.90	IIIIIII	7
1807.60	IIIIII	6
1745.62	IIIII	5
1683.65	IIII	4
1611.35	IIII	4
1549.37	IIII	4
1487.40	III	3
1425.42	III	3
1353.12	III	3
1291.14	II	2
1229.17	II	2
1167.13	I	1
1094.89	I	1
1032.91	I	1
970.94	I	1
908.96	I	1
836.66	I	1
774.69	I	1

Figure 1: Negatively Skewed Distributions

Distribution 4 [2]

Prize/income in €	Tally marks	Number of tally marks
2840.51	I	1
2711.40	II	2
2582.28	III	3
2375.70	IIII	4
2220.76	IIIII	5
2065.83	IIIIIII	7
1962.54	IIIIIIIIII	10
1807.60	IIIIIIIIIIIIIII	15
1652.66	IIIIIIIIIIIIIIIIIIIIII	22
1497.73	IIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	31

Distribution 7 [10]

Prize/income in €	Tally marks	Number of tally marks
5309.18	I	1
4803.05	II	2
4296.92	III	3
3790.79	IIII	4
3295.00	IIIII	5
2788.87	IIIIIII	7
2282.74	IIIIIIIIII	10
1786.94	IIIIIIIIIIIIIII	15
1280.81	IIIIIIIIIIIIIIIIIIIIII	22
774.69	IIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	31

Distribution 5 [3]

Prize/income in €	Tally marks	Number of tally marks
2840.51	I	1
2778.54	I	1
2706.23	I	1
2644.26	I	1
2582.28	I	1
2520.31	I	1
2448.01	I	1
2386.03	II	2
2324.06	II	2
2262.08	III	3
2189.78	III	3
2127.80	III	3
2065.83	IIII	4
2003.85	IIII	4
1931.55	IIII	4
1869.57	IIIII	5
1807.60	IIIIII	6
1735.30	IIIIIII	7
1673.32	IIIIIIII	8
1611.35	IIIIIIIII	9
1549.37	IIIIIIIIII	10
1487.40	IIIIIIIIIII	11
1415.09	IIIIIIIIIIII	12

Distribution 6 [9]

Prize/income in €	Tally marks	Number of tally marks
4555.15	I	1
4379.55	I	1
4214.29	I	1
4038.69	I	1
3863.10	I	1
3697.83	I	1
3522.24	I	1
3346.64	II	2
3181.37	II	2
3005.78	III	3
2830.18	III	3
2664.92	III	3
2489.32	IIII	4
2313.73	IIII	4
2148.46	IIII	4
1972.87	IIIII	5
1807.60	IIIIII	6
1632.00	IIIIIII	7
1456.41	IIIIIIII	8
1280.81	IIIIIIIII	9
1115.55	IIIIIIIIII	10
939.95	IIIIIIIIIII	11
774.69	IIIIIIIIIIII	12

Figure 2: Positively Skewed Distributions

Distribution 8 [6]

Prize/income in €	Tally marks	Number of tally marks
2840.51	▌	1
2685.58	▌	1
2582.28	▌▌▌	3
2427.35	▌▌▌▌▌	5
2272.41	▌▌▌▌▌▌▌	7
2117.47	▌▌▌▌▌▌▌▌▌	9
2014.18	▌▌▌▌▌▌▌▌▌▌▌	11
1859.24	▌▌▌▌▌▌▌▌▌▌▌▌▌	13
1755.95	▌▌▌▌▌▌▌▌▌▌▌▌▌	13
1601.02	▌▌▌▌▌▌▌▌▌▌▌	11
1497.73	▌▌▌▌▌▌▌▌▌	9
1342.79	▌▌▌▌▌▌▌	7
1187.85	▌▌▌▌▌	5
1032.91	▌▌▌	3
929.62	▌	1
774.69	▌	1

Distribution 10 [8]

Prize/income in €	Tally marks	Number of tally marks
2840.51	▌▌▌▌▌▌▌▌▌▌▌▌▌	13
2695.91	▌▌▌▌▌▌▌▌▌▌▌	11
2551.30	▌▌▌▌▌▌▌▌▌	9
2417.02	▌▌▌▌▌▌▌	7
2282.74	▌▌▌▌▌	5
2138.13	▌▌▌	3
2003.85	▌	1
1869.57	▌	1
1735.30	▌	1
1601.02	▌	1
1456.41	▌▌▌	3
1322.13	▌▌▌▌▌	5
1187.85	▌▌▌▌▌▌▌	7
1043.24	▌▌▌▌▌▌▌▌▌	9
908.96	▌▌▌▌▌▌▌▌▌▌▌	11
774.69	▌▌▌▌▌▌▌▌▌▌▌▌▌	13

Distribution 9 [7]

Prize/income in €	Tally marks	Number of tally marks
2788.87	▌▌▌▌▌	5
2685.58	▌▌▌▌▌	5
2582.28	▌▌▌▌▌	5
2478.99	▌▌▌▌▌	5
2375.70	▌▌▌▌▌	5
2272.41	▌▌▌▌▌	5
2169.12	▌▌▌▌▌	5
2065.83	▌▌▌▌▌	5
1962.54	▌▌▌▌▌	5
1859.24	▌▌▌▌▌	5
1755.95	▌▌▌▌▌	5
1652.66	▌▌▌▌▌	5
1549.37	▌▌▌▌▌	5
1446.08	▌▌▌▌▌	5
1342.79	▌▌▌▌▌	5
1239.50	▌▌▌▌▌	5
1136.21	▌▌▌▌▌	5
1032.91	▌▌▌▌▌	5
929.62	▌▌▌▌▌	5
826.33	▌▌▌▌▌	5

Figure 3: Unimodal, Rectangular and Bimodal Distributions

Italy										
Main Statistics	Negatively Skewed			Positively Skewed				Unimodal	Rectangular	Bimodal
	1	2	3	4	5	6	7	8	9	10
Mean	1807.34	1807.49	1807.70	1806.05	1807.50	1807.39	1807.91	1807.60	1807.60	1802.54
SD	651.02	332.53	350.37	329.50	350.37	932.15	1112.54	410.83	595.61	799.50
Skewness	-0.1236	-1.1742	-1.0366	1.2100	1.0366	1.0356	1.1857	0.0000	0.0000	0.0048
Kurtosis	-1.5302	0.6859	0.4199	0.9023	0.4199	0.4188	0.7290	-0.1537	-1.2061	-1.7530
Minimum	774.69	774.69	774.69	1497.72	1415.09	774.69	774.69	774.69	826.33	774.69
Maximum	2582.28	2117.47	2200.11	2840.51	2840.51	4555.15	5309.18	2840.51	2788.86	2840.51
Range	1807.60	1342.79	1425.42	1342.79	1425.42	3780.46	4534.49	2065.83	1962.53	2065.83
GINI Coef.	0.2042	0.0981	0.1063	0.0971	0.1063	0.2836	0.3277	0.1292	0.1919	0.2510
Spain										
Main Statistics	Negatively Skewed			Positively Skewed				Unimodal	Rectangular	Bimodal
	1	2	3	4	5	6	7	8	9	10
Mean	1745.69	1745.84	1746.04	1744.44	1745.68	1745.93	1746.24	1745.94	1745.68	1741.05
SD	628.81	321.19	338.41	318.26	338.08	900.45	1074.59	396.82	575.21	772.22
Skewness	-0.1236	-1.1742	-1.0366	1.2100	1.0344	1.0356	1.1857	0.0000	0.0000	0.0048
Kurtosis	-1.5302	0.6859	0.4199	0.9023	0.4157	0.4181	0.7290	-0.1537	-1.2061	-1.7530
Minimum	748.26	748.26	748.26	1446.63	1366.82	748.34	748.26	748.26	798.02	748.26
Maximum	2494.20	2045.24	2125.06	2743.62	2743.62	4400.24	5128.07	2743.62	2693.37	2743.62
Range	1745.94	1296.98	1376.80	1296.98	1376.80	3651.90	4379.82	1995.36	1895.35	1995.36
GINI Coef.	0.2042	0.0981	0.1004	0.0797	0.0884	0.2354	0.3693	0.1128	0.1745	0.2343

Table 1: Main Statistics of Distributions.

	1	2	3	4	5	6	7	8	9	10
1				↗	↗	→	→	↗	↗	→
2	→		→	↗	↗	→	→	↗	→	→
3	→			↗	↗	→	→	↗	→	→
4					→	→	→		→	→
5						→	→		→	→
6							$\overset{\rightarrow}{\sim}$			
7										
8				↗	↗	→	→		→	→
9						→	→			→
10						$\overset{\nearrow}{\sim}$	→			

↗ . . . Lorenz curve of the distribution of the respective line intersects the Lorenz curve of the distribution of the respective column from below.

→ . . . Lorenz curve of the distribution of the respective line dominates the Lorenz curve of the distribution of the respective column.

∼ . . . both Lorenz curves nearly coincide for the lowest 13%.

Nota bene: Intersections of Lorenz curves up to 2% taken from the bottom or the top of the domain were ignored.

Figure 4: Lorenz Relations of Stimulus Distributions

Distributions		Average Calibrated Ratings				Average Valuations in €			
		Lotteries		Distributions		Lotteries (CE)		Distributions (EDE)	
		Italy	Spain	Italy	Spain	Italy	Spain	Italy	Spain
Negatively Skewed	1	8.12	7.82	7.14	7.70	1589.99	1704.58	1532.86	1730.24
	2	6.53	7.11	6.54	7.30	1673.44	1645.35	1706.41	1741.24
	3	5.54	6.45	6.29	6.74	1682.54	1665.48	1801.64	1764.96
	Average	6.73	7.13	6.66	7.24	1648.66	1671.80	1680.30	1745.48
Positively Skewed	4	4.99	4.70	6.23	5.61	1802.44	1757.28	1846.43	1841.86
	5	4.24	4.29	6.08	4.92	1808.59	1653.86	1853.54	1803.58
	6	4.37	4.42	3.65	3.32	1981.59	1836.57	2051.21	2039.45
	7	5.30	4.94	3.34	2.92	2096.53	2049.09	2129.63	2211.98
	Average	4.72	4.59	4.83	4.19	1922.29	1824.2	1970.20	1974.22
Unimodal	8	5.57	5.12	6.62	6.26	1769.40	1718.61	1853.71	1842.63
Rectangular	9	4.25	4.11	4.28	5.97	1850.54	1768.01	2014.40	1931.13
Bimodal	10	4.89	4.84	3.17	4.20	1759.23	1736.42	1913.46	1827.18

Table 2: Average Calibrated Ratings and Valuations.

Mode		Ratings		Valuations	
		Italy	Spain	Italy	Spain
Lotteries	↗	92.3	100.0	0.0	23.1
	→	62.5	68.7	15.6	12.5
	All cases	71.1	77.8	11.1	15.6
Income Distributions	↗	76.9	100.0	7.7	15.4
	→	81.3	87.5	9.4	15.6
	All cases	80.0	91.1	8.9	15.6

Table 3: Conformity of Mean Respones with Lorenz Relations in Percentages.

		Italy						Spain					
		Rating		Valuation		Wilcoxon test		Rating		Valuation		Wilcoxon test	
		Mean	S.D.	Mean	S.D.	Z	p	Mean	S.D.	Mean	S.D.	Z	p
Lotteries	$\nearrow$	63.6	0.104	38.2	0.048	-3.181	0.001	66.8	0.093	48.4	0.062	-3.115	0.002
	$\rightarrow$	51.3	0.148	41.0	0.077	-2.778	0.005	54.1	0.149	42.0	0.061	-3.526	0.000
	All cases	54.9	0.147	40.2	0.071	-4.191	0.000	57.8	0.147	43.9	0.067	-4.703	0.000
Income Distributions	$\nearrow$	48.9	0.091	34.9	0.124	-2.312	0.021	62.2	0.065	41.1	0.090	-3.184	0.001
	$\rightarrow$	65.7	0.140	38.8	0.113	-4.038	0.000	64.9	0.160	36.1	0.091	-4.548	0.000
	All cases	60.8	0.149	37.7	0.116	-4.777	0.000	64.1	0.139	37.6	0.093	-5.459	0.000

Table 4: Conformity of Individual Responses with Lorenz Relations in Percentages.

		Italy		Spain	
		Ratings	Valuations	Ratings	Valuations
$\nearrow$	Z	-3.473	-0.026	-1.517	-2.287
	p	0.001	0.979	0.129	0.022
$\rightarrow$	Z	-3.796	-1.284	-2.889	-3.096
	p	0.000	0.199	0.004	0.002

Table 5: Mann-Whitney Test: Lotteries vs. Income Distributions.

Explanatory Variables	Italy		Spain	
	Coefficient	$p-value$	Coefficient	$p-value$
Constant	-0.4344	0.005	-0.4326	0.000
Mode	0.8840	0.000	0.8497	0.000
Frame	-0.0289	0.854	-0.0806	0.449
Observations	9090		9720	
Number of Groups	101		108	
σ_u	0.5839		0.7003	
ρ	0.2542		0.3291	

Table 6: Logit Panel Data Model with Random Effects for Italy and Spain: Response–Mode and Frame Effects.

Explanatory Variables	Italy		Spain	
	Coefficient	$p-value$	Coefficient	$p-value$
Constant	-0.0970	0.014	-0.4455	0.011
Mode	1.003	0.000	1.056	0.000
Frame	-0.2321	0.284	-0.5092	0.049
Observations	2626		2808	
Number of Groups	101		108	
σ_u	1.1181		1.2831	
ρ	0.5556		0.6221	

Table 7: Logit Panel Data Model with Random Effects for Italy and Spain: Crossing Lorenz Curves.

Explanatory Variables	Italy		Spain	
	Coefficient	$p-value$	Coefficient	$p-value$
Constant	-0.5607	0.000	-0.6254	0.000
Mode	0.8944	0.000	0.8484	0.000
Frame	0.1012	0.450	0.3496	0.005
Observations	6464		6912	
Number of Groups	101		108	
σ_u	0.5941		0.6881	
ρ	0.2609		0.3213	

Table 8: Logit Panel Data Model with Random Effects for Italy and Spain: Dominant Lorenz Curves.

Individual Conformity with Lorenz Relations

(For the convenience of the referees, not to be published)

In Tables 9 to 12 in the appendix, we present the percentage of subjects whose responses concerning ratings and valuations conform each one of the Lorenz relations illustrated in Figure 4. We organized our results for Italy and Spain, for the two frames here considered: lotteries and income distributions.

We use the entries of these tables to compute the entries included in Table 4 and run the non-parametric tests used in subsection 3.2. Note that the shaded cells refer to the case in which the Lorenz curve of the lottery or income distribution in a row dominates the Lorenz curve of the lottery or income distribution in the corresponding column, to differentiate this case from the case where the Lorenz curve of the lottery or income distribution in a row cuts the Lorenz curve of the lottery or income distribution in the corresponding column from below.

		1	2	3	4	5	6	7	8	9	10
1	Rating				0.680	0.720	0.800	0.780	0.700	0.680	0.780
	Valuation				0.380	0.400	0.360	0.260	0.380	0.280	0.360
2	Rating	0.260		0.660	0.580	0.640	0.800	0.820	0.580	0.680	0.800
	Valuation	0.440		0.360	0.340	0.440	0.320	0.240	0.340	0.340	0.320
3	Rating	0.260			0.480	0.580	0.760	0.820	0.600	0.620	0.760
	Valuation	0.480			0.360	0.520	0.300	0.260	0.440	0.380	0.500
4	Rating					0.560	0.680	0.680		0.360	0.580
	Valuation					0.500	0.380	0.220		0.380	0.520
5	Rating						0.560	0.640		0.360	0.520
	Valuation						0.280	0.220		0.360	0.380
6	Rating							0.540			
	Valuation							0.300			
7	Rating										
	Valuation										
8	Rating				0.580	0.620	0.804	0.820		0.580	0.680
	Valuation				0.520	0.600	0.411	0.260		0.420	0.440
9	Rating						0.740	0.800			0.640
	Valuation						0.420	0.300			0.580
10	Rating						0.640	0.660			
	Valuation						0.340	0.300			

Table 9: Conformity Distribution (Spain)

		1	2	3	4	5	6	7	8	9	10
1	Rating				0.745	0.784	0.706	0.627	0.784	0.765	0.804
	Valuation				0.510	0.529	0.353	0.314	0.490	0.373	0.451
2	Rating	0.275		0.627	0.686	0.706	0.686	0.627	0.667	0.784	0.725
	Valuation	0.392		0.412	0.431	0.549	0.431	0.412	0.412	0.451	0.451
3	Rating	0.176			0.647	0.647	0.647	0.569	0.667	0.765	0.647
	Valuation	0.392			0.451	0.569	0.490	0.431	0.510	0.412	0.451
4	Rating					0.510	0.490	0.353		0.588	0.392
	Valuation					0.647	0.451	0.490		0.392	0.451
5	Rating						0.490	0.392		0.510	0.412
	Valuation						0.392	0.373		0.333	0.314
6	Rating							0.373			
	Valuation							0.392			
7	Rating										
	Valuation										
8	Rating				0.510	0.569	0.608	0.588		0.588	0.471
	Valuation				0.529	0.529	0.451	0.451		0.392	0.412
9	Rating						0.490	0.490			0.373
	Valuation						0.451	0.431			0.431
10	Rating						0.510	0.529			
	Valuation						0.412	0.353			

Table 10: Conformity Lotteries (Spain)

		1	2	3	4	5	6	7	8	9	10
1	Rating				0.500	0.500	0.714	0.804	0.464	0.768	0.857
	Valuation				0.268	0.214	0.268	0.268	0.143	0.179	0.179
2	Rating	0.304		0.464	0.500	0.482	0.768	0.750	0.429	0.607	0.732
	Valuation	0.643		0.304	0.393	0.357	0.411	0.339	0.250	0.214	0.304
3	Rating	0.321			0.446	0.464	0.768	0.768	0.375	0.625	0.768
	Valuation	0.768			0.446	0.446	0.393	0.339	0.411	0.339	0.321
4	Rating					0.500	0.679	0.661		0.643	0.732
	Valuation					0.464	0.339	0.357		0.357	0.411
5	Rating						0.661	0.696		0.625	0.768
	Valuation						0.357	0.393		0.375	0.429
6	Rating							0.464			
	Valuation							0.464			
7	Rating										
	Valuation										
8	Rating				0.482	0.500	0.804	0.768		0.696	0.857
	Valuation				0.482	0.518	0.411	0.411		0.339	0.357
9	Rating						0.571	0.571			0.554
	Valuation						0.518	0.500			0.411
10	Rating						0.446	0.518			
	Valuation						0.429	0.446			

Table 11: Conformity Distribution (Italy)

		1	2	3	4	5	6	7	8	9	10
1	Rating				0.750	0.731	0.731	0.615	0.788	0.788	0.788
	Valuation				0.385	0.385	0.346	0.346	0.346	0.385	0.462
2	Rating	0.135		0.596	0.558	0.654	0.692	0.558	0.654	0.654	0.692
	Valuation	0.519		0.423	0.481	0.423	0.365	0.385	0.423	0.346	0.423
3	Rating	0.192			0.519	0.558	0.558	0.519	0.481	0.654	0.538
	Valuation	0.500			0.451	0.308	0.327	0.327	0.365	0.288	0.404
4	Rating					0.558	0.500	0.423		0.519	0.442
	Valuation					0.577	0.442	0.385		0.519	0.500
5	Rating						0.404	0.423		0.442	0.346
	Valuation						0.346	0.365		0.442	0.442
6	Rating							0.365			
	Valuation							0.308			
7	Rating										
	Valuation										
8	Rating				0.596	0.654	0.615	0.558		0.654	0.577
	Valuation				0.423	0.385	0.577	0.365		0.385	0.442
9	Rating						0.481	0.423			
	Valuation						0.404	0.308			
10	Rating						0.538	0.462			
	Valuation						0.327	0.308			

Table 12: Conformity Lotteries (Italy)