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Responsibility-Sensitive Fair Compensation in Different Cultures

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ABSTRACT

Recently many philosophers and social choice theorists have questioned traditional welfare egalitarianism by introducing a notion of responsibility. They propose to distinguish between two sets of individual characteristics: those for which individuals are to be kept responsible and those for which they can be compensated. This approach raises the related questions of where to draw the line between these two sets of characteristics and how to operationalise the notion of "responsibility-sensitive fair compensation". The answers to these questions may depend on the cultural context. We present some empirical results from questionnaire studies in Belgium, Burkina Faso and Indonesia. The notion of control seems to play an important role in determining the variables for which individuals are to be held responsible. The strong notion of "full compensation" is clearly rejected in favour of more conservative distribution rules. Moreover, a large fraction of the respondents take the non-liberal position that the talented should be punished if they do not use their talents in a productive way. We find some intercultural differences. Belgian students are more in favour of redistribution. Indonesian students are the most conservative. While the Pareto principle is decisively rejected in Burkina Faso and Belgium, it is accepted by a majority of the Indonesian sample.

Keywords: **D63**

JEL classification: distributive justice; fair compensation

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RESPONSIBILITY-SENSITIVE FAIR COMPENSATION IN DIFFERENT CULTURES

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1. INTRODUCTION

The traditional welfare economic interpretation of the egalitarian ideal has been in terms of individual welfare levels. Second-best analysis introduces the complications following from incentives, but, while focusing on the trade-off with efficiency, does not depart from the welfare egalitarian ideal as such. However, recently more and more economists and philosophers did start questioning this welfare egalitarian ideal. They have proposed to incorporate some notion of responsibility in the formulation of distributive justice (see Fleurbaey, 1998, for a recent survey of this literature). This basically means that one has to distinguish between two sets of individual characteristics: those for which individuals have to be compensated and those for which they are to be held responsible. Differences in natural talent could be an obvious example of the former category, effort an example of the latter.

However, while this is an obvious example, the divide between responsibility- and compensation-variables is much less clear-cut in other cases. As Dworkin (1981) is the seminal article in this literature, Roemer (1996) has baptized the problem as the one of locating Dworkin's cut. Very broadly speaking, there are two basic approaches. One -defended by, e.g., Arneson (1989, 1990, 1991) and Cohen (1989, 1990)- emphasizes that the degree of control is crucial: people can only be held responsible for (the consequences of) the individual characteristics which follow from their own voluntary choice. Government should only compensate for disadvantages due to personal characteristics beyond the control of the agents. People should not suffer as a result of things which they have not voluntarily chosen. Another approach -initiated by Dworkin (1981) but also defended, e.g. by Scanlon (1988)- emphasizes that responsibility is by delegation: we feel responsible (and are to be held responsible) for some choices, because these define our identity. Even if we are not in control, we still *feel* responsible and we would not accept government interference. In Dworkin (1981) preferences are given as the prime example of this kind of personal characteristics. Government should hold agents responsible for the preferences with which they identify. Only disadvantages resulting from personal resources, whether under control or not, can be subject to compensation. The philosophical debate about these questions is not yet settled. In fact, some authors (Roemer, 1993) have taken a relativistic stance and have argued that the dividing line between responsibility and compensation can be seen as culture-dependent, because it will be influenced by the dominant physiological, psychological or social theories of man.

Even if one reached consensus on the location of Dworkin's cut, the first-best distribution problem would not yet be solved. Fleurbaey (1994, 1995a, 1995b, 1998) has shown in a

series of papers that some very basic intuitions concerning responsibility-sensitive egalitarianism are conflicting. Therefore it is not a priori obvious what is the "best" distribution mechanism to implement a responsibility-sensitive approach. Moreover, in a second-best world one has to go beyond the simple formulation of the egalitarian ideal to define a complete ordering of social states. Here also, there are conflicting possibilities: the best known approach is the one proposed by Roemer (1993, 1996), but some alternatives are sketched in Bossert, Fleurbaey and Van de gaer (1999).

How should these difficult normative questions be settled? There can be no doubt that "essential ingredients of a debate over normative issues are critical reflection and thorough assessment of the arguments being used" (Bossert, 1998). We do feel, however, that this theoretical debate can also be enriched by bringing in some empirical information on the moral intuitions and opinions of uninformed respondents (Miller, 1994). This information can make the theorists better aware of the limitations of their models and of the possible influences from their own particular social and cultural background. There is now a growing body of empirical work which starts from the assumptions in economic theory. The paper by Yaari and Bar-Hillel (1984) has been influential to strengthen the criticism on welfarism, the results of Amiel and Cowell (1992) are equally destructive for some of the basic axioms of inequality measurement (including the venerable Pigou-Dalton criterion). An overview of some other contributions is in Schokkaert (1998).

Empirical work can be particularly useful in the context of a responsibility-sensitive egalitarian approach. It can throw a new light on the discussions about Dworkin's cut and inform us about the social acceptance of various criteria for compensation. In the relativistic approach of Roemer (1993) it seems even indispensable. Moreover, we can derive from it some information on social priorities in the case where different axioms are conflicting. This may guide the choice of a concrete distribution rule.

While a large part of the psychological and sociological literature is too far removed from the normative discussion to be immediately useful for economists, some research by psychologists and sociologists is in close spirit with responsibility-sensitive egalitarianism (Miller, 1992). This is also illustrated by the work of Konow (1996): this author derives a "positive" theory of fairness, based mainly on the results of questionnaire studies and in which a so-called accountability principle plays a crucial role. This principle basically boils down to what we have called responsibility-sensitive egalitarianism and Konow also makes a distinction between "discretionary" variables and variables which are beyond the control of the individuals. However, he does not refer in any way to the social choice literature. We have constructed a questionnaire which is based explicitly on the theoretical work. The results of a partial pretesting with Belgian students, on which we reported in Schokkaert and Devooght (1998) were quite promising, both with respect to the quality of the questionnaire and with respect to the acceptance of the responsibility-sensitive compensation framework. In this paper we report on a broader study, where an improved and extended version of the questionnaire was submitted to first-year university students in Belgium, Burkina Faso and Indonesia. This brings in the intercultural dimension.

Our questions are mainly situated within the quasi-linear model of Bossert (1995) and Bossert and Fleurbaey (1996). We interpret this model both in the context of income redistribution and in the context of subsidies for health expenditures. Its most important

features are summarised in section 2, where we also discuss our way of concretizing Dworkin's cut. Section 3 sketches the empirical setting of our study and the contents of the questionnaire. The empirical results are described in section 4. We first discuss the location of Dworkin's cut in the three countries considered and we then go deeper into the degree of acceptance of the different axioms and distributional rules. We finally focus on the intercultural differences concerning the Pareto-principle. Section 5 concludes.

2. RESPONSIBILITY AND EGALITARIANISM

Let us first consider a model of income redistribution (Bossert and Fleurbaey, 1996). Assume there are *n* individuals in society, each characterised by a vector of individual characteristics $a_i \in \Re^m$, determining their pre-tax income $f(a_i)$. A characteristics profile is $\bar{a} = (a_1,...,a_n) \in \Re^{nm}$. The problem is to define an optimal redistribution mechanism, which gives for each possible characteristics profile a vector of post-tax income levels $F(\bar{a})$, such that the following budget constraint is satisfied:

$$(1) \qquad \sum_{i=1}^{n} F_i(\bar{a}) = \sum_{i=1}^{n} f(a_i)$$

Eq. (1) implies that the redistribution does not lead to an efficiency loss, i.e. that we are considering a first-best problem.

A pure and simple income egalitarian would go for the solution $F_i(\bar{a}) = \frac{1}{n}\sum_{i=1}^{n} f(a_i), \forall i$.

A responsibility-sensitive egalitarian, however, will point to the possibility that a subset of the characteristics a_i are within the responsibility of individual *i*. Her *first problem* - locating Dworkin's cut- then becomes how to partition the vector a_i in (a_i^R, a_i^C), where $a_i^R \in \Re^r$ is a vector of "responsibility"-variables and $a_i^C \in \Re^c$ a vector of "compensation" variables (with $r + c = m$). We mentioned already in the introduction that there is in the literature a lively discussion about this partitioning, featuring mainly two basic approaches. The first approach emphasizes that what matters is the degree of control: people are responsible for these characteristics which result from their own voluntary choice. They have to be compensated for these characteristics which are beyond their control. The second approach defines responsibility by delegation: we feel responsible (and are to be held responsible) for those characteristics which define our identity, whether they are under our control or not. The concrete way in which we tried to concretise these subtle philosophical distinctions in our empirical work will be discussed in the following section. Let us now for the sake of the argument accept that a decision on the partitioning has been taken. The *second problem* is then how this partitioning can be exploited to give a concrete content to the idea of responsibility-sensitivity.

Fleurbaey (1994, 1995a, 1995b, 1998) has modelled two basic intuitions in this respect. We give a brief and mathematically loose summary[1]. The first intuition refers to compensation and basically reflects the egalitarian aspect of the approach. We will call it *full compensation* and it states that for all possible $\bar{a}$, for any two individuals, one should have

$$(2) \qquad a_i^R = a_j^R \Rightarrow F_i(\bar{a}) = F_j(\bar{a})$$

If two persons are identical on all characteristics for which they can be held responsible -if they only differ with respect to characteristics for which they must be compensated- then the redistribution mechanism must assign these two persons the same post-tax income.

The second intuition captures the idea of responsibility, i.e. of the boundaries to be imposed on egalitarianism. We call it *strict compensation* and it says that for all possible $\bar{a}$, for any two individuals, the redistribution mechanism must satisfy

$$(3) \qquad a_i^C = a_j^C \Rightarrow F_i(\bar{a}) - f(a_i) = F_j(\bar{a}) - f(a_j)$$

If two persons have identical compensation characteristics, the differences in their pre-tax income will only reflect differences in their responsibility characteristics, and hence there is no reason why these differences should diminish through the redistribution process. Eq. (3) formalises this by imposing that these two persons should pay the same tax or receive the same transfer.

The main result of Fleurbaey is that the two intuitions of full compensation and strict compensation are in general incompatible if $n \geq 4$. In the context of the quasi-linear income redistribution model, there will only be a redistribution rule satisfying (2) and (3) for all possible $\bar{a}$, if $f(a_i)$ is additively separable in a_i^C and a_i^R, i.e. if

$$(4) \qquad f(a_i) = g(a_i^R) + h(a_i^C)$$

in which case a natural redistribution mechanism is F^0, assigning to individual *k* the post-tax income

$$(5) \qquad F_k^0(\bar{a}) = g(a_k^R) + \frac{1}{n}\sum_{i=1}^{n} h(a_i^C)$$

If $f(a_i)$ is not additively separable, it is impossible to satisfy full and strict compensation at the same time. Bossert and Fleurbaey (1996) describe several distribution mechanisms which satisfy a combination of one axiom with weakened versions of the other.

[1] Fleurbaey and other authors give a host of different axioms and variants of axioms to model these basic intuitions. We only focus on the simplest (and most direct) formulations. See Fleurbaey (1998) for a more complete overview.

Bossert and Fleurbaey (1996) set their problem in the context of income (re)distribution. Because we wanted to test the social acceptance of the intuitions of full and strict compensation in different settings, we also propose an alternative interpretation for the case of health care financing. The function $f(a_i^R, a_i^C)$ then gives the medical expenditures of individual *i*, determined as before by variables for which she is responsible and variables for which she must be compensated. The compensation takes place through a vector of individual subsidies $(\omega_1(\bar{a}),\ldots,\omega_n(\bar{a}))$, the sum of which is equal to a fixed amount ω. Since all medical expenditures have to be covered, there is an overall budget constraint

$$(6) \qquad \sum_{i=1}^{n} f(a_i^R, a_i^C) = \omega + \sum_{i=1}^{n} c_i(\bar{a})$$

where

$$(7) \qquad c_i(\bar{a}) = f(a_i^R, a_i^C) - \omega_i(\bar{a})$$

is the own financial contribution (net of subsidies) of individual *i*. <u>*Full compensation*</u> (egalitarianism) then implies that two persons with the same value for the responsibility characteristics should pay the same own contribution, i.e.

$$(8) \qquad a_i^R = a_j^R \Rightarrow c_i(\bar{a}) = c_j(\bar{a})$$

<u>*Strict compensation*</u> implies that two persons with the same value for the compensation characteristics should get the same subsidy:

$$(9) \qquad a_i^C = a_j^C \Rightarrow \omega_i(\bar{a}) = \omega_j(\bar{a})$$

Equation (9) captures the idea of responsibility-sensitivity, as it implies that differences in medical expenditures following from differences in responsibility-characteristics will be fully reflected in differences in the own contributions. All the redistribution mechanisms defined for the income case can easily be reformulated for the health expenditures-interpretation[2].

Both problems summarised in this section raise many empirical questions. First, what do people think about the partitioning of the vector a_i? Do they accept that control is the crucial factor? Second, do they accept the general idea of responsibility-sensitive egalitarianism? Do they feel that full compensation is acceptable? Do they endorse Fleurbaey's intuitions about responsibility, as captured by the idea of strict compensation? Would they pick distribution mechanism (5) in the additively separable case? To what axiom do they give priority if the basic intuitions of full and strict compensation are incompatible? And, in general, are there intercultural differences in these opinions? Is

[2] An application of this approach to the real-world problem of risk adjustment in managed health care markets can be found in Schokkaert, Dhaene and Van de Voorde (1998).

there empirical ground for Roemer's cultural relativism? In this paper we want to give a first and preliminary answer to these questions.

3. THE EMPIRICAL SETTING

To explore the intercultural dimension of the problem, we organised a questionnaire study in three countries on three different continents: Belgium, Burkina Faso and Indonesia. In all three cases there were two different questionnaires, one on income distribution and one on health care expenditures. These were distributed in a random way and were completed anonymously by first-year university students in an economics class. None of these students had been exposed to any teaching on formal theories of justice. More detailed information on the samples is given in Table 1. We opted for students samples, not only because students are readily available: the fact that the study was organised at a university also gave us the opportunity to let it administer by former colleagues who were well aware of its purpose and its methodological requirements. They also helped with the translation of the questions. Moreover, by concentrating on students we could control for much interindividual variation in personal characteristics (such as age and schooling). This gives us a better basis to interpret the remaining differences between the samples as resulting from differences in national (or cultural) background.

Table 1. Information about samples

BELGIUM	BURKINA FASO	INDONESIA
University of Leuven, Faculty of Business	University of Ouagadougou, Faculty of Law	University of Bandung, Faculty of Business
April 1996	May 1996	August 1997
Income: N=84 Health: N=94	Income: N=90 Health: N=87	Income: N=203 Health: N=200

The questionnaire consisted of three parts[3]. In the *first part*, we wanted to get a better insight into the perception of Dworkin's cut. We therefore used a methodology which was already used (among others) by Yaari and Bar-Hillel (1984), Schokkaert and Overlaet (1988) and Schokkaert and Capéau (1991). Respondents were confronted with a series of simple two-person cases where the two persons differed in only one characteristic. The respondents could pick from a list of possibilities the distribution or redistribution that they considered as "just". If they wanted, they could add another preferred (re)distribution. These distributions were presented as vectors, without explicit currency units or references to living standards or welfare levels.

[3] The complete formulation of the first two parts of the questionnaire and the questions concerning the Pareto-principle (from the third part) are given in the appendix.

Table 2. Overview of cases

HEALTH

	PREFERENCES	RESOURCES
CONTROLLED	Mark opts for a private room because it is more comfortable	Mark's treatment is more expensive because he is a confirmed smoker
INVOLUNTARY	Mark opts for a private room because he has psychological problems in the presence of other people	Mark's treatment is more expensive because he has a genetic defect and his natural resistance is weaker

INCOME

	PREFERENCES	RESOURCES
CONTROLLED	Elisabeth chooses to work harder and to take less leisure time	Elisabeth is more productive because she has chosen to develop better skills in the past
INVOLUNTARY	Elisabeth works harder because she has been brought up in a hard working family	Elisabeth is more productive because she has a higher natural intelligence

With our choice of variants we tried to capture a bit of the abstract philosophical discussion on Dworkin's cut. It is not easy, however, to define concrete variables for the idea of "personal identity-related" characteristics. We therefore started from Dworkin's (1981) suggestion to consider individual preferences as the basic characteristic defining the individual identities. Combining the different possibilities we finally constructed four cases for both the health and the income variant. Our choices are summarised in table 2. In principle we would expect a small degree of compensation for the CP-variables ("controlled preferences" or expensive tastes) and a large degree of compensation for the IR-variables ("involuntary resources") where both philosophical approaches take the same stance. However, it is very well possible that some of our respondents take another position, either because they do not follow the philosophical a priori's or because our translation in terms of concrete variables is inadequate. This first part of the questionnaire also allowed for some "learning-by-doing", making it possible to formulate more complicated cases in the second part.

In that *second part* we varied the description of the hypothetical persons in the cases along two dimensions, one which we considered to be a responsibility-variable (the CP-boxes in table 2: choice of a private room and effort respectively), one which we took as a compensation-variable (the variables in the IR-boxes: genetic defects and innate intelligence respectively). The description in case A of the pre-tax incomes or the medical expenditures (see appendix) is based on the following specification of *f*:

$$(10) \qquad f(a_i) = 150 + 50a_i^C + 150a_i^R$$

In this additively separable case, it is possible for the respondents to pick the distribution rule (5), satisfying both full and strict compensation. Case B is similar to case A, but the function *f* is no longer additively separable in the a^C and a^R-variables:

$$(11) \qquad f(a_i) = 200 + 200a_i^C + 150a_i^R + 100a_i^R a_i^C$$

This means that the respondents have to choose a compromise between the basic "egalitarian" and "responsibility"-intuitions.

Following the approach proposed by Amiel and Cowell (1992), we added a series of verbal questions, where the respondents were confronted with the basic axioms formulated in plain language. They simply had to report whether they agreed with the statement or not. Afterwards, they were given the opportunity to change their answers on the numerical cases, if they had the feeling that there was an inconsistency between their answers on the numerical and the verbal parts. If they were inconsistent, but did not want to alter any of their answers, they were asked to explain the argumentation behind their choices.

The *third part* of the questionnaire (which was identical for the "health" and "income" versions) tested for the acceptance of some other common axioms from the social choice literature, such as the no-envy principle, the stand-alone-upper-bound, the unanimity-lower-bound, population and resource monotonicity. In this paper we will not comment upon the results in this latter part. We will only report some results on the acceptance of the Pareto-principle because they shed some light on the results of the first two parts.

4. RESULTS

We look first at the results of the simple cases indicating the degree of acceptance of different criteria for compensation. This will give already a first indication of the acceptance of Fleurbaey's axioms. In a second subsection we deal explicitly with this latter point and we focus upon the distributive mechanism chosen by our respondents in the more complex bidimensional setting. We close with some striking results on the Pareto-principle.

4.1. Dworkin's cut: the limits of responsibility

The detailed results for the different cases are given in the appendix. A summary of the most important results can be found in Table 3. In that table the answers of the

respondents are grouped into four categories. *"No compensation"* refers to the case where the differentiating characteristic is treated as a "responsibility"-variable and the respondent subscribes to the notion of strict compensation: this leads to an equal distribution of the subsidy in the health case ($\omega_i = \omega_j$) and to the status quo-solution (no taxes or transfers) in the income-case. *"Full compensation"* means that the respondent treats the characteristic as a "compensation"-variable and applies axioms (2) or (8): he has opted for equality of post-tax incomes in the income-case and for equality of the own contributions in the health case. If the respondent gives a larger subsidy to the person with higher medical expenditures or transfers some income from the person with a high pre-tax income to the person with a low pre-tax income, but without going for complete equality, we say that she has opted for *"intermediate compensation"*. If she goes in the opposite direction -a smaller subsidy for higher medical expenditures or a positive tax on the low-income person- we define her position as *"countercompensation"*. Table 3 is still further summarised in table 4, giving the proportion of respondents in the complete sample that want to compensate, i.e. the first two rows of the subtables 3.

Table 3. Criteria for compensation

Health case 1: private room (CP)

	BELGIUM	BURKINA FASO	INDONESIA
Full compensation	0.0	1.1	0.0
Intermediate compensation	37.6	26.4	30.9
No compensation	60.2	67.8	63.3
Countercompensation	2.2	4.7	5.8

Health case 2: private room because of psychological problems (IP)

	BELGIUM	BURKINA FASO	INDONESIA
Full compensation	6.4	9.3	5.7
Intermediate compensation	73.4	68.6	62.0
No compensation	18.1	19.8	28.1
Countercompensation	2.1	2.3	4.2

Health case 3: smoker (CR)

	BELGIUM	BURKINA FASO	INDONESIA
Full compensation	3.2	2.3	6.1
Intermediate compensation	37.2	34.9	38.5
No compensation	45.7	45.3	39.0
Countercompensation	13.9	17.5	16.4

Health case 4: genetic defects (IR)

	BELGIUM	BURKINA FASO	INDONESIA
Full compensation	28.7	25.6	28.4
Intermediate compensation	64.9	59.3	52.1
No compensation	5.3	11.6	16.0
Countercompensation	1.1	2.5	3.6

Income case 1: effort CP)

	BELGIUM	BURKINA FASO	INDONESIA
Full compensation	6.1	7.8	9.4
Intermediate compensation	1.2	6.6	0.0
No compensation	69.5	30.0	53.3
Countercompensation	23.2	55.6	37.2

Income case 2: hard working family (IP)

	BELGIUM	BURKINA FASO	INDONESIA
Full compensation	9.8	14.4	12.4
Intermediate compensation	0.0	1.1	0.0
No compensation	70.7	32.2	57.1
Countercompensation	19.5	52.3	30.5

Income case 3: acquired skills (CR)

	BELGIUM	BURKINA FASO	INDONESIA
Full compensation	4.9	10.0	12.1
Intermediate compensation	0.0	1.1	0.0
No compensation	59.3	32.2	52.0
Countercompensation	35.8	56.7	35.9

Income case 4: innate intelligence (IR)

	BELGIUM	BURKINA FASO	INDONESIA
Full compensation	59.8	41.1	46.5
Intermediate compensation	1.2	1.1	1.8
No compensation	34.1	28.9	37.8
Countercompensation	4.9	28.9	13.9

Table 4 gives us a general idea about the location of Dworkin's cut. Because the Indonesian sample is larger than the two others, the results in the table are somewhat "biased" in that direction but, as we will discuss later on, the results in table 3 suggest that the intercountry differences are not so large as to make the averaging meaningless.

Look at the health-case first. It is clear that both philosophical approaches are to a certain degree supported by our results. Both for preferences and resources the row-element

corresponding to "involuntary" is larger than the corresponding "controlled" element. Both for controlled and involuntary characteristics the "resources" column is larger than the "preferences"-column. On the other hand -and always taking into account that our choice of concrete variables is open for discussion- they are both to a certain extent rejected. About one third of the respondents does compensate for expensive tastes, 42% compensates for "controlled resources" and even 73% compensates for "involuntary preferences". In general, the overall degree of compensation is rather high in the health-cases.

Table 4. Dworkin's cut: % of respondents who want to compensate

HEALTH

	PREFERENCES	**RESOURCES**
CONTROLLED	31.8	41.9
INVOLUNTARY	73.1	84.8

INCOME

	PREFERENCES	**RESOURCES**
CONTROLLED	10.2	10.2
INVOLUNTARY	12.6	49.7

This is much less true in the income-cases. Differences in effort are definitely seen as a "responsibility"-factor, even if they follow from the (involuntarily "chosen") family background (IP) or are situated in the past (CR). This effect is so strong that it becomes difficult to draw any conclusions about Dworkin's cut in this case. In fact, redistribution of labour income is much less popular than compensation for differences in health care needs. Even innate intelligence is only compensated for by about 50% of the respondents.

If one were willing to base some conclusions about Dworkin's cut on the cells IP and CR in table 4 (because there the predictions of both philosophical approaches differ), one could say that there is somewhat more support for the Arneson/Cohen than for the Dworkin/Scanlon-view. However, it is clear that we have to be very cautious with this interpretation. Our concrete cases are but an extremely primitive reflection of the subtle philosophical distinctions. This is the more true because our focus on the preferences/ resources distinction is only one way to give content to the broader idea of responsibility by delegation, as defined by Scanlon. Almost any concrete interpretation of Dworkin's cut is justifiable within his broader contractualist approach. Of course, this also means that empirical results as the ones we present may be particularly useful to give a concrete content to this approach.

The more detailed results in Table 3 give us some interesting additional insights in the way our respondents think about compensation. It is immediately obvious that they reject some important starting points of the economic theory of responsibility-sensitive egalitarianism. Look at the health cases first. Respondents, who are willing to compensate, have a clear preference for the so-called intermediate solutions. These solutions do not fit easily into the Fleurbaey-framework. More specifically, it seems that the axiom of full compensation, i.e. the basic idea of egalitarianism, is quite decisively rejected in these cases. This is even true in case 4, which relates to genetic defects. Although our formulation did not refer to health insurance, apparently our respondents use a notion of coinsurance. This is much less true in the income-distribution cases, where the possibility of intermediate compensation is hardly chosen.

However, the income distribution cases 1, 2 and 3 show another feature which does not fit into the economic theories of equality of opportunity: a large proportion of respondents chooses a solution with "countercompensation". This can be seen as a rejection of the axiom of strict compensation. This axiom basically accepts the existence of a kind of "natural reward" scheme, which should not be interfered with through government intervention. Responsibility considerations then act as a constraint on egalitarianism, as a kind of protection of individual freedom. However, a large fraction of our respondents broaden this individualistic notion of responsibility. In their opinion individuals have duties and should in a certain sense be "punished" if they do not perform these duties. The government should not only keep intact income differences following from differences in effort- it should punish the lazy, whatever the cause of their laziness. This attitude -of enforcing certain kinds of behaviour and discouraging other forms- is corroborated by the results in health case 3 with respect to compensation for smokers. Here also there is a significant minority who opts for countercompensation. There can be no doubt that a fraction of our respondents does not accept the liberal notion of freedom, or, more specifically, rejects the idea of a "natural reward"-scheme.

This latter point is especially true for the Burkinese sample -the Burkinese students definitely think that the lazy should be punished. The acceptance of the liberal notion of freedom is strongest in Belgium. This brings us to the point of the intercultural differences. The overall picture with respect to Dworkin's cut is quite similar in the three samples. Perhaps the Belgian sample is more inclined than the other two to compensate for differences in genetic endowments (health and income distribution case 4). Moreover, Belgian students apparently take a more favourable attitude towards compensation in the health cases. Yet in general it seems fair to say, that apart from the attitude towards countercompensation in Burkina Faso, intercultural differences are much less pronounced than could have been expected. This is a striking result, although it should be interpreted with caution. In each country we have focused on a specific and rather homogeneous subset of the population: the university students. It is quite plausible that there would be bigger differences with representative samples of the respective populations- although this could then be seen as an indication that economic factors are more influential than so-called cultural differences. Moreover, we will show in section 4.2 that the intercultural differences get stronger, when we turn to a more complex setting.

4.2. Distributive mechanisms: full and strict compensation

With the previous results in mind we can now turn to the more complicated bidimensional cases. Complete results are shown in the appendix. The results with respect to the concrete axioms (2) or (8) and (3) or (9) are summarised in tables 5 and 6 for the health cases and the income distribution cases respectively. We have seen already that "intermediate" compensation is more popular than full compensation, and that in many instances respondents advocate a kind of "countercompensation", which does not fit easily into the theory. Therefore we cannot expect that the majority of our respondents opts for the solutions proposed in the literature -including the natural solution (5) in the separable case.

Let us look first at the results for *health case* A. The first column for Belgium gives the results for the numerical case in the obvious interpretation, in which "choosing a private room" is a responsibility-variable and "lower natural resistance" a compensation-variable. These results are very similar to the ones we reported for another sample of Belgian students in Schokkaert and Devooght (1998). Somewhat surprisingly, more than 56% of the students chooses the "natural solution" (5). After all, although this solution may be natural from a theoretical point of view, it is much less so for our respondents who do not reason from a complete theoretical background. In fact, at first sight it is much less natural than the equal or proportional solutions which are also among the possibilities. In our previous paper we concluded from this result that the compensation framework seems to be rather close to the moral intuitions of our respondents in the health case. However, the present study gives additional material which is much less encouraging.

Table 5. Distribution rules and acceptance of axioms: health cases

CASE A	**BELGIUM**			**BURKINA FASO**			**INDONESIA**		
	Num	Adju	Verb	Num	Adju	Verb	Num	Adju	Verb
Full, strict	56.4	31.9	17.0	31.0	23.8	31.0	41.0	26.7	24.2
Full, not strict	10.7	4.4	28.7	12.6	7.5	10.4	14.0	4.7	13.6
Not full, strict	6.4	5.5	28.7	11.6	7.5	29.9	16.5	12.2	34.9
Not full, not strict	26.5	58.2	25.6	44.8	61.3	28.7	28.5	56.4	27.3

CASE B	**BELGIUM**			**BURKINA FASO**			**INDONESIA**		
	Num	Adju	Verb	Num	Adju	Verb	Num	Adju	Verb
Full, strict	-	-	17.0	-	-	31.0	-	-	24.2
Full, not strict	25.6	13.2	28.7	17.4	11.3	10.4	16.4	6.4	13.6
Not full, strict	46.8	31.9	28.7	61.7	43.8	29.9	70.2	49.4	34.9
Not full, not strict	27.6	54.9	25.6	20.9	45.0	28.7	13.4	44.2	27.3

In the first place, although the "natural" solution is also the most popular solution in the Burkinese and Indonesian sample, in these cases only a minority opts for it. In the second place, and perhaps more importantly, we know from the previous section that not all the respondents see the choice of a private room as a "responsibility" variable (or a genetic defect as a reason for compensation). It seems therefore necessary to reinterpret the answers of the respondents on the more complicated cases in the light of their positions in the simple cases. To give an example: someone, who interprets both the choice of a private room and the presence of a genetic defect as compensation variables will only accept full compensation if he goes for complete equality of the own contributions of the individuals in the case. Someone who interprets both characteristics as responsibility variables will only be consistent with the axiom of strict compensation if he opts for the equal distribution of the subsidies. Reinterpreting the answers of the respondents in the light of their own personal perception of compensation- and responsibility-variables gives the numbers in the second column ("adjusted"). The differences between the different samples become smaller and so does the degree of acceptance of the axioms. This is exactly what could be expected on the basis of the results in Table 3. Remember that this table already showed that intermediate compensation is much more popular than full compensation. In the third place, the answers on the verbal questions (in the third column) show a mixed picture. Averaging over the three samples, about 40% of the respondents accepts the egalitarian idea that "people who take the same decisions concerning their room in the hospital should bear the same amount of medical expenses". A much larger group (60% in Burkina Faso and Indonesia, 45% in Belgium) thinks that "the government has to pay an equal subsidy to all people with the same genetic characteristics", our formulation of strict compensation[4].

The pattern of chosen distribution rules (see appendix) is also mixed. A large fraction of the Burkinese students chooses the proportional solution. The egalitarian solution, in which everybody pays the same own contribution, is hardly taken. Much more popular (certainly in Indonesia) is the so-called "status quo"-position. The terminology "status quo" may be somewhat confusing in the health cases: in fact, in a certain sense this is also an "egalitarian" solution, in which the subsidy is distributed equally over the four individuals without any correction for differences in needs. It is not surprising that this easy solution acts as a kind of focal point.

Results are even more mixed in the non-separable health case B. If respondents are forced to choose between full and strict compensation, the former axiom obviously (and not surprisingly) is given up. Both in Burkina Faso and in Indonesia the axiom of strict compensation is even more often satisfied in case B than in case A. Perhaps it acts as a kind of anchoring principle, used by the respondents to structure a case of a bewildering complexity. This latter consideration may also explain why the most popular choice in all three countries is the distribution of the subsidy like in the natural solution of the separable case A (which we call the "natural solution look-alike"). In case B, this distribution does satisfy strict compensation (but ***not*** full compensation). It is very well possible that respondents simply stuck to the choice they made previously in case A (without realising the different consequences in both cases). However, it is also possible

[4] The exact formulation of the questions can be found in the appendix.

that this distribution of the subsidies looks attractive, irrespective of the satisfaction of the axioms. Given the results in table 3, one could expect that many respondents would pick a solution which satisfies strict and intermediate (instead of full) compensation. This pattern is indeed present in many of the chosen distribution rules.

Let us now turn to the results for the *income distribution problem* (Table 6 and Appendix). Here, the differences between cases A and B are less revealing than the differences between the different countries. Some of the intercultural differences which were present in a weak form in the simple questions of section 4.2 reappear here in a considerably strengthened fashion. The pattern which seems to emerge can be summarised with three observations.

Table 6. Distribution rules and acceptance of axioms: income distribution cases

CASE A	**BELGIUM**			**BURKINA FASO**			**INDONESIA**		
	Num	Adju	Verb	Num	Adju	Verb	Num	Adju	Verb
Full, strict	29.8	29.5	6.0	13.3	9.1	33.3	9.8	6.4	13.3
Full, not strict	2.4	3.3	34.5	6.7	9.1	21.1	1.5	1.0	20.7
Not full, strict	13.1	14.7	8.3	16.7	30.3	14.4	28.6	44.7	24.6
Not full, not strict	54.7	52.5	51.2	63.3	51.5	31.1	60.1	47.9	41.4

CASE B	**BELGIUM**			**BURKINA FASO**			**INDONESIA**		
	Num	Adju	Verb	Num	Adju	Verb	Num	Adju	Verb
Full, strict	-	-	6.0	-	-	33.3	-	-	13.3
Full, not strict	25.3	21.3	34.5	10.0	9.1	21.1	3.5	2.1	20.7
Not full, strict	24.1	23.0	8.3	34.4	36.4	14.4	38.4	47.9	24.6
Not full, not strict	50.6	55.7	51.2	55.6	54.5	31.1	58.1	50.0	41.4

First, as in the health case, pure and simple income egalitarianism is chosen by only an extremely small minority in all three countries. A considerably larger group of respondents select the status-quo solution, i.e. no redistribution at all. Although this conservative choice occurs less often in Belgium, it is rather popular in Burkina Faso and still more in Indonesia, where both in the separable and the non-separable case more than

25% of the respondents select it. We find the more redistribution-oriented state of mind of the Belgian respondents also in other parts of the questionnaire.

Second, in the numerical questions full compensation with respect to differences in innate capacities is a real option for respondents in Belgium only. In fact, while the natural solution (5) is the most popular choice in case A for Belgium, it is not dominant at all in Burkina Faso and Indonesia. Even in Belgium, only about 30% of the respondents chooses this distribution rule- this is about the same proportion as was found in the adjusted results of the health case[5]. The answers on the verbal questions suggest a different pattern, with a large acceptance of full compensation in Burkina Faso. It is instructive, however, to look at the exact formulation of the question: "Do you think that people who perform the same effort should claim an equal income?" This formulation does not contain any reference to the non-effort related variables (which *implicitly* are compensated for when one accepts the statement), while at the same time mentioning explicitly the effort-dimension. Respondents may have reacted to the latter clue- implicitly assuming that "an equal income for equal effort" would also imply "a different income for a different effort level".

This latter interpretation is certainly in line with the third observation: many respondents prefer countercompensation (where effort is rewarded and laziness punished), and slightly more so in Burkina Faso and Indonesia than in Belgium. This finding is consistent with the results for the simple cases in table 3. In our opinion, this is a striking result[6]. The idea of a "duty towards the community" plays a crucial role in the justice conception of many respondents- in all cultures. This idea certainly goes strongly against the traditional liberal conceptions of justice.

We can summarize. The axiom of full compensation is in general much less accepted than the axiom of strict compensation. Intermediate compensation schemes are more popular in the health cases; the income distribution problem is even dominated by the idea of countercompensation. Belgian respondents are more oriented towards compensation in the health cases, and more redistribution-oriented in the income cases. The Indonesian respondents are the most conservative in favouring the status-quo option. Burkinese students take an intermediate position.

It would be interesting to know where these differences come from. They can reflect genuine differences in opinions about justice or point to different attitudes towards conflict. Once one starts to compensate, one has to form an opinion about the degree of compensation and about the variables to be compensated for. One cannot expect to reach easily a social consensus about these questions -as our survey results convincingly show. By choosing what we have called the "status-quo" option, respondents avoid this difficult

[5] In Schokkaert and Devooght (1998), there was a significant discrepancy between the answers in health case A and income distribution case A. The present results show that this was probably due to the use of an a priori-classification of responsibility- and compensation-variables. Compare the "adjusted" columns for Belgium in table 5A and table 6A.

[6] At the time of the pretesting about which we report in Schokkaert and Devooght (1998), we did not add countercompensation as one of the options among which respondents could choose- simply because we did not think about the possibility. Like in the present study, however, respondents could *add* a preferred distribution of their own to the list we proposed. A significant group of respondents explicitly added countercompensating redistributions in the income distribution problem. This is the reason why we included them in the present version of the questionnaire.

debate. No redistribution in the income case and an equal division of the subsidy (which has to be divided in one way or another) in the health case are conflict-avoiding choices. Different attitudes towards justice or towards conflict-avoidance can be a reflection of intercultural differences. However, differences in the social background of our respondents can also be part of the explanation. The Indonesian university of Bandung recruits its students mainly among Catholics of Chinese origin- and it is well known that this is the most entrepreneurially oriented segment of the Indonesian population.

There is even a more immediate explanation possible. Belgian students live in a society with a solidaristic compulsory and universal health insurance system and with a highly redistributive income tax. Their answers on the concrete questions could therefore simply reflect to some extent the socio-economic institutions they are acquainted with. If this hypothesis were true, the differences would tend to disappear with more abstract and less institution-oriented formulations. This was already partly the case in the simple questions discussed in section 4.1. In the next section, we turn to an even more abstract problem. It will turn out that not all intercultural differences disappear.

4.3. The Pareto-principle

The third part of the questionnaire contained some questions which were designed to check general ideas about equality and to test for the acceptance of the Pareto-principle. It is worthwhile giving the complete formulation. First, respondents had to answer the following question:

> *Suppose that a certain amount of food is distributed between some persons. You can dispose of an additional amount of food but this amount can or may only be allocated to one person. This person therefore will get a greater amount of food. All the other persons will keep their former amounts and thus get nothing less. Do you find this possible distribution an improvement in comparison with the original distribution?*

Those who answered "yes" to this question were confronted with the following problem:

> *Suppose now that this additional amount of food necessarily has to be allocated to the person who already has the greatest amount in the original distribution. The richest will become richer but no one of the other persons will be worse off. Do you find that, in this special case, the new distribution is still an improvement in comparison with the original distribution?*

If the answer on the first question was "no", the follow up-question read as follows:

> *Suppose now that this additional amount of food necessarily has to be allocated to the person who has the smallest amount in the original distribution. The poorest will improve his situation but no one of the other persons will be worse off. Do you find that, in this special case, the new distribution is still worse than the original distribution?*

The answers on these questions are summarised in table 7. The sum of the elements in the first two rows gives the percentage of respondents who answered "yes" on the first question, i.e. who basically think that an increase in the total amount of food to be distributed is a "good thing", even if it is only to the benefit of one person. About 50% of the Belgian respondents and 42% of the Burkinese students have chosen this answer. The

corresponding figure for the Indonesian sample is 85%! The difference persists when we also bring the second question into the analysis. Note that only the respondents who answered "yes" on both questions do accept the Pareto-principle as it is usually interpreted in economic theory. This sacrosanct principle is very decisively rejected by our Belgian and Burkinese samples. This is a confirmation of previous empirical results, reported *inter alia* by McClelland and Rohrbaugh (1978) and Amiel and Cowell (1994). More surprising in the light of this previous work- but more in line with economic theory- is the acceptance of the Pareto principle by a majority of our Indonesian sample. Of those who answered "no" on the first question, the vast majority in Belgium and Burkina Faso changes his mind when it is made explicit that the advantage goes to the poorest; this is not the case in Indonesia, however. The conclusion that our Indonesian sample cares less about redistribution seems to rest on very firm ground. On the basis of this study, it is difficult to judge whether this is due to intercultural differences or to their specific socio-economic background. However, the persistence of the differences with the abstract formulations in this section, makes it much less plausible that the variation described in section 4.2 can be explained completely by the fact that respondents are influenced by the concrete health insurance or fiscal system of their country.

Table 7. Acceptance of the Pareto-principle

	BELGIUM	**BURKINA FASO**	**INDONESIA**
YY: acceptance of the Pareto-criterion	20.9	18.2	62.6
YN: "efficiency gain" is OK, but not if it goes to the richest person	29.4	23.8	21.7
NN: "efficiency gain" is OK, *if* it goes to the poorest person	38.4	43.8	4.2
NY: change in the distribution is not acceptable	11.3	14.2	11.5

5. CONCLUSION

Formal models of responsibility-sensitive egalitarianism bridge part of the gap between traditional welfarism economics and more modern non-welfarist philosophical ideas. They also offer an opportunity to confront formal economic theory with the actual political and social debate, in which the notion of "responsibility" plays an essential role. We have discussed some empirical results which can help to understand better the implications and limitations of this approach.

A first problem is the one of "locating Dworkin's cut", i.e. to draw the line between variables for which individuals have to be compensated and variables for which they are held responsible. Empirical research is crucial to solve this problem within a contractualist or a culturally relativist approach (as the one defended by Scanlon and Roemer respectively). Our results for Belgium, Burkina Faso and Indonesia suggest that cultural differences are not so large as could have been expected a priori. We find some support for the notion that individuals are responsible for the preferences with which they identify and -more strongly- for the idea that they are responsible for the variables which are under their control. However, none of these two stylised approaches can count on a consensus among our respondents.

In the second place some of the answers of our respondents raise basic questions concerning the starting points of the approach. In many of our cases, the notion of egalitarianism itself is rejected in favour of what we called "intermediate compensation": this is an inequality-reducing intervention, which does not go the whole way towards egalitarianism. Note that this is not due to the presence of responsibility variables, because these are controlled for in the formulation of the questions. Moreover, if our respondents really feel that individuals are responsible for their behaviour (smoking and working hard are obvious examples) they go further than what responsibility-sensitive egalitarianism suggests. For some of our respondents not only should people not be compensated for the consequences of this behaviour, they should even be punished (if they smoke or are lazy). We have called this phenomenon "countercompensation". This very non-liberal attitude is found in all samples, but is most important in the Burkinese sample.

In the third place, our results corroborate the findings of other authors with respect to the sacrosanct Pareto-principle. This principle is scathingly rejected by Belgian and Burkinese students. However, it is much more popular in Indonesia. In general, our Indonesian sample seems to be more efficiency- and less redistribution-oriented than the two others. More research (preferably with larger non-student samples) is necessary to see whether this result is a reflection of genuine intercultural differences or rather follows from differences in the socio-economic background of the respondents.

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APPENDIX

This questionnaire will explore some attitudes towards justice and redistribution. We will do this with the help of some hypothetical cases. We are interested in **your** insights! Because these cases deal with attitudes, there are no 'right' or 'wrong' answers. Your answers will clarify presuppositions which appear in economic literature and of which we do not know for sure are true of the population.
This questionnaire has three parts. We ask you to complete part one before you look at the second part. We will ask you kindly nothing to change in the first part after you have started part two. Your answers should become completely useless for us and you can not gain or lose anything by changing. Finally you can complete part three.
This questionnaire is completely anonymous. Do not write your name on this questionnaire. Thank you for your collaboration.

PART ONE: HEALTH CASES

In the first part we present some cases in which we ask for *your* personal preference concerning the distribution of certain costs. There are no 'right' or 'wrong' answers.

HEALTH CASE 1

1) Luke and Mark are both suffering similar effects of lung cancer. They have the same financial wealth at their disposal and earn the same income. Luke and Mark have to be admitted to a hospital for treatment. We suppose that all treatments are effective. Luke chooses for a **common room** which he shares with other patients. The costs of his treatment in the hospital are 250. Mark, on the other hand, opts for a **private room** in the hospital which gives him more comfort. Due to his choice of a private room, the costs of the treatment of Mark are 750. The government has to divide 500 as a financial contribution to the costs of the treatments of the two persons and is willing to divide it completely. What would you consider to be a just division of this amount of money? Place an asterisk * in the box of your choice. In row H you can add an own ideal distribution of the government money.

	LUKE		MARK	
	Contribution government in the costs	Own contribution. The patient...	Contribution government in the costs	Own contribution The patient...
A	0	pays 250 himself.	500	pays 250 himself.
B	125	pays 125 himself.	375	pays 375 himself.
C	200	pays 50 himself.	300	pays 450 himself.
D	250	pays nothing.	250	pays 500 himself.
E	300	keeps 50.	200	pays 550 himself.
F	375	keeps 125.	125	pays 625 himself.
G	500	keeps 250.	0	pays 750 himself
H				

HEALTH CASE 1 (%)	Answer	**BELGIUM**	**BURKINA FASO**	**INDONESIA**
Full Compensation	**A**	**-**	**1.1**	**-**
Intermediate compensation	B	14.0	18.4	18.3
Intermediate compensation	C	23.6	8.0	12.6
No compensation	**D**	**60.2**	**67.8**	**63.3**
Countercompensation	E	1.1	1.2	2.6
Countercompensation	F	1.1	1.2	1.1
Countercompensation	G	-	2.3	2.1

HEALTH CASE 2

2) Luke and Mark are both suffering similar effects of lung cancer. They have the same financial wealth at their disposal and earn the same income. Luke and Mark have to be admitted to a hospital for treatment. We suppose that all treatments are effective. Luke chooses for a common room which he shares with other patients. The costs of his treatment in the hospital are 250. Mark, on the other hand, has **psychological problems** with the presence of other people and opts therefore for a private room in the hospital where he is not confronted with other people. Due to his choice for a private room the costs of the treatment of Mark are 750. The government has to divide 500 as a financial contribution to the costs of the treatments of the two persons and is willing to divide it completely. What would you consider to be a just division of this amount of money? Place an asterisk * in the box of your choice. In row H you can add an own ideal distribution of the government money.

HEALTH CASE 2 (%)	Answer	**BELGIUM**	**BURKINA FASO**	**INDONESIA**
Full Compensation	**A**	**6.4**	**9.3**	**5.7**
Intermediate compensation	B	46.8	44.2	39.1
Intermediate compensation	C	26.6	24.4	22.9
No compensation	**D**	**18.1**	**19.8**	**28.1**
Countercompensation	E	1.1	1.2	0.5
Countercompensation	F	1.0	1.1	1.1
Countercompensation	G	-	-	2.6

HEALTH CASE 3

3) Luke and Mark are both suffering lung cancer. They have the same financial wealth at their disposal and earn the same income. Luke and Mark have to be admitted to a hospital for treatment. We suppose that all treatments are effective. Luke has **never been a smoker**. The costs of his treatment in the hospital are 250. Mark, on the other hand, is a **confirmed smoker**. Due to his smoking behaviour, the effects of lung cancer are more serious than the effects of lung cancer for Luke. The costs of the treatment of Mark are 750. The government has to divide 500 as a financial contribution to the costs of the treatments of the two persons and is willing to divide it completely. What would you consider to be a just division of this amount of money? Place an asterisk * in the box of your choice. In row H you can add an own ideal distribution of the government money.

HEALTH CASE 3 (%)	Answer	**BELGIUM**	**BURKINA FASO**	**INDONESIA**
Full Compensation	**A**	**3.2**	**2.3**	**6.1**
Intermediate compensation	B	21.3	18.6	18.0
Intermediate compensation	C	15.9	16.3	20.5
No compensation	**D**	**45.7**	**45.3**	**39.0**
Countercompensation	E	7.5	5.8	6.2
Countercompensation	F	6.4	4.7	3.6
Countercompensation	G	-	7.0	6.6

HEALTH CASE 4

4) Luke and Mark are both suffering lung cancer. They have the same financial wealth at their disposal and earn the same income. Luke and Mark have to be admitted to a hospital for treatment. We suppose that all treatments are effective. Luke is born with a **normal natural resistance** to lung cancer. The costs of his treatment in the hospital are 250. Mark, on the other hand, has a **genetic defect** and therefore his natural resistance to lung cancer is much weaker. The costs of the treatment of Mark are 750. The government has to divide 500 as a financial contribution to the costs of the treatments of the two persons and is willing to divide it completely. What would you consider to be a just division of this amount of money? Place an asterisk * in the box of your choice. In row H you can add an own ideal distribution of the government money.

HEALTH CASE 4 (%)	Answer	**BELGIUM**	**BURKINA FASO**	**INDONESIA**
Full Compensation	**A**	**28.7**	**25.6**	**28.3**
Intermediate compensation	B	57.5	47.7	36.1
Intermediate compensation	C	7.4	11.6	16.0
No compensation	**D**	**5.3**	**11.6**	**16.0**
Countercompensation	E	-	1.15	2.1
Countercompensation	F	1.1	1.15	-
Countercompensation	G	-	1.15	1.5

HEALTH CASE A

5) Chris, John, Tim and Tom are suffering from similar effects of lung cancer. The total costs of a successful cure are 350 for Chris, 200 for John, 300 for Tim and 150 for Tom. The total costs are composed as follows. To help Tim and Tom the costs of the basic cure are 150 each. To help Chris and John the cost for the basic treatment is 200 each, due to their **lower natural resistance** against cancer. Chris and John have a genetic defect and therefore need an additional treatment. This is not necessary for Tim and Tom. There is also a second reason for the differences in costs. Chris and Tim have chosen a **private room** in the hospital because it gives them more comfort. This choice costs them each 150 extra. John and Tom have not chosen such a private room and do not need to pay an additional cost. We suppose that all treatments are effective. The government has to divide 500 for the treatments between this patients only and is willing to divide it completely. What would you consider to be a just division of this amount of money? Place an asterisk "*" in the box at the back of the row you prefer. In row H you can add an own ideal distribution of the government money.

	CHRIS		JOHN		TIM		TOM	
	Private room Genetic weak		Common room Genetic weak		Private room Genetic strong		Common room Genetic strong	
	Contribution government in the costs	Own contribution Chris pays	Contribution government in the costs	Own contribution John pays	Contribution government in the costs	Own contribution Tim pays	Contribution government in the costs	Own contribution Tom pays
A	100	250	150	50	100	200	150	0
B	125	225	125	75	125	175	125	25
C	150	200	150	50	100	200	100	50
D	100	250	175	25	75	225	150	0
E	175	175	100	100	150	150	75	75
F	200	150	100	100	150	150	50	100
G	225	125	75	125	175	125	25	125
H								

HEALTH CASE A *%*	**Belgium**	**Burkina Faso**	**Indonesia**	**Axioms**	
A	4.2	9.2	5.0	-	Countercompensation
B	6.4	11.6	16.5	Strict	Status quo
C	**56.4**	**31.0**	**41.0**	**Strict + Full**	**Natural solution**
D	13.8	10.3	10.0	-	Countercompensation
E	4.2	21.8	6.5	-	Proportional solution
F	9.6	6.9	13.0	Full	Progressive solution
G	1.1	5.7	1.0	Full	Egalitarian solution
H	4.3	3.5	7.0	-	Solutions of respondents

HEALTH CASE B

6) Bart, Bert, Hans and Henk are suffering from similar effects of lung cancer. The total costs of a successful cure are 650 for Bart, 400 for Bert, 350 for Hans and 200 for Henk. The total costs are composed as follows. To help Bart and Bert the costs of a basic cure are 400 each, due to their **lower natural resistance** to cancer. Bart and Bert have a genetic defect and need an additional cure. Hans and Henk do not need such an additional cure. To help Hans and Henk the total costs are 200 each. But there is a second reason for the differences in costs. Bart and Hans have chosen a **private room** in the hospital which provides them more comfort. An intensive cure in a private room costs more than an intensive cure in a normal, common room. Therefore Bart who needs an intensive cure due to his lower resistance to lung cancer, has to pay 250 extra for his private room. A normal cure in a private room costs also more but less than an intensive cure in a private room. Hans who has a normal natural resistance, needs no additional cure and has to pay only 150 extra for his private room. We suppose that all treatments are effective. The government has to divide 500 for the treatments between this patients only and is willing to divide it completely. What would you consider to be a just division of this amount of money? Place an asterisk "*" in the box at the back of the row you prefer. In row K you can add an own ideal distribution of the government money.

	BART		BERT		HANS		HENK	
	Private room Genetic weak		Common room Genetic weak		Private room Genetic strong		Common room Genetic strong	
	Contribution government in the costs	Own contribution Bart pays	Contribution government in the costs	Own contribution Bert pays	Contribution government in the costs	Own contribution Hans pays	Contribution government in the costs	Own contribution Henk pays
A	375	275	125	275	75	275	-75	275
B	225	425	225	175	25	325	25	175
C	275	375	225	175	-25	375	25	175
D	175	475	275	125	-25	375	75	125
E	300	350	200	200	0	350	0	200
F	125	525	125	275	125	225	125	75
G	250	400	250	150	0	350	0	200
H	150	500	150	250	100	250	100	100
I	75	575	175	225	75	275	175	25
J	325	325	125	275	75	275	-25	225
K								

HEALTH CASE B %	**Belgium**	**Burkina Faso**	**Indonesia**	**Axioms**	
A	1.1	7.0	2.5	Full	Egalitarian
B	16.0	14.0	21.4	Strict	-
C	16.0	5.8	3.5	Full	-
D	10.6	9.3	3.5	-	-
E	8.5	4.6	10.4	Full	-
F	3.2	21.0	19.4	Strict	Status quo
G	3.2	2.3	5.5	Strict	-
H	20.2	24.4	22.9	Strict	Natural solution look-alike
I	2.1	5.8	3.5	-	Countercompensation
J	1.1	1.2	-	-	-
K	13.8	4.6	6.4	-	Solutions of respondents
K	4.2	-	1.0	Strict	Solutions of respondents

PART ONE: INCOME REDISTRIBUTION CASES

In the first part we present some cases in which we ask for *your* personal preference concerning taxes and the redistribution of incomes. There are no 'right' or 'wrong' answers.

INCOME REDISTRIBUTION CASE 1

1) Both Elisabeth and Catherine have followed the same education and have the same financial wealth at their disposal. They are employed in a similar job and are equally intelligent. Elisabeth **chooses to work very hard** and to take only little leisure time. Elisabeth receives for her labour an income of 300. Catherine, on the other hand, **prefers to take more leisure time** and to work less hours a week than Elisabeth. Catherine receives for her labour an income of 200. The government wants to redistribute the income. Redistribution does not influence the behaviour of the two persons. What would you consider to be a just redistribution? Please place an asterisk * in the box of your choice. In row L you can add an own ideal redistribution.

	ELISABETH		CATHERINE		
	Subsidy (+) or Tax (-)	Income after redistribution	Subsidy (+) or Tax (-)	Income after redistribution.	
A	-300	0	+300	500	
B	-250	50	+250	450	
C	-200	100	+200	400	
D	-150	150	+150	350	
E	-100	200	+100	300	
F	-50	250	+50	250	
G	0	300	0	200	
H	+50	350	-50	150	
I	+100	400	-100	100	
J	+150	450	-150	50	
K	+200	500	-200	0	
L					

INCOME CASE 1 (%)	Answer	**BELGIUM**	**BURKINA FASO**	**INDONESIA**
Intermediate compensation	A	-	3.3	-
Intermediate compensation	B	-	-	-
Intermediate compensation	C	-	-	-
Intermediate compensation	D	-	1.1	-
Intermediate compensation	E	1.2	2.2	-
Full compensation	**F**	**6.1**	**7.8**	**9.4**
No Compensation	**G**	**69.5**	**30.0**	**53.3**
Countercompensation	H	20.7	40.0	31.1
Countercompensation	I	2.5	10.0	5.0
Countercompensation	J	-	2.2	1.1
Countercompensation	K	-	3.4	-

INCOME REDISTRIBUTION CASE 2

2) Both Elisabeth and Catherine have followed the same education and have the same financial wealth at their disposal. They are both employed in a similar job and are equally intelligent. Elisabeth has been brought up in a **hard working family**. From this background Elisabeth chooses to work very hard and to take only little leisure time. Elisabeth receives for her labour an income of 300. Catherine, on the other hand, has been brought up in a family which attaches **less value to labour and effort**. In keeping with her background Catherine prefers to take more leisure time and to work less hours a week than Elisabeth. Catherine receives for her labour an income of 200. The government wants to redistribute the income. Redistribution does not influence the behaviour of the two persons. What would you consider to be a just redistribution? Please place an asterisk * in the box of your choice. In row L you can add an own ideal redistribution.

INCOME CASE 2 (%)	Answer	**BELGIUM**	**BURKINA FASO**	**INDONESIA**
Intermediate compensation	A	-	1.1	-
Intermediate compensation	B	-	-	-
Intermediate compensation	C	-	-	-
Intermediate compensation	D	-	-	-
Intermediate compensation	E	-	-	-
Full compensation	**F**	**9.8**	**14.4**	**12.4**
No Compensation	**G**	**70.7**	**32.2**	**57.1**
Countercompensation	H	19.5	34.5	24.3
Countercompensation	I	-	13.4	4.5
Countercompensation	J	-	1.1	0.6
Countercompensation	K	-	3.3	1.1

INCOME REDISTRIBUTION CASE 3

3) Both Elisabeth and Catherine have the same financial wealth at their disposal. Both are born with the same level of intelligence. They are both employed in a similar job. We know that both persons work equally hard. Through effort and zest in the past, Elisabeth **developed skills and techniques** which give her a higher productivity level in the present. Elisabeth receives for her labour an income of 300. Catherine, on the other hand, **did not perform effort in the past to develop skills and techniques**. She therefore achieves a lower productivity level than Elisabeth. Catherine receives for her labour an income of 200. The government wants to redistribute the income. Redistribution does not influence the behaviour of the two persons. What would you consider to be a just redistribution? Please place an asterisk * in the box of your choice. In row L you can add an own ideal redistribution.

INCOME CASE 3 (%)	Answer	**BELGIUM**	**BURKINA FASO**	**INDONESIA**
Intermediate compensation	A	-	-	-
Intermediate compensation	B	-	-	-
Intermediate compensation	C	-	-	-
Intermediate compensation	D	-	-	-
Intermediate compensation	E	-	1.1	-
Full compensation	**F**	**4.9**	**10.0**	**12.1**
No Compensation	**G**	**59.3**	**32.2**	**52.0**
Countercompensation	H	28.4	32.2	28.9
Countercompensation	I	7.4	22.3	5.8
Countercompensation	J	-	-	0.6
Countercompensation	K	-	2.2	0.6

INCOME REDISTRIBUTION CASE 4

4) Both Elisabeth and Catherine have the same financial wealth at their disposal. Both are born with the same level of intelligence. They are both employed in a similar job. We know that both persons work equally hard. An intelligence test has shown that Elisabeth has a higher natural intelligence than Catherine. Due to her **higher level of intelligence,** Elisabeth achieves a higher level of productivity than Catherine. Elisabeth receives for her labour an income of 300. Catherine, on the other hand, achieves a lower level of productivity. Catherine receives for her labour an income of 200. The government wants to redistribute the income. Redistribution does not influence the behaviour of the two persons. What would you consider to be a just redistribution? Please place an asterisk * in the box of your choice. In row L you can add an own ideal redistribution.

INCOME CASE 4 (%)	Answer	**BELGIUM**	**BURKINA FASO**	**INDONESIA**
Intermediate compensation	A	-	-	-
Intermediate compensation	B	-	-	-
Intermediate compensation	C	-	1.1	-
Intermediate compensation	D	-	-	-
Intermediate compensation	E	1.2	-	1.8
Full compensation	**F**	**59.8**	**41.1**	**46.5**
No Compensation	**G**	**34.1**	**28.9**	**37.8**
Countercompensation	H	3.7	20.0	10.5
Countercompensation	I	-	2.2	2.3
Countercompensation	J	1.2	2.2	1.1
Countercompensation	K	-	4.5	-

INCOME REDISTRIBUTION CASE A

5) Barbara, Babette, Ann and Anna are employed in a similar job. The total labour income is 350 for Barbara, 200 for Babette, 300 for Ann and 150 for Anna. The individual labour income is composed as follows. Barbara and Babette receive for their labour a basic income of 200 each. Due to their lower productivity Ann and Anna receive a lower basic income of 150 per person. These differences in productivity are the effects of differences in **innate intelligence**: Barbara and Babette are more intelligent than Ann and Anna. The situation is complicated by the fact that Barbara and Ann are **hard workers** which yield them an extra productivity. This extra productivity is remunerated with an extra income of 150 each. Babette and Anna are lazy and do not yield an extra productivity. They do not receive an extra income. The government wants to redistribute the income of this four persons. The knowledge that there will be redistribution does not change the behaviour of the individuals. What would you consider to be a just redistribution? The given numbers are the received subsidy (+) or the paid tax (-). Please place an asterisk * in the box of your choice. In row H you can add an own ideal redistribution.

	BARBARA		BABETTE		ANN		ANNA	
	Effort Intelligent		No effort Intelligent		Effort Not intelligent		No effort Not intelligent	
	Subsidy (+) or Tax (-)	Income after redistribution	Subsidy (+) or Tax (-)	Income after redistribution	Subsidy (+) or Tax (-)	Income after redistribution	Subsidy (+) or Tax (-)	Income after redistribution
A	+25	375	-25	175	+25	325	-25	125
B	0	350	0	200	0	300	0	150
C	-25	325	-25	175	+25	325	+25	175
D	+25	375	-50	150	+50	350	-25	125
E	-50	300	+25	225	-25	275	+50	200
F	-75	275	+25	225	-25	275	+75	225
G	-100	250	+50	250	-50	250	+100	250
H								

INCOME CASE A %	**Belgium**	**Burkina Faso**	**Indonesia**	**Axioms**	
A	22.6	24.4	23.7	-	Countercompensation
B	13.1	16.7	28.6	Strict	Status quo
C	**29.8**	**13.3**	**9.8**	**Strict + Full**	**Natural solution**
D	20.2	21.1	11.3	-	Countercompensation
E	2.4	10.0	4.9	-	Proportional solution
F	1.2	1.1	1.0	Full	Progressive solution
G	1.2	5.6	0.5	Full	Egalitarian solution
H	9.5	7.8	20.2	-	Solutions of respondents

INCOME REDISTRIBUTION CASE B

6) Paul, Peter, John and Charles are employed in a similar job. The total labour income is 650 for Paul, 400 for Peter, 350 for John and 200 for Charles. The individual labour income is composed as follows. Paul and Peter receive for their labour a basic income of 400 each. Due to their lower productivity John and Charles receive a lower basic income of 200 per person. These differences in productivity are the effects of differences in **innate intelligence**: Paul and Peter are more intelligent than John and Charles. The situation is complicated by the fact that Paul and John are **hard workers**. They work every week 5 hours more than Peter and Charles. For this additional hours Paul receives 250 extra. Due to his lower productivity John only earns 150 extra for his additional effort. Peter and Charles are lazy and do not work additional hours. They do not receive an extra income. The government wants to redistribute the income of this four persons. The knowledge that there will be redistribution does not change the behaviour of the individuals. What would you consider to be a just redistribution? The given numbers are the received subsidy (+) or the paid tax (-). Please place an asterisk * in the box of your choice. In row K you can add an own ideal redistribution.

	PAUL		PETER		JOHN		CHARLES	
	Effort Intelligent		No effort Intelligent		Effort Not intelligent		No effort Not intelligent	
	Subsidy (+) or Tax (-)	Income after redistribution	Subsidy (+) or Tax (-)	Income after redistribution	Subsidy (+) or Tax (-)	Income after redistribution	Subsidy (+) or Tax (-)	Income after redistribution
A	-250	400	0	400	+50	400	+200	400
B	-100	550	-100	300	+100	450	+100	300
C	-150	500	-100	300	+150	500	+100	300
D	-50	600	-150	250	+150	500	+50	250
E	-175	475	-75	325	+125	475	+125	325
F	0	650	0	400	0	350	0	200
G	-125	525	-125	275	+125	475	+125	325
H	-50	600	-50	350	+50	400	+50	250
I	+50	700	-50	350	+50	400	-50	150
J	-200	450	0	400	+50	400	+150	350
K								

INCOME CASE B %	**Belgium**	**Burkina Faso**	**Indonesia**	**Axioms**	
A	1.2	3.3	1.5	Full	Egalitarian
B	2.4	1.1	2.0	Strict	-
C	16.9	3.3	2.0	Full	-
D	7.2	6.7	0.5	-	-
E	7.2	3.3	-	Full	-
F	9.7	20.0	25.1	Strict	Status quo
G	6.0	2.2	0.5	Strict	-
H	6.0	11.1	9.8	Strict	Natural solution look-alike
I	25.3	32.2	37.4	-	Countercompensation
J	-	2.2	2.0	-	-
K	18.1	14.5	18.2	-	Solutions of respondents
K	-	-	1.0	Strict	Solutions of respondents

PART TWO: HEALTH CASES

Now we start the second part, in which we will check in a more direct manner your ideas about justice and redistribution. There are no 'right' or 'wrong' answers. It is important for us that you do not change anything in the previous pages.

7) Do you think that the government has to pay an equal subsidy to all people with the same genetic characteristics, i.e. people with the same innate inclination to become ill?

Yes ❒ ..... go to question 11.
No ❒ ..... go to question 8.

8) Medical expenses are not only caused by the illness of individuals, but also by their personal choice for a private room or a common room. Do you think that people who take the same decisions concerning their room in the hospital should bear the same amount of medical expenses?

Yes ❒ ..... go to question 16.
No ❒ ..... go to question 9.

9) Recall your answer to question 5. Which reasoning have you followed to come to your decision?

..... go to question 10.

10) Recall your answer to question 6. Which reasoning have you followed to come to your decision?

..... go to the third part of this questionnaire.

11) Recall your answer to question 5. Have you chosen row B or C?

Yes ❒ ..... go to question 13.
No ❒ ..... go to question 12.

12) If you have not chosen row B or C in question 5, this means that you have given either both Chris and John or both Tim and Tom a different subsidy although they have the same genetic constitution. Are you now inclined to change your answer to question 5?

Yes new choice = ... go to question 13.
No why not?
..... go to question 13.

13) Recall your answer to question 6. Have you chosen row B, F, G or H?

Yes ❒ ..... go to question 15.
No ❒ ..... go to question 14.

14) If you have not chosen B, F, G or H in question 6, this means that you have given either both Bart and Bert or both Hans and Henk a different subsidy although they have the same genetic constitution. Are you now inclined to change your answer to question 6?

Yes new choice = ... go to question 15.
No why not?
..... go to question 15.

15) Medical expenses are not only caused by the illness of individuals, but also by their personal choice for a private room or a common room. Do you think that people who take the same decisions concerning their room in the hospital should bear the same amount of medical expenses?

Yes ❒ ..... go to question 16.
No ❒ ..... go to the third part of this questionnaire.

16) Recall your answer to question 5. Have you chosen row C, F or G?

Yes ❒ ..... go to question 18.
No ❒ ..... go to question 17.

17) If you have not chosen row C, F or G in question 5, this means that, according to your intuition either both John and Tom or both Chris and Tim have to bear a different amount of the medical expenses, although they have made the same decisions concerning the room in the hospital. Are you now inclined to change your answer to question 5?

Yes new choice = ... go to question 18.
No why not?
..... go to question 18.

18) Recall your answer to question 6. Have you chosen row A, C or E?

Yes ❒ ..... go to the third part of this questionnaire.
No ❒ ..... go to question 19.

19) If you have not chosen A, C or E in question 6, this means that, according to your intuition either both Bart and Hans or both Bert and Henk have to bear a different amount of the medical expenses, although they have made the same decisions concerning the room in the hospital. Are you now inclined to change your answer to question 6?

Yes new choice = ... go to the third part of this questionnaire.
No why not?
..... go to the third part of this questionnaire.

PART TWO: INCOME REDISTRIBUTION CASES

Now we start the second part in which we will check in a more direct manner your ideas about justice and redistribution. There are no 'right' or 'wrong' answers. It is important for us that you do not change anything in the previous pages.

7) Do you think that the government should treat people with the same innate talents in the same way, i.e. that they pay the same taxes or receive the same subsidy?

Yes ❒ ..... go to question 11.
No ❒ ..... go to question 8.

8) Do you think that people who perform the same effort should claim an equal income?

Yes ❒ ..... go to question 16.
No ❒ ..... go to question 9.

9) Look at your answer to question 5. Which reasoning have you followed to come to your decision?

..... go to question 10.

10) Look at your answer to question 6. Which reasoning have you followed to come to your decision?

..... go to the third part of this questionnaire.

11) Look at your answer to question 5. Have you chosen row B or C?

Yes ❒ ..... go to question 13.
No ❒ ..... go to question 2.

12) If you have not chosen row B or C in question 5, this means that, according to your intuition either both Barbara and Babette or both Ann and Anna have to pay different taxes (or have to receive a different subsidy), although they have the same innate talents. Are you now inclined to change your answer to question 5?

Yes new choice = ... go to question 13.
No why not?
..... go to question 13.

13) Look at your answer to question 6. Have you chosen row B, F, G or H?

Yes ❒ ..... go to question 14.
No ❒ ..... go to question 15.

14) If you have not chosen row B, F, G or H in question 6, this means that, according to your intuition either both Paul and Peter or both John and Charles have to pay different taxes (or have to receive a different subsidy), although they have the same innate talents. Are you now inclined to change your answer to question 6?

Yes new choice = ... go to question 15.
No why not?
..... go to question 15.

15) Do you find that people who perform the same effort should claim an equal income?

Yes ❒ ..... go to question 16.
No ❒ ..... go to the third part of this questionnaire.

16) Look at your answer to question 5. Have you chosen row C, F or G?

Yes ❒ ..... go to question 18.
No ❒ ..... go to question 17.

17) If you have not chosen C, F or G in question 5, this means that, according to your intuition either both Barbara and Ann or both Babette and Anna receive a different income, although they perform the same effort. Are you now inclined to change your answer to question 5?

Yes new choice = ... go to question 18.
No why not?

..... go to question 18.

18) Look at your answer to question 6. Have you chosen row A, C or E?

Yes ❒ ..... go to the third part of this questionnaire.
No ❒ ..... go to question 19.

19) If you have not chosen A, C or E in question 6, this means that, according to your intuition either Paul and John or both Peter and Charles receive a different income, although they perform the same effort. Are you now inclined to change your answer to question 6?

Yes new choice = ... go to the third part of this questionnaire.
No why not?
..... go to the third part of this questionnaire.

PART THREE

20) Suppose that a certain amount of food is distributed between some persons. You can dispose of an additional amount of food but this amount can or may only be allocated to one person. This person therefore will get a greater amount of food. All the other persons will keep their former amounts and thus get nothing less. Do you find this possible distribution an improvement in comparison with the original distribution? (Indicate your answer by an asterisk in the box following your choice.)

Yes ❑ ---------- go to question 21.

No ❑ ---------- go to question 22.

21) Suppose now that this additional amount of food necessarily has to be allocated to the person who already has the greatest amount in the original distribution. The richest will become richer but no one of the other persons will be worse off. Do you find that, in this special case, the new distribution is still an improvement in comparison with the original distribution? (Indicate your answer by an asterisk in the box following your choice.)

Yes ❑ ---------- go to question 23.

No ❑ ---------- go to question 23.

22) Suppose now that this additional amount of food necessarily has to be allocated to the person who already has the smallest amount in the original distribution. The poorest will improve his situation but no one of the other persons will be worse off. Do you find that, in this special case, the new distribution is still worse than the original distribution? (Indicate your answer by an asterisk in the box following your choice.)

Yes ❑ ---------- go to question 23.

No ❑ ---------- go to question 23.

23) Thank you for your collaboration!