

# **Social Inequality Factors in the contexts of Education and Health: A European Comparison Based on An Experimental Questionnaire**

*(first draft, all comments welcome)*

Romina Boarini, Geert Demuijnck, Christine Le Clainche & Jerome Wittwer<sup>1</sup>

(correspondence: leclainche@bretagne.ens-cachan.fr)

## **1. INTRODUCTION**

This article examines individual opinions about the causes and consequences of social and economic inequalities in four countries: Denmark, France, Italy and Sweden<sup>2</sup>. It is based on a questionnaire especially built to test ethical judgments about social inequality factors and about redistributive policies. The questionnaire is composed, on the one hand, of complex scenarios which question the legitimacy of the redistributive solutions of various forms and, on the other hand, of simple questions where one asks to make a direct judgement of the fairness of some institutional arrangements and of different policies aiming at reducing inequalities. The scenarios<sup>3</sup> are structured in the following way: they tell a story about four people who, according to the issue at stake, either have the same problem of health, or have school problems, or do the same studies, etc. If, therefore, for each question the context is fixed in the same way for the four people, the individual situations differ according to the nature of the causes who underlie their more or less bad situation.

By the ‘nature’ of the causes we refer to the fact that the individual situations depend on variables that are classified in two categories: variables of circumstances

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<sup>1</sup> Affiliations ; Le Clainche : ENS Cachan, CEE, Lameta Umr 5474, Boarini : OECD, Demuijnck : Université Catholique de Lille, Lem, Chaire Hoover, Wittwer : Université de Paris-Dauphine, Eurisco-Legos. The authors wish to thank the following people without whose help this study would not have been possible: Dominique Anxo and Ali Ahmed, Economics, University of Vaxjo (Sweden), Enrica Chiappero-Martinetti, Economics, University of Pavia (Italy), Asger Sørensen, Philosophy, Copenhagen Business School (Denmark). M. Kristoffersen kindly explained some specific aspects of the Danish social and tax systems, which were useful to write the Danish version of the questionnaire.

<sup>2</sup> The sample is made up by students studying either in business or economics either in political sciences. The questionnaire has been submitted to 400 students, about 100 in each country.

<sup>3</sup> As it is usual in such experimental designs the questionnaire has been then submitted to students. It was written in their mother tongue, depending then from which country they were living in. The design of scenarios follows some preceding works in this research field, see Schokkaert, Devooft, 1998, Schokkaert, (1999), Konow (2001), Boarini (2004) , Demuijnck, Le Clainche (forthcoming).

and variables of choice or responsibility. The typology is connected to the normative debate on inequality. The relevance of this typology constitutes the principal subject of our investigation.

More particularly, we try to find out whether individual opinions are sensitive to the distinction between “circumstances” and “responsible choice”, and if this distinction is similar over different contexts, i.e. for inequalities which touch the spheres of health and education.

In theory, variables of circumstances correspond to individual characteristics that are innate or induced by the environment (“handicaps” or “talents”), while the discretionary aspects of individual behaviour are the “variables of responsible choice”. By this empirical examination we seek to identify what people regard as being innate, induced or consciously chosen.

In the scenarios suggested, the variables of ‘circumstances’ and ‘responsibility’ are typically twofold: either they improve or they worsen the individual situation, which implies four possible combinations. Thus, for example, in a given scenario (call it “X”), the first of the four protagonists will be subject to the joint positive influence of both variables of circumstances and variables of responsibility, the second will undergo the positive influence of the circumstances and the negative influence of the bad choices for which he obviously may be held responsible etc.

The individual situations are specified by means of costs or payments that are typical for the given context. Inequalities between individuals are directly defined in terms of these costs. We ask the respondents to opt for the fairest one of the proposals to divide the costs, or, which comes down to the same, of a reimbursement scheme of these costs. As a consequence, people express an implicit opinion on the fair character of the initial costs. Among the possible redistributive solutions, the majority of the scenarios propose six possible schemes that specify each a theoretical viewpoint of the distributive justice debate. Firstly, we propose two principles of *equality*: the first (formal) one corresponding to equality of public contributions and the second (substantial) one, corresponding to equality of individual contributions.

One can qualify a principle as formally egalitarian insofar as it aims at an equal treatment of all citizens. This principle of equal treatment is essential in what is often dubbed as ‘democratic egalitarianism’. This vision is opposed to the egalitarian theories which aim not only an equal treatment but also an equal outcome, i.e. equality or at least some equalization of the conditions of living. In this last case one speaks about substantial egalitarian principles. Our first principle is a principle of strict equal treatment: it consists in making the same amount available for each citizen in order to satisfy a particular need. The second one is substantial. It is egalitarian to the extent that it treats equals equally. Everyone must contribute in the same way, but those who have more important needs are dealt with proportionally to their needs. This conforms to the idea according to which those who are in an identical situation are treated equally (‘vertical equity’).

In these two cases, one focuses either on the contribution of the State or on that of the individuals, without taking into account any responsibility of the individuals for their situation.

We propose then two principles which are largely tested in the experimental literature: the axioms developed by Fleurbaey-Bossert (1996) which recommend (a) equality of the public contributions for people facing the same initial circumstances (i.e. principle of compensation); (b) equality of the individual contributions for people who are similarly responsible (called ‘principle of natural reward’). Finally, we propose two criteria combining the axioms of Fleurbaey-Bossert which respectively give more and less weight to the axiom (a).<sup>1</sup>

Certain scenarios are not conceived on the scheme just presented (crossing of variables of responsibility and circumstance, with the six mentioned distributive solutions). Nevertheless, they test the attractiveness of the same normative conceptions. They will be the subject of a detailed description when we will discuss the results.

The paper is organized as follows: in section 1 the philosophical background of circumstances-choice dichotomy is presented; section 2 examines the answers to the scenario-questions and the role of the context whereas section 3 focuses on other ethical opinions on health and education framework; at last, section 4, analyses the individual determinants of ethical opinions.

## **1. THE PHILOSOPHICAL BACKGROUND**

‘In principle, I said, individuals should be relieved of consequential responsibility for those unfortunate features of their situation that are brute bad luck, but not from those that should be seen as flowing from their own choices. If someone has been born blind or without talents others have, that is his bad luck, and, so far as this can be managed, a just society would compensate him for that bad luck. But if he has fewer resources than other people now because he spent more on luxuries earlier, or because he chose not to work, or to work at less remunerative jobs than others chose, then his situation is the result of choice not luck, and he is not entitled to any compensation that would make up his present shortfall’<sup>2</sup>

This quote summarizes clearly the basic idea of ‘luck-egalitarianism’. This more radical brand of egalitarianism is strongly focused on the distinction between

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<sup>1</sup> Because of the few answers reporting on these two modalities, we bring them together in the statistical analysis

<sup>2</sup> Dworkin 2000, p. 287.

legitimate and illegitimate inequalities. Egalitarians in general have made much effort to argue that some inequalities are totally legitimate. Beside the more common reference to the economic constraint of incentives, luck egalitarians have stressed that inequalities which are the result of personal choices (and luck related to such choices, i.e. option luck) are legitimate, because people may be held *responsible* for these inequalities. As a consequence, social policy should be based on a strict distinction between choice and chance. This distinction supposes a clear separation between factors for which one should be held responsible and other factors for which one should not be held responsible.

What is important in this vision is that, while being fundamentally egalitarian, it concedes to the conservative criticisms of the Welfare State that inequalities which results from individual choices – lack of effort or ambition, eccentric preferences for a job that is rarely demanded by the market, etc. – are by no means unfair. Luck egalitarianism incorporates thus *the principle of responsibility* (Barry 2003), i.e. that ‘unequal outcomes are just if they arise from factors for which individuals can properly be held responsible, and are otherwise unjust’ (2003, p. 5). Barry pretends that this principle seems to be adhered to by a large majority of the population, poor as well as rich, and this in all Western nations. If this is true – and this is precisely the object of this paper – it follows that the implementation of ‘luck egalitarianism’ is the appropriate way to realize substantial egalitarianism. To the extent that a large part of the population accepts this principle, and more particularly the part which is the least likely to approve of redistribution based on philosophical principles such as benevolence (utilitarianism) or impartiality (Rawls), -precisely because these principles do not take sufficiently responsibility into account, luck egalitarians may convince the ‘tough crowd’ (Becker 2005) that the corollary of the principle of responsibility valid: we should compensate for the negative effects of factors for which individuals cannot reasonably be held responsible<sup>1</sup>.

Yet the possible impact of luck egalitarianism, as a strategy for policy reforms, depends on the way in which public opinion fixes the distinction between chance (i.e. circumstances) factors and responsible choice factors.

This paper focuses on the way in which public opinion fixes this distinction.

However, this distinction and its underlying assumptions do not only matter from their *immediate* practical perspective of political feasibility. It is also, on the normative level, of crucial importance for luck egalitarianism as a morally

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<sup>1</sup> It should be noted, in passing, as Cappelen and Tungodden (2006) show, that there is not a monotonic relationship between the degree of responsibility assigned to people and the ideal level of redistribution, unless there are no negative correlations between the various non-responsibility factors. Cappelen and Tungodden also established that «partial equalization of non-responsibility factors or the assignment of more responsibility to people does not necessarily imply less need for redistribution ».

defensible theory of justice. Altogether, we may distinguish four clusters of problems, three of them indirectly relevant to political feasibility, the first one being a philosophically unresolved puzzle.

First of all, the distinction assumes a paradoxical position with respect to the famous philosophical debate on determinism and free will. For philosophers, people are either totally irresponsible because determined or totally responsible because bearers of free will. Let us consider the first of both options, i.e. the idea that we are ultimately responsible for nothing. The basic idea is that as soon as we take into account 'external' factors, we are on a slippery slope which leads us to a determinist view in which there is barely space for moral responsibility. For short, people may not be able to change the way in which they are wired, and to the extent that nobody, except God, is *causa sui*, people cannot be held responsible for their acts. No more than external constraints, our mental constitution has been chosen: even if we are able, with a huge effort, to change a character trait, we act on the basis of other character features for which we are not responsible. When we take into account some elements which are beyond our control, an infinite regression lurks.<sup>1</sup>

The other option, according to which 'we are responsible for everything', is based on the principle of *alternate possibilities* (Frankfurt 1969)<sup>2</sup>: to the extent that we could, in principle, have behaved differently, we are responsible for our acts. Invoking circumstances and moral subtleties comes down to refusing to face one's responsibility. This is what Sartre calls bad faith. To the extent that we are conscious, we always choose: « Je me choisis perpétuellement et ne puis jamais être à titre d'ayant-été-choisi, sinon je retomberai dans la pure et simple existence de l'en-soi » (Sartre 1943 (1976), p. 612).

It is obvious that this dichotomy is not very fruitful for a discussion of social policy. Therefore, introducing responsibility in general, and the distinction between responsibility factors and circumstances in order to estimate the degree of individual responsibility, seems not to have a strong philosophical basis. Still, even if we adopt an agnostic position with respect to this debate, and, for instance take a pragmatic stance,<sup>3</sup> there are other, less fundamental problems cropping up.

The second criticism of luck egalitarianism argues that luck egalitarianism is self defeating, since it implicitly assumes that some citizens have an inferior status and this contradicts the notion of equal respect egalitarianism aims to incorporate. A strongly related third criticism is that luck egalitarianism would, if implemented,

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<sup>1</sup> Some luck egalitarians are well aware of this difficulty. G.A. Cohen concludes consequently that, if determinism would be true, no inequality would be just. ref

<sup>2</sup> The expression is Frankfurt's, but it should be noticed that Frankfurt himself rejects the validity of the principle.

<sup>3</sup> Roemer (1995).

lead, politically, the public opinion to moral principles which ultimately undermine the very basis of egalitarianism (Wolff, 1998).

A fourth cluster of criticisms turns around feasibility problems. It is an essential question of luck egalitarianism how to fix the ‘responsibility cut’, that is how to separate convincingly which characteristics one should be compensated for from the characteristics which do not demand any compensation, i.e. which one is supposed to have ‘chosen’. However, a formal analysis (Fleurbaey, Bossert) of the link between responsibility and compensation has revealed a consistency problem among different principles akin to luck egalitarianism. The paper focuses on two realms in which the ‘responsibility cut’ is politically relevant: health care and education<sup>1</sup>.

## **2. THE ROLE OF CONTEXT IN ETHICAL OPINION ABOUT THE CIRCUMSTANCES-CHOICE DICHOTOMY: THE CASE OF HEALTH AND EDUCATION**

Using the framework of questions-scenarios (see the frame below), we try here to underline the potential context dependency of the responsibility cut location. We here present the results associated to questions-scenarios compared two-by-two. Three couples of questions are then presented in a manner where the circumstances, choice or effort, costs and payments variables are exactly the same in terms of qualification or amount. Only the context belonging either to health or to education differ<sup>2</sup>. However, the last couple of questions only concerns the context of health. But it is related to different types of circumstances or behaviours.

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<sup>1</sup> Recent work on the choice/circumstances dichotomy in education context has been built by Trannoy (1999) Brighouse (2000), Swift (2003). Links have also to be done with previous French theoretical framework elaborated in the seventies, opposing Bourdieu and Passeron’s work on “reproduction” to the thesis of Boudon on equality of opportunity.

<sup>2</sup> For the description of the manner the scenarios are designed, see the introductory section. Remind that A means ‘equality of public money expenses’ ; B, ‘equality of personal financial contribution’ ; C, equality of the public contributions for people facing the same initial circumstances (i.e. principle of compensation in the Bossert-Fleurbaey framework) ; D, ‘equal welfare for people similarly responsible’ and E or F, combination of C and D., i.e. the solutions which aims to combine both Fleurbaey-Bossert axioms. Notice that the two last modalities are often brought together for statistical reasons. Evidently, each question forming a couple is presented at distance to the other one in the questionnaire.

## **2.1 Food habits, medical costs in health context versus ambitions and talents in the context of education**

The question 1 tells the story of four people who suffer from anaemia. Each combines the factors effort and circumstances in a different way.

In the context of health, where the four people are suffering here from anaemia in a more or less severe form, a large fraction of people prefers to equalize the personal financial contribution to the payment of the cure, ie the most egalitarian option in a substantive meaning (principle of *equal treatment for equals*).

The question 2 tells a rather similar story but in the context of education The variable of responsibility is expressed here through individual ambitions, the protagonists of the scenario being differentiated on the basis of the prestige of the Institute of Arts where they wish to study.

In the context of education, a large fraction of students choose solution A which consists in equalizing the public contributions (see table 2). This suggests that, on the one hand, people are considered to be responsible for their ambitions and on the other hand, that the differences in talent -due to factors independent of the individual will- are not likely of compensation either. The other answers are distributed more or less uniformly among solutions B, C, D and E (about 15%).

There is then some difference<sup>1</sup>, between the solutions chosen depending on the context. Indeed, in the context of health, the students seem to be more in favour of egalitarian solution in a substantive meaning than in the context of education.

The comparison between the four countries reveal that in the context of education and compared to France and Italy, Nordic countries tend to prefer answer A and B i.e equality of state contributions and equality of personal contributions. In the context of health, The Danes are noticeable characterized by a preference for equality of state contributions.

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<sup>1</sup> Equality of the two answers distributions is rejected with a risk of 1%.

## The « questions-scenarios »

### Question 1:

Claire and Caroline suffer from mild anaemia while Fanny and Frances suffer from a more serious form of the same complaint. Claire and Fanny eat meat, because they like it, while Caroline and Frances don't like meat and don't eat nearly as much as the two others (their parents didn't give them meat to eat when they were young and so they never developed a taste for it). Their food budget is the same, but their medical costs differ. Fanny and Frances have higher medical costs because of their more serious condition, but because Claire and Fanny eat a lot of meat, they don't need so much medicine and so the costs are lower. As a result Claire's treatment costs 200 per year, Caroline's 250, Fanny's 300 and Frances's 450. The National Health Service (funded with public money) has an annual budget of 800, how should they share out the costs? (Choose just one solution : A, B, C, D, E or F; see table 1 below)

### Question 2:

Charles, Emma, Emmanuel & Damien are all art students in a country in which there are two different types of art schools(both funded with public money). Both types deliver an art teacher diploma, but it is a well-known fact that many of the most famous artists formerly studied at the more prestigious type of art school. Charles & Emma really want to have their own studio and earn their living from the sale of their art work, after studying at a prestigious art school. Emmanuel & Damien are quite happy to become art teachers and decide to go to a less prestigious school. Emma & Emmanuel are more talented than Charles & Damien who will have to study for longer to reach the same standard; the art school course for Charles & Emma costs more to run than the course at the art department of the local college that Emmanuel & Damien attend.

The education costs are as follows :

Charles : 450  
Damian : 300  
Emma : 250  
Emmanuel : 200.

The State does not have enough money to pay all their education costs. How should it share out the money available ? (Choose just one solution : A, B, C, D, E or F; see table 1 below)

### Question 3:

Adrian, Anthony, Paul and Patrick all suffer from asthma and have had to take drugs to control their condition for some years now. The cost of their treatment depends on two factors: 1) their physical reaction to the drugs, 2) diligently following the instructions. Adrian and Anthony can't use the standard, cheaper treatment because it doesn't work for them, while Paul and Patrick can use it. However, Adrian and Paul sometimes forget to take their medicine, while Anthony and Patrick never forget. If the patient doesn't take his medicine regularly, it takes longer to get the condition under control and so a larger dose is needed. Taking all this into consideration, at present the four men's medical costs are:

Adrian : 450,  
Anthony : 300,



Paul : 250

Patrick : 200.

These four men all have the same income and pay the same amount of social insurance contributions and income tax combined. The national health service (funded with public money) has 800 per year to pay for the four men's treatment, which means that they will have to pay for some of it themselves. How do you think they should calculate each man's individual contribution? (Choose just one solution: A, B, C, D, E or F; see table 1 below)

**Question 4:**

Ray, Ralph, Peter and Paul all go to the same school and are weak students. Ray and Paul are, however, slightly better than Ralph and Peter. The school sets up a system of individual coaching to help the boys improve their results. Ray and Peter work hard and do their homework while Ralph and Paul spend more time on extra-curricular activities. Access to the coaching sessions is determined by the pupils' original marks and by the effort they make. The cost of the coaching sessions is divided between the four boys with regard to the number of hours needed before they can catch the rest of the class.

Ralph : 450,

Peter : 300,

Paul : 250

Ray : 200.

What criteria would you use to determine how much money the State (or whatever public authority) should contribute to these individual coaching sessions (the budget is insufficient to meet all the costs), knowing that the boys' parents all have the same income? (Choose just one solution: A, B, C, D, E or F; see table 1 below)

**Question 5:**

Lisa, Laura, Isabelle and Irene all have respiratory problems. Lisa and Laura have been smokers for the last 20 years while Isabelle and Irene have never smoked. Lisa and Irene work in a textile factory where most of their colleagues smoke during the breaks, while Laura and Isabelle are primary school teachers and work in a healthy environment. The cost of the treatment varies according to the gravity of the patient's condition and her exposure to tobacco smoke :

Lisa : 450,

Irene : 300,

Laura : 250

Isabelle : 200.

These four women all have the same income and pay the same amount of social insurance contributions and income tax combined. The national health service (funded with public money) has 800 per year to pay for the four women's treatment. This means that they will have to pay for some of it themselves. How do you think they should calculate each woman's individual contribution ? (Choose just one solution : A, B, C, D, E or F; see table 1 below)

**Table 1 : six propositions for public contributions**

	<b>Frances/Charles/ Adrian/Ralph/Lisa Cost : 450</b>		<b>Fanny/Damian/ Anthony/Peter/Irene Cost : 300</b>		<b>Caroline/Emma Paul(x2)/Laura Cost : 250</b>		<b>Claire/Emmanuel/ Patrick/Ray/Isabelle Cost : 200</b>	
	Paid by the State	Paid by the individual	Paid by the State	Paid by the individual	Paid by the State	Paid by the individual	Paid by the State	Paid by the individual
A	200	250	200	100	200	50	200	0
B	350	100	200	100	150	100	100	100
C	250	200	250	50	150	100	150	50
D	300	150	250	50	100	150	150	50
E	300	150	200	100	167	83	133	67
F	360	90	240	60	111	139	89	111

**Table 2 : Answers distribution for each scenario**

	<b>Question 1</b>		<b>Question 2</b>		<b>Question 3</b>		<b>Question 4</b>		<b>Question 5</b>	
Answer	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
A	66	18%	125	34%	73	20%	79	21%	64	17%
B	116	32%	66	18%	62	17%	100	27%	38	10%
C	82	22%	63	17%	113	31%	88	24%	115	31%
D	41	11%	55	15%	62	17%	57	15%	117	32%
E	46	13%	52	14%	48	13%	43	12%	25	7%
F	17	5%	7	2%	9	2%	5	1%	7	2%
Total	368	100%	368	100%	367	100%	368	100%	366	100%

## 2.2 Treatment observance in health context versus effort at school

Question 3 tells now the story of four people who suffer from asthma. Each also combines the factors effort and circumstances in a different way. Compared to the previous couple of questions, the effort is here directly at stake : it relates to treatment observance.

The solution which is most chosen (30%) is the one which equalizes public money expenses in favour of persons who face identical circumstances (see table 2). About the same number of people choose solutions A, B, D and E, respectively ‘equality of public money expenses’, ‘equality of personal financial contribution’, ‘equal welfare for people similarly responsible’ and the combination of C and D., i.e. the solution which aims to combine both Fleurbaey-Bossert axioms. These percentages vary between 14 and 20 %.

In the context of education, the question 4 again tells a similar story than in question 3. As in the context of health, it presents a standard case where the variable of responsibility is directly expressed in the form of the effort provided by the individuals, ie in this case, provided in their studies. The costs of (possible) after school help depend on this effort as well as on individual talents.

Compared to the results obtained on the “same” question asked in health context, one notices that positions are inversed concerning solutions B and C: in the former context, a relative priority is given to principle of compensation rather than to substantive equality ; it is the opposite in the latter. Otherwise, the same structure of answers is observed in the two contexts<sup>1</sup>.

The European comparison permit to underline that an important fraction of French students are in favour of the principle of compensation in the context of health, what which is not the case in the context of education, neither for the other countries. Otherwise, The Danes seems to be particularly egalitarian in the context of education compared to the others.

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<sup>1</sup> Equality of the two answers distributions is rejected with a risk of 5%.

### **2.3 Comparison in health context (tobacco addiction versus treatment observance)**

The comparison is made here between two questions-scenarios in the context of health only. But the nature of choice and circumstances differ. Question 5 presents four women with respiratory problems. The structure of the costs to cure them is similar to the structure of the costs in the question 3 and reveals the same combination of responsibility and circumstances.

However, despite these similarities, the answers are slightly different (see table 2).<sup>1</sup> The answer D - equal personal contribution for same effort - is clearly preferred in the tobacco addiction context (question 5) than in the treatment observance context (question 3) which underlines the particular responsibility attached to smoking behavior.

## **3. ETHICAL PRINCIPALS IN THE CONTEXTS OF EDUCATION AND HEALTH**

### ***3.1 Health***

In the context of health, medical research may relocate the responsibility cut, particularly when « targeted alteration of genomes may, for example, turn off some genes that causally contribute to the emergence of certain illnesses » (Cappelen and Tunggoden (2006), p. 358). The relocation of responsibility cut can also be done insofar that the development of knowledge in Medicine or Psychology affect the factors we consider as beyond the control of the individual or not. Genetics again is a particular illustration of such developments : the full sequencing of human genome notably permitted to understand that some disease or some troubles (especially mental or psychic troubles) could be associated with genes (although not explained by genes)<sup>2</sup>. Such results can have implication for the redistribution in health context in a more complex manner that it could appear at first sight. Taking into account of the personal responsibility of people regarding health behavior is subject to an important philosophical and normative debate. The solution proposed by Roemer (1998) may be technically difficult to set up but is also morally questionable : how to be sure that an unhealthy behavior is the result of free choice

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<sup>1</sup> Equality of the two answers distributions is rejected with a risk of 1%.

<sup>2</sup> We must be careful : implication of genes doesn't mean that genes causes behaviours and for some, troubles. Such a position would tend to a eugenic view. Rather, some behaviours can be seen as the result of complex interactions between genetic predisposition and environment (including, education and habits, course of life and sometimes bad luck).

an not of habits deeply rooted during childhood because of education given by parents, influence of neighborhood or due to some genetic predisposition ?<sup>1</sup>

A part of the questionnaire we submit to students of the four countries tends to know more about the way the location of responsibility cut can be done and to reveal the associated level (if any) to redistribution in health context only.

We ask for several questions : some of them are related to informational contexts where it could appear rather clear that the elements belong to circumstances beyond responsibility of individual and others which seem clearly being the consequences of unhealthy behaviors freely chosen. But is it so evident and should redistribution depend on such a responsibility cut ?

The key question is then first : in which contexts, people- and here the students of our sample - consider that bad health is the result of circumstances rather than of personal responsibility and free choice?

In general the respondents judged the factors which increase the risks of individual diseases as ‘circumstances’. This is expressed in the overwhelming willingness to support a solidarity system in favor of persons who are exposed to high risks, independently of the underlying causes of these risks. This is illustrated by the results of question 6, which proposes the possibility of imposing supplementary insurance costs for people who incur a higher risk. A large majority of people rejects the very idea of higher insurance contributions for persons with higher risks of becoming ill, even when this risk is related to unhealthy food habits, irregular health control or genetic antecedents.

Notable exceptions are smoking and the practice of dangerous sports: people are held responsible for increased risks implied by one of these causes. But even in these cases, opinions are not very categorical: in the case of smoking, the three proposals (no supplementary insurance cost, supplement of 10 % or supplement of 30 %) get about the same percentage of choice (with a slight relative majority for the severe increase). With respect to dangerous sports, the absolute majority of people reject an increased insurance bill, but 31 % of the people are in favour of a small increase.

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<sup>1</sup> Wikler (2002) notes that « actions only rarely have all the attributes –informed, voluntary, uncoerced, spontaneous, deliberated, and so on- that, in the ideal case, are preconditions for full personal responsibility. This is a particular problem in the case of lifestyles, which are matters of habit ingrained over many years and may have been learned from the individual’s principal role models. The most dangerous elements of lifestyle, such as smoking or alcohol abuse, involve addiction, rendering the status of the smoker’s decision to light up the next cigarette anything but clear. One way around this problem is to assign personal responsibility on the basis of the initial decision to smoke, or the rational deliberation of the non –addicted individual to accept risk to health as the price of anticipated pleasure ». (pp. 50-51).

## Question 6

Do you think it is desirable to make someone pay a higher health insurance premium (or higher taxes if the health service is funded with tax money) if the likelihood of them being ill is greater for one of the following reasons? :

(tick the relevant box)

	This should not influence the premium at all	A 10% increase is justifiable	An increase of up to 30% is justifiable
Family medical background (a)			
Personal medical history (b)			
Irregular medical care (c)			
Behaviour which may increase the risks :			
Poor nutrition (d)			
Chain smoking (e)			
Regular participation in dangerous sporting activities (f)			

### Results of question 6:

	Question 6a :		Question 6b :		Question 6c :		Question 6d:		Question 6e:		Question 6f:	
	Freq.	Perc.	Freq.	Perc.	Freq.	Freq.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
No increase	317	85%	248	85%	263	71%	232	62%	96	26%	185	50%
10% increase	44	12%	97	12%	78	21%	112	30%	124	33%	115	31%
30% increase	12	3%	29	3%	29	8%	31	8%	153	41%	73	20%
	373	100%	374	100%	370	100%	375	100%	373	100%	373	100%

**Results of question 6 by country:**

<b>Question 6a</b>	Italy	France	Denmark	Sweden
Absence of premium	88%	77%	89%	87%
Extra premium of 10%	10%	17%	10%	10%
Extra premium of 30%	2%	6%	1%	3%
Total	100%	100%	100%	100%
<b>Question 6b</b>	Italy	France	Denmark	Sweden
Absence of premium	63%	57%	79%	67%
Extra premium of 10%	28%	29%	17%	29%
Extra premium of 30%	9%	14%	4%	3%
Total	100%	100%	100%	100%
<b>Question 6c</b>	Italy	France	Denmark	Sweden
Absence of premium	59%	63%	82%	82%
Extra premium of 10%	29%	27%	13%	15%
Extra premium of 30%	12%	10%	5%	3%
Total	100%	100%	100%	100%
<b>Question 6d</b>	Italy	France	Denmark	Sweden
Absence of premium	70%	63%	57%	58%
Extra premium of 10%	22%	35%	29%	33%
Extra premium of 30%	9%	2%	14%	9%
Total	100%	100%	100%	100%
<b>Question 6e</b>	Italy	France	Denmark	Sweden
Absence of premium	28%	16%	34%	26%
Extra premium of 10%	30%	36%	34%	33%
Extra premium of 30%	42%	47%	33%	42%
Total	100%	100%	100%	100%
<b>Question 6f</b>	Italy	France	Denmark	Sweden
Absence of premium	47%	47%	55%	49%
Extra premium of 10%	30%	30%	26%	37%
Extra premium of 30%	23%	22%	19%	13%
Total	100%	100%	100%	100%

When we compare the results between countries, we observe that the most egalitarian countries (such as Denmark and Sweden) do not take into account the responsibility (see 6c). When it is asked whether an increase of the insurance cost is justified by personal antecedents (q6b), it is noticed that the Danes are more strongly against such an increase than the average of the other countries. At the opposite, the French are more often in favour of an increase either of 10 or of 30% than the other countries. If an irregular medical follow-up is at the origin of a possible increase of the price of individual health insurance, the Scandinavian countries are massively against this increase (on average with more than 80%) while in France and Italy only one student out of six adheres to this opinion. In the latter countries, more than 35% of the people is in favour of an increase of 10% (only a little more than 15% in the Scandinavian countries). Bad food habits are judged differently by the Italians and the Swedes. Bad food habits are not legitimate reasons to induce a higher insurance price for 70% and 59% of their respective respondent samples. The French are as often as the others in favour of an increase of 10% while the Danes favour particularly an increase of 30%, if bad food habits are at the origin of higher costs.

Strong addiction to tobacco leads to extremely different opinions. The French are most willingly to 'punish' smokers by a higher insurance price, even increased by 30%. The Danes are the most tolerant toward smokers and do not want to punish them severely, if they want to punish them at all.

If the unhealthy behavior is subject to some discussion regarding responsibility debate we can imagine that the problem of "altered" genetic endowment is not. In the following question, we consider the case in which genetic endowments are the cause of social and economic inequalities. In question 7 the focus is on a genetic predisposition to develop a relatively mild disease, the impact of which varies a lot in function of chosen behavior (lifestyle, hygiene). In this situation the majority of the respondents (50%) chooses to equalize individual contributions, which implies that neither genetic endowment nor an unhealthy lifestyle are considered to be legitimate causes of inequality. However, one should notice that a not negligible percentage of individuals think that persons who have a higher risk to catch a disease should pay a higher contribution (solution B, 22% of the answers). Quite similarly, higher risks related to an unhealthy lifestyle should also lead, according to a part of the respondents, to a higher contribution to the health insurance system.



### Question 7

Matthew, Martine, John and Julie work for the same computer company. They have all taken medical tests to monitor their genetic tendency to develop minor illnesses like colds and flu. These tests show that Matthew and Martine are twice as likely to catch these illnesses as John and Julie, supposing that they all lead a healthy lifestyle (moderate use of alcohol and tobacco, regular sleep patterns, balanced diet and regular physical exercise). On the other hand, Matthew and John would be more susceptible to illness if they all adopted an unhealthy lifestyle. Based on the hypothesis that the probability of catching minor illnesses depends on genetic inheritance and behavior and not on their environment, the probability of each worker being ill is as follows:

	Matthew	Martine	John	Julie
Risk with healthy lifestyle	1/2	1/2	1/4	
Risk with unhealthy lifestyle	4/5	1/2	3/4	

In reality, all of them except John have a healthy lifestyle. Supposing that the social insurance office (funded with public money) was perfectly informed of the risks but not of each person's actual behaviour. It has to decide how much each worker should contribute. Of the following solutions, which one seems fairest to you? (Choose just one solution : A, B, C or D)

	Matthew	Martine	John	Julie
A	10%	10%	10%	10%
B	13.5%	13.5%	7%	7%
C	14%	8%	13%	4%
D	14%	10%	10%	5%

### Results

Question 7 :	Italy	France	Sweden	Denmark	Ensemble
A	35%	35%	60%	81%	52%
B	41%	24%	16%	5%	22%
C	17%	36%	19%	9%	20%
D	6%	5%	5%	5%	5%
Total	100%	100%	100%	100%	100%

Here the opinions between countries diverge clearly. The Italians are divided between the formal equality of the individual contributions and a principle of proportionality to the risk of illness – if people have a healthy life style. The French have partly similar opinions, but they are also favourable to the principle of proportionality of contributions to the risk of illness when people have an unhealthy way of living. The Danes are strongly in favour of the formal equality of the individual contributions (80%), the Swedes often approve this same principle (60%) but are also in favour of the two principles of proportionality.

Question 8 (see below) concerns individuals having certain genetic predispositions to develop diseases, but for whom, actual disease is a function of the possibility of a medical treatment. The different genetic endowments are reflected in income differences, which are more or less important depending on whether or not the individuals had the opportunity to have a medical treatment. 42 % of the respondents opt for B, in which salaries are proportional to the *potential* performances, that is the performances that would be possible following the treatment. But the other solutions, salaries proportional to effective performances and salaries proportional to potential performances without treatment are also quite often chosen (30 % and 27 %).

The Italians and the Swedes are mainly in favour of final payments proportional to the performances when there is a treatment, while the Danes favour more often to final payments proportionality to the effective performances. The French on the other hand are divided between these two opinions and final payments proportional to the performances without treatment.

### Question 8

Let's imagine that in the future it will be possible to improve our physical and intellectual potential using biological drugs or genetic therapy. Matthew, Martine, John and Julie all apply for promotion in their company. Before deciding who to employ the company makes them all take a test to reveal their memory skills, ability to concentrate etc. Matthew and Martine score twice as much as John and Julie. In addition we know that Matthew and John had taken biological drugs to increase their potential during their work experience placement in the USA in their final year at university. On the other hand, neither Martine nor Julie had ever taken these drugs as they were not available in their country. The real (in bold print) and potential scores on their tests are as follows supposing an arbitrary scale of 0 to 150.

	Matthew	Martine	John	Julie
With drugs	<b>100</b>	120	<b>50</b>	60
Without drugs	80	<b>100</b>	30	<b>50</b>

The company decides to promote all four applicants and now needs to fix their salaries. The total sum available for the four salaries depends on the total scores and not anyone's individual score. It must not exceed 1000 (supposing, to simplify, that social security and tax contributions remain the same for everyone). Which of these salary plans do you think the company should choose ? (Choose one solution : A, B or C)

	Matthew	Martine	John	Julie
A	334	334	166	166
B	303	364	150	182
C	307	385	115	192

Question 8	Italy	France	Denmark	Sweden	Ensemble
A	21%	23%	45%	31%	30%
B	55%	41%	28%	46%	42%
C	24%	35%	27%	22%	27%
Total	100%	100%	100%	100%	100%

### **3.2 Education**

The philosophical and normative debate about equality of opportunity regarding education is also nourished. Many questions are at stake : how to improve efficiency when we want to consider at the same time the social inequality that prevent young people to develop their abilities ? How to give incentives to the most talented and how to take into account seriously the question of the least talented ?

Some authors consider that luck egalitarianism should promote for all children the equalization of fundamental cognitive abilities. Moreover the incentives should function at best for the most talented. Such a system should also imply incentives towards teachers and parents insofar the school results attained by children depend not only of their intrinsic (innate ?) abilities but also of both the quality of teaching and the care of the parents (Trannoy, 1999). For others, the point focuses on the improvement of the social mixity between children whose social and economic background is favorable and those whose background is not (Brighouse, 2000 ; Swift , 2003).

The question 9 examined here focuses on potential inequalities related to different individual talents while no characterization is given in terms of responsibility. This question is useful to see whether the efficient use of the education budget conflicts with the egalitarian concern which would recommend helping the least talented. The generally selected criterion is A, which is a combination between the egalitarian criterion and the criterion of efficiency (53%); the criterion in favour of the least talented and which means less efficient investments is chosen by 28% of the respondents while the criterion which recommends the most efficient allowance is chosen by 19%.

In the question 9, the Danes are in favour of the principle which combines efficiency and redistributions for the least talented (80% against 50%), while the French less often subscribe this principle (43%). The latter are more often in favour of compensation of the least talented than the other countries. The Swedes show as a light tendency to subscribe this principle, while the Italians are both in favour of the principle of compensation and the one of efficiency.

### Question 9

The Ministry of Education has an additional budget of 180 to improve Peter, John and James's educational standard. It is possible to measure their progress using certain tests. Each child's performance improves proportionally to his abilities and to the money invested in him by the Ministry of Education. Peter, whose intelligence is above average, improves more quickly than John, who is about average, and much more quickly than James who is below average.

The three tales below indicate possible schemes for dividing the budget, charting the pupils' progress in each case. In the society they live in, salaries earned are usually related to the person's individual educational performance.

Which way of sharing out the budget seems fairest to you ? (choose just one solution)

<b>SCHEME 1</b>	Peter	John	James	Total
Investment	60	60	60	180
Performance	120	60	40	220

<b>SCHEME 2</b>	Peter	John	James	Total
Investment	30	60	90	180
Performance	60	60	60	180

<b>SCHEME 3</b>	Peter	John	James	Total
Investment	90	45	45	180
Performance	180	45	30	255

*Results:*

<b>Question 9 :</b>	Italy	France	Denmark	Sweden	Ensemble
A	47%	43%	70%	52%	53%
B	26%	39%	14%	31%	28%
C	26%	18%	16%	17%	19%
D	1%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%

#### 4. DETERMINANTS OF ETHICAL OPINIONS

In this section, we confront the answers to the scenarios with other ethical and political opinions and with individual characteristics of the respondents: demographic characteristics (sex and nationality) and socio-economics characteristics (diplomas of the parents, family size, family's income, expected income...).

We use a multiple correspondence analysis (*mca*) in a first step and multinomial logistic regressions in a second step.

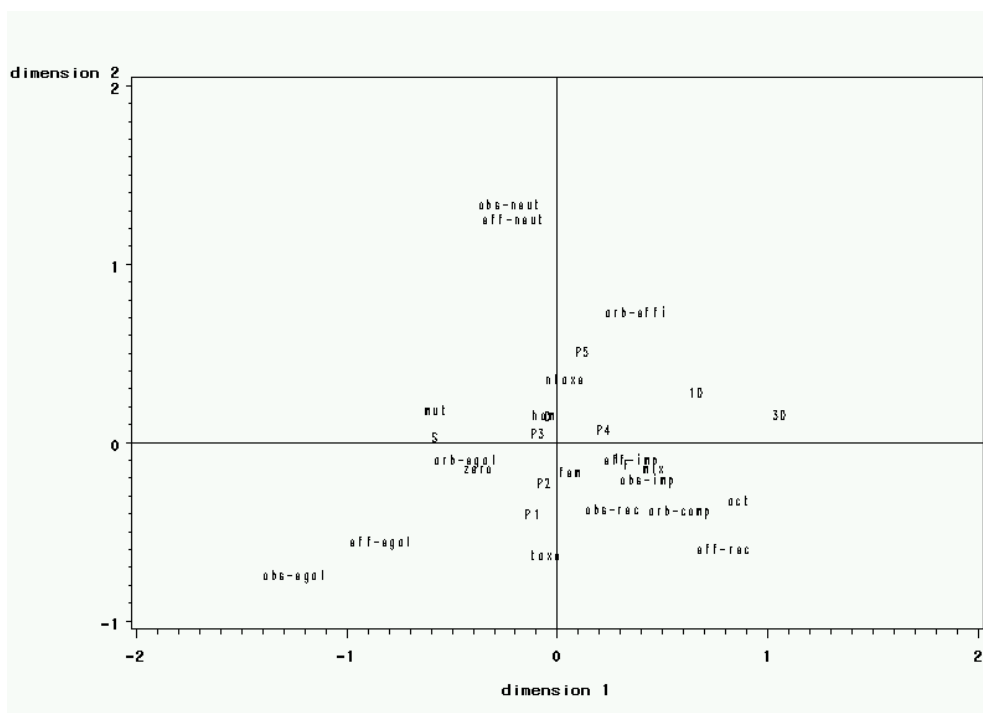
##### ***4.1 Evaluating the proximity of different ethical opinions with the help of an mca***

We use an *mca* in this section to assess the proximity of the ethical opinions in different contexts. We focus on the relevance of the dichotomy “choice-circumstances” in the context of health related to observance and to the reward of effort in the education system (questions-scenarios 3 and 4).<sup>1</sup> We add questions about insurance health (differentiation of insurance cost according to the existence of personal medical antecedents or to different genetic predispositions - questions 6 and 7) and questions about the arbitration equality/efficiency in the context of education and about inheritance tax. Furthermore, political opinion, nationality, and sex of the respondents are introduced as supplementary variables (i.e as variables which do not participate to the dimensions set up). We have to notice that any other available characteristics of the respondents (family size, diplomas of the parents, religion) appear to be explaining the two main dimensions of the *mca* presented below.

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<sup>1</sup> The idea is to reveal which ethical principles are to be selected by people when the dichotomy « circumstances/choice » prevails. However, in a multiple correspondence analysis, it is not relevant to study the entire set of « circumstances/choice » questions-scenarios because of the high correlation between the answers to these questions. So, we confront the answers to some of questions within the full set of “questions-scenario” to the answers to more usual questions about preferences towards redistribution.

**Graph 1 : location of the variables on the two main dimensions of the mca**



Reading of the graph (Coding of the variables):

\*SCENARIOS :

Distribution A of the questions scenarios=neutrality (neut); distribution B of the scenarios=equality (egal) questions; distribution C and E of the questions scenarios =impartiality (imp); distribution D and F of the scenarios=reward (rec). Question 3 (asthma, treatment observance)=obs; ; Question 4 (reward of the effort, at school) eff.

\*\* OTHER QUESTIONS

Question 6b (premiums of insurance): absence of prime=zero; extra premium of 10%=10; extra premium of 30% =30 Question 7 (predispositions genetics): distribution A (mutualisation)=mut, distribution B (premium proportional to the risk)=act, distribution C and D (between mutualisation and actualization) =mix. Question 9 (arbitration equality/efficiency in teaching): Q9-1 (distribution1) =arbitrage-equality (arb-egal), Q9-2 (distribution 2) =arbitrage-compensation (arb-comp), Q9-3 (distribution 3) = arbitration efficiency (arb-eff). Question 10 (inheritance tax, see annex1): Q10-1 (favourable)=ntax, Q10-2 (unfavourable)=ntaxe. P1 to P5 on the graph correspond to political opinions collected with a graduate scale (see annex2) from 1(extreme left) to 7(extreme right): answers 1 and 2 are pooled in a same category (P1) and answers 6 and 7 in the category P5, so P2 corresponds to answer 3, P3 to answer 4 and P4 to answer 5.

\*\*\* COUNTRY: I= Italy; F=France; S=Sweden; D= Denmark

The graph shows the clear superposition of the various variables associated to the “choice-circumstances” questions: to make treatment observance efforts or to make school efforts seem to be judged similarly. We also notice that the mapping of the

graph is largely explained by the opposition “equality”/“reward-impartiality” on dimension “1”. This opposition can be understood as an opposition between “equality” on one side and responsibility-sensitive answers on the other side. As awaited, on this dimension, the maximum extra premium (30) is found on the “side” of “responsibility” whereas the absence of extra premium (zero) is noticed on the “side” of “equality”. The French and the Italian are opposed to the Swedish, the latter being more favourable to equality, to the absence of extra premium and to the mutualization of the genetic risks.

The other dimension opposes on one side the “neutrality” variables to the variables of “rewards” and “equality” on the other side. We can interpret this opposition as an opposition between libertarian and egalitarian opinions; actually, the different political opinions are clearly organized along this second dimension as the opinion about inheritance tax is. We must notice that the opposition between “responsibility” and “equality” (dimension “1”) does not explain the political opinions dispersion.

The answers about the trade-off between equality and efficiency in the context of education have to be explained by the two dimensions except for the egalitarian answer (*arb-equal*) which is, without surprise, precisely localized on the first dimension (on the “equality” side). The “efficiency-answer” (*arb-eff*) is a positive combination of the two dimensions and the “compensation-answer” (*arb-comp*) is logically very close to the “reward answers” associated with the “choice-circumstances” questions.

We also observe that the variable which is taking into account the real genetic risk (*actua*) is “close” to the variables of “rewards”. It is a rather curious proximity since it supposes that a genetic risk has the same ethical status that a lack of medical treatment observance or an insufficient effort at school. This proximity shows the large scope of current meanings of the notion of responsibility.

The following section focusing on individual determinants of ethical opinions will confirm the specific role of opinion on mutualization of genetic risks.

#### ***4.2. Individual determinants of ethical opinions***

In order to point out that the determinants of answers differ according to the context, we analyze the individual answers to one specific question –scenario about the equality/efficiency trade off in the context of education (question 9) and the individual answers to two similar “choice-circumstances” questions: one dealing with treatment observance in a medical context (question 3) and one dealing with effort at school (question 4). In addition to the usual individual characteristics collected in our survey (sex, nationality, family income, expected income, diplomas of the parents) we use, as potential determinants of the ethical opinions, two meaningful opinions that can be considered as “fundamental” opinions with regard



to the more sophisticated “choice-circumstances” questions: opinion about the tax inheritance (question 10, annex 1) and opinion about the mutualization of the genetic risks (question 7).

*Answers of “Choice circumstances” question related to treatment observance:*

The first multinomial logistic regression (table 3) explains the probability of choosing “equality”, “neutrality” or “reward” answers rather than “impartiality-answer” associated with the “choice-circumstances” question related to the context of treatment observance (question 3). Clearly, as we already noticed, Danish and Swedish students, in this context, tend to be more favourable to egalitarian policies than French students. Students expecting very high future incomes are quite logically less favourable to these policies. More amazingly, it appears that respondents of whom the mother has a high or a low diploma are less likely to choose “equality-answer” whereas the father’s diploma has no impact. We will see below that the contrary is true for the education’s scenario (question 8). It suggests a complex influence of parents’ diplomas on the ethical opinions formation.

The “neutrality-answer” is not influenced by individual characteristics. It is just correlated with other ethical or political opinions: first, respondents favourable to inheritance tax removing choose more likely the “neutrality-answer” which could be the result of the libertarian meaning of the neutrality principle; second, students who prefer a partial actualization of genetic risks to a total mutualization are less likely to choose the “neutrality” answer. Once again, this last point reveals the link between opinions about mutualization of genetic risks and responsibility sensitiveness.

At last, we notice that it is impossible to statistically distinguish between determinants of “reward-answers” and determinants of “impartiality-answers”; it suggests again that these two answers are the result of similar responsibility sensitiveness.

*Answers of “Choice circumstances” question related to effort at school:*

At first glance, it is striking to see that it is not the same variables which influence the answers to this “choice-circumstance” question (table 4). Students of whom the father has a low diploma prefer responsibility free answers - “equality” and “neutrality” answers - to “impartiality-answer”: it is perhaps difficult to relate individual responsibility and school performance when her/his father gets a low diploma.

Expected incomes have a noticeable influence on “equality” and “reward” answers: students who expect a higher or a lower income than the reference expected income<sup>1</sup> are more likely to choose “equality” and “reward” answers. We can understand that students who expect very high income would like to be rewarded for their effort and so tend to choose the rewarding of effort at school; it is more difficult to see why students who expect rather low income are more likely to prefer, at the same time, egalitarian and rewarding policies.

The nationality of the respondents has here a slight effect. We just can notice that Swedish students are less likely to choose “neutrality-answer” than “impartiality-answer”. At last, respondents favourable to partial or total actualisation of genetic risks, here again, are less likely to choose “neutrality-answer”.

*Answers of question about equality/efficiency trade off in teaching:*

Even in a different context, it is interesting to observe that the choice of compensation of effort is correlated with the opinion favourable to the actualization of the genetics risks (table 5). As awaited, we can notice that compared to French students, Swedish students prefer equality to efficiency. When the comparison is made with Italian students, we also observe that they choose equality more often than compensation schemes. At last, we can observe that the preference for efficiency is associated with inheritance tax removing. Moreover, efficiency is rather a male tendency. Perhaps, the choice of inheritance tax removing answer tends to reveal an efficiency concern rather than an actual ethical opinion.

These empirical investigations allow us to discern that ethical opinions as elicited by the scenarios cannot be explained by the few individual characteristics available in the survey. Moreover, it appears clearly that ethical opinions in a “choice-circumstances” framework cannot be explained by individual characteristics independently of the context i.e independently of the nature of the choice.

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<sup>1</sup> Which corresponds to an income slightly above the median income: the fourth item of a scale graduated from 1 to 5.

**Table 3: Multinomial logistic regression of answers of “choice-circumstances” question related to treatment observance (question 3)**

<i>Independent variables</i>	<i>Equality-answer</i>		<i>Neutrality- answer</i>		<i>Reward- answer</i>	
	<i>Coefficient</i>	<i>Standard error</i>	<i>Coefficient</i>	<i>Standard error</i>	<i>Coefficient</i>	<i>Standard error</i>
<i>Mother’s diploma :</i>						
No diploma	-.79**	.378	-0.20	.362	.24	.364
Bachelor	ref	ref	ref	ref	ref	ref
Graduate	-1.00**	.466	-.15	.420	-.16	.447
<i>Opinion about premium for genetic risk covering (question 5) :</i>						
Mutualization (Q7-A)	ref	ref	ref	ref	ref	ref
Actualization (Q7-B)	-.62	.482	-.39	.402	.13	.391
Mixed (Q7-C/D)	-.68*	.416	-.96**	.406	-.15	.360
<i>Nationality :</i>						
French	ref	ref	ref	ref	ref	ref
Italian	.79	.583	.23	.483	.18	.459
Danish	1.24**	.541	.27	.43	.71*	.429
Swedish	1.48**	.522	.04	.454	.11	.460
<i>Expected income (collected with a scale graduate from 1 to 5 from low income to high income)</i>						
low expected income (item 1 and 2)	-.25	.683	-.15	.659	.13	.657
Medium expected income (item 3)	-.72	.471	-.64	.436	.36	.384
High expected income (item 4)	ref	ref	ref	ref	ref	Ref
Very high expected income (item 5)	-.77*	.420	-.21	.364	-.06	.384
<i>Opinion about tax inheritance</i>						
Favourable to tax removing	-.14	.344	.81**	.347	.25	.320
Not favourable to tax removing	ref	ref	ref	ref	ref	ref
<i>Constant</i>	-.62	.565	-.82	.504	-.33	.518

*Likelihood = - 435*

*N = 355*

1 The non significant independent variables have been removed from the regression.

2 “Impartiality-answer” is the reference answer.

3. \*\* means that the coefficient is significant at 5% level; \* means that the coefficient is significant at 10% level

**Table 4: Multinomial logistic regression of answers of “choice-circumstances” question related to support and effort at school (question 4)**

<i>Independent variables</i>	<i>Equality-answer</i>		<i>Neutrality- answer</i>		<i>Reward- answer</i>	
	<i>Coefficient</i>	<i>Standard error</i>	<i>Coefficient</i>	<i>Standard error</i>	<i>Coefficient</i>	<i>Standard error</i>
<i>Father's diploma :</i>						
No diploma	.75**	.362	.67*	.378	.06	.407
Bachelor	ref	ref	ref	ref	ref	ref
Graduate	.26	.440	.44	.440	.26	.454
<i>Opinion about premium for genetic risk covering (question 5) :</i>						
Mutualization (Q7-A)	ref	ref	ref	ref	ref	Ref
Actualization (Q7-B)	-.18	.430	-1.05**	.439	.59	.425
Mixed (Q7-C/D)	-.51	.349	-.86**	.371	-.27	.425
<i>Nationality :</i>						
French						
Italian	-.08	.472	-.10	.446	-.33	.518
Danish	-.18	.430	-.26	.479	.06	.473
Swedish	-.21	.413	-.80*	.452	-.80	.548
<i>Expected income (collected with a scale graduate from 1 to 5 from low income to high income)</i>						
low expected income (item 1 and 2)	-.04	.676	.63	.649	.29	.694
Medium expected income (item 3)	-.84**	.384	-.39	.400	-.95**	.446
High expected income (item 4)	ref	ref	ref	ref	ref	ref
Very high expected income (item 5)	-.57	.349	-.16	.372	-.78*	.423
<i>Constant</i>	-.02	.467	-.11	.488	-.33	.518

*Likelihood = - 462*

*N = 360*

1 The non significant independent variables have been removed from the regression.

2 “Impartiality-answer” is the reference answer.

3. \*\* means that the coefficient is significant at 5% level; \* means that the coefficient is significant at 10% level

**Table 5: Multinomial logistic regression of answers of the question related to trade off between efficiency and equality in teaching (question 9)**

<i>Independent variables</i>	<i>Compensation-answer</i>		<i>Efficiency- answer</i>	
	<i>Coefficient</i>	<i>Standard error</i>	<i>Coefficient</i>	<i>Standard error</i>
<i>Female</i>	.28	.274	-.71**	.309
<i>Opinion about premium for genetic risk covering (question 5) :</i>				
Mutualization (Q7-A)	ref	ref	ref	ref
Actualization (Q7-B)	.74**	.335	.32	.408
Mixed (Q7-C/D)	-.21	.333	.39	.350
<i>Nationality :</i>				
French				
Italian	-.66*	.357	.27	.406
Danish	-.38	.369	-.67	.446
Swedish	-1.50**	.414	-.83*	.447
<i>Opinion about tax inheritance :</i>				
Favourable to tax removing	.20	.279	.86**	.327
Not favourable to tax removing	ref	ref	ref	Ref
<i>Constant</i>	-.49	.357	-1.14**	.428

*Likelihood = - 340*

*N = 362*

1 The non significant independent variables have been removed from the regression.

2 “Impartiality-answer” is the reference answer.

3. \*\* means that the coefficient is significant at 5% level; \* means that the coefficient is significant at 10% level

## **Conclusion**

In this paper, we have tried to find out to which extent people are likely to validate the ‘choice/circumstances’ dichotomy as a legitimate basis for redistributive policies in different contexts (especially health and education). It seems that context dependency matters for the students of our sample regarding “circumstances/choice” dichotomy but the link with redistribution policy is far from being clear.

It is shown here that the criterion of the strict responsibility (as represented by the principle of natural reward in the Bossert-Fleurbaey framework) is not validated except to a certain extent in the context of tobacco addiction. Otherwise, holding individuals at responsible for their behaviour is often approved in the context of health in particular by the French and the Italians, and not by the Swedes and the Danes (except for bad food habits).

Let us note that in the context of education, the ambitions tend to be considered by the individuals as variables of responsibility and not as variables of circumstances.

From the point of view of health-education comparison, we can notice that to make medical treatment observance efforts or to make school choice efforts seem to be judged similarly. We also observe amazingly that a genetic risk has the same ethical status that a lack of medical treatment observance or an insufficient effort at school. The question of the genetic predispositions and their productive impact demands a particular comment: the descriptive statistics show in addition that the impact that such predispositions can have on health and/or the productive efficiency can legitimate a specific redistribution, although large minorities of the population seem opposed to such redistribution, in particular when individual behaviour does not take these predispositions into account. These results, somewhat ambiguous, would deserve further research because the genetic factor is clearly an unfavourable circumstance which can limit severely someone’s opportunities and requires greater efforts from “poorly” endowed categories of individuals.

If we focus on medical treatment observance, we notice that the “equality-answer” is less chosen by students of whom the mother has a high or low diploma whereas the father’s diploma has no impact. It is the opposite result which is obtained in the context of effort provided at school : perhaps it is difficult to relate individual responsibility and school when her/his father gets a low diploma. In the context of education, accurately, expected incomes have a noticeable influence on “equality” or “reward” answers: students who expect a higher or a lower income than the reference expected income are more likely to choose “equality” or “reward” answers. We can understand that students who expect very high income would like to be rewarded for their effort and so tend to choose the rewarding of effort at school; it is more difficult to see why students who expect rather low income are more likely to prefer, at the same time, egalitarian and rewarding policies. The nationality of the respondents has here a slight effect only : we just can notice that

Swedish students are less likely to choose “neutrality-answer” than “impartiality-answer”.

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## Annex

### Annex 1 : question 10 (about inheritance tax)

In a hypothetical country<sup>1</sup> nowadays an only child who inherits from his parents pays inheritance tax (“death duties”) if the inheritance is worth 100 000€ or more. Where the inheritance is over that figure the percentage paid in death duties varies from 5% if the total is up to 7600€ over the maximum to 40% if the total is over 1 700 000€. It is estimated that one person in six pays death duties on what they inherit from their parents (it should be noticed that, in our hypothetical country, gifts made to a child during the parents’ lifetime are tax free up to a total of 30 000€ per child and per parent in any ten year period).

Do you think that (**Answer this question Yes or No**):.

Death duties should be abolished  
Yes    No

### Annex 2: Additional socio-demographic questions

Here there are some additional questions about you. We are interested in that only for statistical purpose, while your privacy will be fully guaranteed. Please note that you do not have to sign or write your name on this copy.

You are :                                  Male                                  Female

Your mother is (or was in the case she is now retired)

Employer/manager

Professional Worker (lawyer, accountant, teacher,  
etc.)

Employee (office worker, etc.)

Manual worker

Farmer or Agricultural Worker

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<sup>1</sup> The monetary units used in this scenario are Euros (remember that 1 Euro= ...crowns): think about a new hypothetical country which is different than those considered until now. The new hypothetical country looks like a European one.

time) Unemployed (or at least during a long period of

Never had job

Your father is (or was in the case he is retired)

Employer/manager

etc.) Professional Worker (lawyer, accountant, teacher,

Employee (office worker, etc.)

Manual worker

Farmer or Agricultural Worker

time) Unemployed (or at least during a long period of

Never had job

The highest level of education your mother reached is

Lower than secondary education

Secondary education

Higher than secondary education

The highest level of education your father reached is

Lower than secondary education

Secondary education

Higher than secondary education

How many children were in the household where you grew up (including you).....

Here is a scale of income and we would like to know in what group the household where you grew up is, counting all wages, salaries, pensions and other incomes that come in. Circle the number that corresponds to your household (with 1= lowest level of income in your society and 7= highest level of income in your society)

1                    2                    3                    4                    5                    6

7

Now project yourself 10 ten years in the future. Here is a scale of income and we would like to know in what group of income you expect to be in 10 years from now. Circle the number that corresponds to your household (with 1= lowest level of income in your society and 7= highest level of income in your society)

1                    2                    3                    4                    5                    6

7

In Political matters, people talk of “the left” and of “the right”. How would you place your views on this scale, generally speaking? (with 1= the most leftist view and 7= the most rightist view)

1                    2                    3                    4                    5                    6

7

Did the environment where you grew up convey any religious education or practice?

Y                    N