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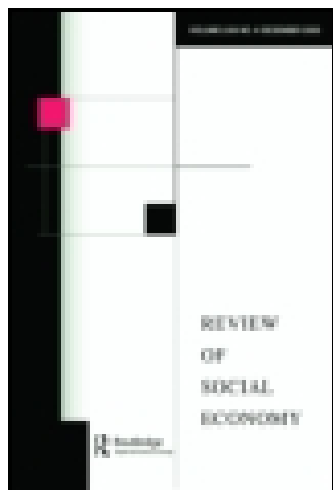
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Medical Altruism in Mainstream Health Economics: Theoretical and Political Paradoxes

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Abstract In the field of healthcare, ethical considerations are omnipresent. The problem is that it is not clear how to introduce professional ethics within the frontiers demarcated by economic rationality. In mainstream economics, medical altruism is defined as the inclusion of the patient's welfare in the doctor's utility function. This definition presents two serious problems that we develop in this paper. The first problem is that mainstream theory does not propose a model of authentic altruism because it reduces otherness to a source of utility like any other. The second problem is that ethical and altruistic (instrumental or otherwise) behaviour should not be conflated. By reducing ethics to altruism, mainstream theory prevents any genuine discussion of medical ethics. Then, the thesis of the paper is that the attempt to introduce altruism into the standard framework creates theoretical paradoxes that create policy dilemmas.

Keywords: healthcare, altruism, professional ethics, instrumental rationality, intrinsic motivation

JEL Classifications: A13, B41, I10, I18

1. INTRODUCTION

In the field of healthcare, ethical considerations are omnipresent. Every medicine-related profession has a professional morality, supported by a “code of deontology” as for example the American Medical Association's Code of Medical Ethics that stipulates the ethical attitude to be followed, a “Council of the Order” to enforce it or, for doctors a “Hippocratic oath” that commits them to an ethical orientation.¹ Values in medical ethics such as beneficence, non-maleficence, justice and respect for autonomy induce special responsibilities for professionals

¹ We have made no distinction between ethics and morality in this paper.

(Gillon 1994). There is also a strong belief that doctors display ethical considerations in their daily work (Glannon and Ross 2002).

From this point of view, Arrow (1963), in his seminal article, emphasised the importance of physicians' concern for medical ethics:

It is clear from everyday observation that the behavior expected of sellers of medical care is different from that of business men in general. These expectations are relevant because medical care belongs to the category of commodities for which the product and the activity of production are identical. In all such cases, the customer cannot test the product before consuming it, and there is an element of trust in the relation. But the ethically understood restrictions on the activities of a physician are much more severe than on those of, say, a barber. His behavior is supposed to be governed by a concern for the customer's welfare which would not be expected of a salesman. In Talcott Parsons's terms, there is a "collectivity-orientation", which distinguishes medicine and other professions from business, where self-interest on the part of participants is the accepted norm. (1949)

Given that it is an essential coordinating factor, medical ethics cannot be excluded from standard health economics. The problem is that it is not clear how to introduce professional ethics within the frontiers demarcated by economic rationality. The proposed solution to this problem is to confine the professional ethics of doctors to economic calculus in order to explain medical ethics with the tools of mainstream economic theory. The ethical attitude of a doctor is thus formalised in terms of "medical altruism". This concept is intended to take into account the values of doctors by assuming that the paradigm of *homo economicus* is a sufficient starting point (although it may have to be modified). These values are incorporated through the utility concept. The individual is endowed with "classic" individual preferences (in the context of the work-leisure trade-off, for example) to which are added "social" preferences. Drawing on the traditional definition of altruism in mainstream economics, advocated by Harsanyi (1955) and Becker (1981), medical altruism is defined as the inclusion of the patient's welfare in the doctor's utility function.

This representation of altruism consists of an internalisation of the patient's utility function (or a proxy variable such as income or health state) into that of the doctor. An altruistic doctor remains a utility maximiser, whose utility function includes the well-being of the patient. This definition presents two serious problems that we develop in this paper.

The first problem is that mainstream theory does not propose a model of authentic altruism because it reduces otherness to a source of utility like any other. Instead it is an instrumental altruism that does not take into account actions that are undertaken with the intention of benefiting another individual where is motivated by a non-instrumental concern for his or her welfare (Joyce 2007). In

contrast, genuine altruism, which the mainstream never speaks about, is much closer to our common-sense understanding of the term. The second problem is that ethical and altruistic (instrumental or otherwise) behaviour should not be conflated. Indeed, it is very easy to imagine situations where an altruistic action might be unethical. For example,² an accomplice to a murder may aid the one who tortures the victim to death. This can be altruistic—but ethical? Although ethical judgements are similar to altruism in the sense that they are independent of the interests of those who make them, they have a further universalisable and inescapable dimension: there is no opting out of a moral judgement (Joyce 2007). Even though he may have acted altruistically, the accomplice to a murder would find it difficult to avoid feeling guilt. By reducing ethics to altruism, mainstream theory prevents any genuine discussion of medical ethics.

As a consequence, though it can account for the peculiarities of healthcare recognised by mainstream health economists (e.g., externalities, information asymmetries, uncertainty, supplier-induced demand), mainstream health economics cannot take into account the objective nature of health needs (Hodgson 2009, 2013). Health needs tend to be non-voluntary and unevenly distributed. Many illnesses, injuries or accidents that create health needs are unpredictable and independent of the choices or responsibilities of those who suffer them. Failure to meet health needs leads to harm and suffering. So, health needs are close to the idea of “vital need” (Batifoulier *et al.* 2013). The recognition of such a universal need is one of the foundations of medical ethics. This recognition requires that health workers must protect patients from harm and suffering as a matter of moral obligation. This objectivity of health need is in stark contrast with the subjectivity of utilitarian preferences, and it determines a professional ethos with an inescapable moral dimension.

Section 2 shows how the economic theory of instrumental altruism was imported into health economics to solve certain theoretical problems raised by the concept of supplier-induced demand. The incorporation of an other-regarding argument into the doctor’s utility function is not only an advance in economic analysis but also vital to the credibility of rational choice theory when it seeks to account for doctor’s behaviour. Section 3 develops the thesis of the paper—that the attempt to introduce altruism into the standard framework creates theoretical paradoxes that create policy dilemmas. Giving moral motivations the same status as other utilitarian motivations amounts to purging doctors’ ethics of any reference to values. This makes a theoretical claim that seems to defy logic. To explain medical ethics with an instrumental conception of altruism leads to political propositions that can be absurd or counter-intuitive. So, the introduction

2 We owe this illustration to one of our anonymous reviewers.

of medical ethics into rational choice theory leads to regulatory as well as theoretical problems.

2. THE “ETHICAL PREFERENCE” OF THE DOCTOR AND RATIONAL CALCULUS

The concept of induced demand (Evans 1974) is particularly relevant to health economics. In most treatments, the doctor is both producer and consumer, since he translates the patient’s illness or injury into medical consumption by prescribing the treatment. Consequently, the demand is not independent; it reflects the supply both quantitatively and qualitatively. Therefore, there should be a positive correlation between density of doctors and medical consumption: a higher number of doctors, in a given geographical area, should increase health spending rather than lower it—as would be the case, theoretically, in a perfect market—and the total fees charged should also be higher. However, this capacity for induction is moderated by the existence of an ethic that limits the power to create demand. Here again, the doctor’s social obligations, to which theorists of demand induction refer almost systematically, are a response to this original power.

This is because the doctor’s utility function $U_M = U_M(Y_M, W_P)$ includes both the classic arguments Y_M (in terms of income, working hours, etc.) and the more unusual arguments W_P , reflecting the doctor’s social preferences and likely includes ethical arguments in one form or another. The doctor’s utility thus incorporates the patient’s welfare and explains medical behaviour as regards price and quantity. Utility measures the satisfaction of preferences, including the doctor’s “ethical preference”.

The practitioner’s ethical sensibility is identified with an exogenous preference or taste, the origins of which are not considered relevant: *de gustibus non est disputandum*. Like other individuals, doctors are not responsible for the formation of their preferences. This “ethical preference” that is given *a priori* can appear in the utility function in one of two generic forms.

In the first case, emphasis is placed on the doctor’s discretionary power, and ethics is used to take into account the disutility of exercising such power. Some induction models operate in this form: $W_P = I$ with $U'_I < 0$ (e.g., Wilensky and Rossiter 1984; Woodward and Warren-Boulton 1984). The utility of induction (I) is positive but decreasing and ethics is invoked to justify this decrease. It is described as a limit to the power of creating demand. For reasons of altruism, the doctor curbs the exercise of his discretionary power. He refrains from over-prescribing or over-charging the patient (through either high fees or unnecessary consultations), because this “maximal medicine” is costly to him on a psychological level. The doctor is modelled as maximising utility under self-

imposed constraints. Here, medical altruism is identified with a preference that corrects the other preferences of the doctor. It acts as a constraint on self-interest and subordinates the other arguments of the utility function to respect of this constraint, which reduces the doctor's sovereignty of choice.

The second case, which gives positive consideration to the doctor's wish to act in the patient's best interest, is more in line with the mainstream theory of altruism. Ethics is explicitly taken into account in the utility function ($W_p = E$), reflecting the fact that the doctor is concerned with the welfare, health or demands of a representative patient. In this case, the ethical behaviour increases the doctor's utility, and they are positively related ($U'_E > 0$).

The patient can be presented in different forms, depending on the modeller's imagination and what he is seeking to explain. The doctor may be concerned with the welfare of the ordinary, average patient (e.g., Richardson 1981). He may be more sensitive towards particular types, such as poorer patients. Models of price discrimination are then developed in which the doctor's satisfaction depends on the income of his patient (Kessel 1958). The segmentation of patients allows the doctor to charge different prices depending on the patient. This "discriminatory ethics" conflicts with the injunctions of the deontological code (Ruffin and Leigh 1973). The doctor may be more sensitive to patients who are interesting from a clinical perspective because he prefers medicine that is more intellectually attractive or prestigious. Ethics may then be expressed as a function of disease severity. The ethical cursor thus moves up and down according to diverse characteristics of the patients.

This conception of ethics is centred on concern for others. It is applied to the case of the doctor, but it is not exclusive to doctors. Beneficence and altruism are generic behaviours that can be found in any individual; they are not peculiar to doctors (Davis and McMaster 2007). Medical altruism bears a "family resemblance" to various concepts developed in very different contexts. The literature proposes other terms instead of altruism to describe the medical behaviour. Doctor's "concern" with their patient is similar to that found within a family, for collective goods or in certain configurations of industrial economics.

Whatever the words used and the form of the formalisation of professional ethics as altruism the aim is to reject the idea of the full exercise of discretionary power. Assuming that this power is not constrained leads to an absurd result whereby the doctor is simply an economic agent like any other.³ At the other extreme, a "maximal ethic" denies the existence of maximising behaviour. In the former case, traditional microeconomics is sufficient to explain medical

3 De Jaegher and Jegers (2000), for example, following other papers, show the absurdity of a "no limit" strategy from a microeconomic point of view.

behaviour, and there is no need for the specificities of health economics. In the latter case, there is no need for microeconomics at all.

Taking into consideration ethics is therefore indispensable to formalisation. It is even exploited in this sense because it allows one to perform the traditional economic calculus—in a domain that was not *a priori* receptive to such calculus—without transforming the doctor into a businessman. The “ethical argument” is more tractable, friendlier and ultimately more orthodox than a hypothesis of target income,⁴ for example, which argues that maximising rationality should be abandoned in favour of Simonian rationality. Consequently, analysis of the doctor’s economic rationality almost systematically includes consideration of an ethic that does not (always) call for comment. It is part of the modeller’s toolbox. In that sense, this microeconomics of health is also inevitably a microeconomics of ethics. Ethics formalised in this way is therefore far from anomalous. However, this need for ethics raises certain problems.

3. INSTRUMENTAL MEDICAL ALTRUISM: PARADOXES OF ECONOMIC THEORY AND PROBLEMS OF ECONOMIC POLICY

This conception of ethics, which reduces ethics to altruism and reduces altruism to instrumental altruism, has implications for the understanding of medical behaviour. We can identify several levels of problems raised by medical altruism of this sort.

The first series of difficulties is theoretical: by reducing ethics to altruism and altruism to instrumental altruism, the mainstream theory of medical altruism leads to a series of theoretical paradoxes. Altruism effectively becomes egocentric and genuine ethical problems are barely touched upon. The second series of problems lies in the domain of economic policy. In this case, the criticism is shifted onto a central regulator seeking to regulate an “altruistic” doctor. Such regulation is difficult because the doctor’s “altruism” is never pure. Indeed, the formalisations of medical behaviour seek to exclude the totally “altruistic” or totally selfish doctor. The central regulator must therefore deal with an individual whose behaviour is located “somewhere” between the extremes of altruism and selfishness.

In our view, each of the paradoxes of economic theory is closely linked to economic policy problems. Table 1 summarises our critical perspective. Each paradox of economic theory leads to an economic policy problem. In Section 3.1,

⁴ This hypothesis is used notably by Evans as a factor explaining the limits of induction. See also Sweeney (1982) or Rizzo and Zeckhauser (2003).

Table 1: From Theoretical Paradoxes to Economic Policy Problems

Economic Theory Paradoxes	Economic Policy Problem Faced by the Regulator
Medical egocentric altruism	Sign a “blank check” to the doctor
Sadistic medical altruism	Protect the patient from the doctor
Masochist medical altruism	Protect the doctor from the patient
Selfishness premium	Less financial reward for an altruistic doctor than an egoist one
Ambiguous altruism/profit relationship	Medical crowding-out effect

we describe, one by one, each of these paradoxes and the corresponding policy problem.

3.1 Medical Egocentric Altruism

The first criticism in relation to medical altruism is one that targets mainstream economic theory of altruism in general. The professional ethic, incorporated into a utility function, has no moral dimension. It is simply an instrument used to achieve a given end: not to treat the doctor as an unrestrained maximiser.

The arguments of the utility function, which lend themselves to the same type of calculus, are then interchangeable as regards their consequences in terms of the doctor’s satisfaction. The strength of this modelling of medical altruism is that it reduces the advantages and disadvantages of respecting a norm like medical ethics to one unique homogeneous measure—utility—by incorporating values into a cost–benefit analysis. This strength is also a weakness, because it amounts to defining the ethic by default and dissolving the moral judgement in the calculus (Ben-Her and Putterman 1998; Folbre and Goodin 2004; Hausman and McPherson 1993). The analysis makes all the arguments of the utility function commensurate, and it is always possible to make a trade-off between the different arguments. However, using the same currency to count preferences of different orders can lead to paradoxical results. Thus, in the individual component of the utility function, the doctor’s effort is counted negatively (disutility of effort), but in the social component, it becomes positive because the doctor is concerned about the patient’s welfare, devoting time and energy to it. The private effort that

generates a disutility and the social effort underlying recognition of the patient are not at the same level.⁵

Unlike “altercentric” altruism (Khalil 2004), this medical altruism is egocentric because it is “good” from a personal point of view and not intrinsically. The doctor maximises his welfare by seeking the patient’s welfare. The moral virtues are only generated from self-interest. Sympathy for the other is judged on the basis of the benefits it generates. The agents always start by maximising their own utility, not the utility of others. Good remains irreducibly attached to subjective welfare. One possible response is to refuse the label “altruism” to describe this conception (Rose-Ackerman 1996; Sen 1987) and to transcend the context of interdependence between utilities. Truly altruistic commitment leads one to prefer an action that might reduce one’s utility, while another possible action could increase that utility.

This egocentric altruism leads to paternalistic altruism when the doctor takes responsibility for the patient’s health because he is concerned for his welfare. In line with Beckerian tradition, the doctor is seen as a benevolent dictator who knows what is good for the patient (like the “good father”). Each party gains from the situation, because the “happiness” of the doctor is achieved through the “happiness” of the patient. In return, the doctor obtains a return on his ethical investment if the patient behaves like a “rotten kid”: he will remain cooperative and loyal to the doctor.

Medical paternalism is an accepted doctrine of the medical profession, which stresses the inequalities of position between the patient and the doctor. The patient must put himself in the hands of the knowledgeable person, whose judgement is not clouded by suffering. The right to intervene ensues naturally from the inequality of position. Thus, paternalism is justified by the lucidity and rationality of the doctor treating a patient whose safety requires submission. So, the medical profession does indeed have power, but this power is voluntarily channelled by the sense of responsibility developed in doctors who seek the welfare of their patients. The conclusions for economic policy are immediate: giving credit to the idea of professional ethics within this paternalist context amounts to giving a “blank cheque” to doctors, who are the only ones capable of knowing what is good for the health of the patient and naturally oriented towards beneficence. It is then necessary to provide the tools to reinforce the freedom and autonomy of the doctor. If it is part of the doctor’s calling to adopt the principle of “the patient comes first”, then economic policy, the aim of which is to defend the patient’s

⁵ One way to resolve these paradoxes leads one to adopt another approach to preferences (meta-preferences or reflexivity of preferences), which departs from the axiomatic of rational choice.

interests in the name of the common good that is health, need only step aside and let professional self-regulation do the job.

This conception ensures coordination between patient and doctor simply through the interplay of individual preferences. The altruistic doctor ratifies the preferences of the patient without making a moral judgement. Yet, in this framework, the patient's preferences can only be wants rather than needs. This subjectivity makes preferences more fragile and renders medical paternalism suspect in the eyes of society. In this way, the altruistic doctor can be seen to satisfy the wants of patient at the expense of violating the code of medical ethics. The extreme example of euthanasia is worth considering in this context: a doctor can help a patient die for altruistic reasons, but in what sense is this decision an ethical one? Lacking basic ethical competence, the doctor cannot distinguish between acts of ethical altruism and acts of egotistical altruism. It is because patients express objective, universal needs with a powerful moral dimension that society is duty-bound to satisfy them and delegates this job to doctors. The otherness of the medical profession is thus not simply a function of patients' utilities: it is connected to a universal moral dimension. Medical power is linked to this obligation to act, which is absent from mainstream theorising.

3.2 Sadistic Medical Altruism

At different levels of analysis, both the medical approach and its economic formalisation relate medical altruism to the need to take the patient into account. However, there is nothing to ensure that the doctor will be naturally beneficent, so modelling altruism in terms of the interdependence of utility functions is insufficient to guarantee this beneficence (Ballet and Bazin 2006).

The presence of the patient in the doctor's utility function is no more than an extension of individual rationality to the presence of the other. The act of looking after someone is like an externality (a "caring externality") that can be positive or negative. There is no need to bring into play a social norm when a partial identification with the other's welfare is sufficient. This altruism is *a priori* neutral and only produces an economic utility where the action is judged in terms of the gains it generates for the doer. If we simplify the doctor's utility function $U_M = U_M(Y_M, W_P)$, then the egoist is someone who is insensible to the other: $\partial U_M / \partial W_P = 0$. In the case of the altruist, the reverse is true: $\partial U_M / \partial W_P \neq 0$. Envy, jealousy and malevolence are then forms of this altruism ($\partial U_M / \partial W_P < 0$) producing negative utilities. An additional step is then needed to postulate a beneficent doctor ($\partial U_M / \partial W_P > 0$). In this case, the doctor gains from caring about the patient.

However, when the utility function is formalised in this way, this care for the other conveys a very particular conception of “otherness”. It can suggest the existence of sadistic medical behaviour: in the same way as he can obtain utility by acting in the interest of the patient, the doctor can have an interest in the suffering of the patient who consults him and seeks his beneficence (McMaster 2007). This beneficent doctor gains from investing in the therapeutic process. He therefore needs the existence of the disease in order to extract benefit from his interaction with the patient. The patient’s disease serves the commercial interest of the doctor.

It is through the suffering of the patient that the doctor is concerned with the interests of his patient. Here, the suffering is the driving force behind egocentric action. This strips the medical relationship of all conventional meaning. A doctor who profits from the suffering of his patient is hardly friendly. He awakens the suspicion of the patient, who has no interest in trusting him. Medical confidence is impossible, and the therapeutic relationship is non-existent. This type of configuration, intensifying the logic of instrumental and selfish interest, leads to prisoner’s dilemma-type situations where any cooperation is rationally impossible, even if it is reasonable.

In these conditions, what kind of actions can be taken by the central regulator? The patient needs the doctor to improve his health status, but the doctor has an interest in patient suffering. It can be counterproductive to send a patient to consult his doctor. The regulator has to protect the patient—who needs healthcare—from the doctor who provides care.

This paradox is linked to the mainstream’s inability to recognise the specificity of healthcare. Caring about the needs of another member of one’s community is a universal moral characteristic (Joyce 2007). This is even more the case in healthcare where health problems are involuntary. From this perspective, avoiding patients’ suffering constitutes a moral justification for action among doctors. This goes beyond (instrumental or conventional) altruism in the sense that the doctor sees himself as bound by obligation to satisfy the needs of the patient and would not manipulate human suffering for personal gain due to an overpowering sense of guilt (Joyce 2007). This moral sense is part of healthcare needs because of their objective dimension and their necessity based on the claims of an individual to avoid suffering (Batifoulier *et al.* 2013).

3.3 Masochist Medical Altruism

The analysis of medical altruism is also vulnerable to “egocentric bias”, investigated in the psycho-economic literature, which describes the tendency of individuals to believe that others would do the same thing in their place (Levy-

Garboua *et al.* 2006). Thus, on the basis of his own position, a beneficent doctor might infer the beneficence of his patient. This projection can be dangerous. In the formalisation of altruism in the form of the doctor's preference, nothing is known about the patient. The way the patient reacts to the ethical commitment of the doctor is assumed to be positive. And yet there is nothing to prevent him from taking advantage of the doctor's naïveté. The altruism of one can even stimulate the opportunism of the other. This paradox of unilateral altruism has been developed from an extension of Becker's "rotten kid theorem" (Bruce and Waldman 1990). If the patient is not assumed to have the same ethical "values" as the doctor, he may behave as a "bad rotten kid" and the "return on ethical investment" expected by the doctor will not exist. We then find ourselves in a "Samaritan's dilemma"⁶ where the doctor gains from being altruistic while knowing that the patient will exploit the situation. Altruism by a practitioner will not lead the selfish patient to act efficiently from the doctor viewpoint (Marciano 2005). Patients do not have an obligation to collaborate with their doctors to ensure a timely and accurate diagnosis by providing honest answers to the doctors' queries, and to comply with treatment after a diagnosis has been made.

The doctor concerned about the patient's welfare is then a naïve doctor and his beneficence can be counter-productive.⁷ It is just as if a frustrated maximiser was considerably weakened by a pure maximiser. Under these conditions, the central regulator must protect the doctor from his unconditional altruism. This latter can be costly and counter-productive because it may activate moral hazard-type behaviour in the patient, which is a source of increased expenditure. The supervisory authority may then be led to tax this excessive altruism. The doctor himself cannot react to an opportunistic patient because his hands are tied by his altruism. He must delegate the sanctions to a third party (the supervisory authority) who will oblige the patient to be altruistic in return. This situation where medical altruism becomes a problem for the regulator can be ascribed to a failure in confidence and reciprocity. The formalisation of values in terms of interdependent utility functions can make medical beneficence perverse.

Behavioural economics has shown that all cooperation is impossible if the hypothesis of self-interest is believed to operate widely (Camerer *et al.* 2011; Fehr and Fischbacher 2003; Gintis *et al.* 2003; Kahneman 2011). Patient–doctor interactions are no exception to this rule. The conception of a cold, cynical patient who exploits medical altruism is equivalent to the conception of an individual as a hedonistic pleasure machine (Hodgson 2013). It ignores completely the fear and anguish associated with illness. Indeed, emotions constitute an important

6 Which is an extension of the prisoner's dilemma.

7 See for example Liu and Ma (2013).

mechanism for regulating individual moral conduct (Joyce 2007). Although he was ignored, Arrow (1963) initially pointed out that it is not because patients can behave as profit maximisers that they actually do so, especially when social norms of trust and moral judgements exist.

3.4 Selfishness Premium and Altruism Punishment

In formalising the doctor's behaviour, the great majority of this literature takes into consideration the existence of altruism. As we have already said, this is only justified by the desire not to model the doctor as a simple businessman. From induced demand to agency theory, medical altruism is a required reference, because it would appear careless or even counterproductive to ignore the issue.

Altruism moderates discretionary power, without offsetting it completely. Just as it contradicted the existence of an induction effect, total altruism negates the utility of financial incentives. The economist would have no need to construct extrinsic incentives to honesty if the existence of intrinsic motivations already played that role. The easy answer would be to reject ethics or to consider it as a troublesome constraint. A purely opportunistic doctor is totally sensitive to financial incentives. But what to do with a doctor concerned with respecting a professional ethics?

One approach consists in modulating the financial incentives according to the characteristics of the doctor. A doctor who is uniquely sensitive to his own private interest is easier to direct towards the choices of the public authorities. He simply needs to be compensated for the disutility of his effort. But if the doctor is altruistic, even to a limited extent, this policy can be difficult to implement because the moral hazard to be countered is no longer certain, only possible. One must therefore distinguish between doctors according to their altruism degree (Bardey and Lesur 2006). A doctor concerned with his patients' health conditions produces "good quality" without any incentive. However, the supervisory authority does not know whether the doctor is honest or not. The financial incentives must therefore start by revealing the type of doctor (Jack 2005), for example by directing altruists to public sector—with weak financial incentives—and opportunists to the private sector—with strong financial incentives (Ma 2007).

A doctor who is already altruistic will need less incentive than a totally selfish one. From this point of view, the altruist is penalised because he will receive less financial compensation from the supervisory authority. Conversely, the incentive is a selfishness premium for the selfish doctor. In this case, what is the interest in being altruistic, especially if altruism is no more than an instrument at the service of self-interest?

This paradox of economic theory leads to a difficult problem of public policy related to fairness. As shown with some regularity by the work of George Akerlof, if the amount of payment is an important element to explain work effort, social norms (Akerlof 1982), fairness (Akerlof and Yellen 1990) and social identity (Akerlof and Kranton 2000) are also central. In this framework, if there are significant wage differences between relatively homogeneous individuals, the lowest paid may react by reducing their effort.

Treating two professional categories differently poses a problem for conceptions of fairness and presupposes the existence of a moral intuition. Thus, it is possible that altruistic doctors react badly to significant compensation differences, and so much more if these differences are made by selfishness premiums. This problem is particularly relevant in the French healthcare system where certain doctors impose free market prices while others doctors cannot (Batifoulie *et al.* 2011; Delattre and Dormont 2003). Two classes of doctor are then created with different levels of remuneration. This situation, initially considered unproblematic, is now a major issue because lower paid doctors seek to reduce compensation differences considered illegitimate and unfair.

3.5 Ambiguous Altruism/Profit Relationship

If medical altruism appears today a common hypothesis to explain medical behaviour, it is only recently that the question of the relationship between altruism and profit has become a challenge to health economists. The question is, to what extent utility from monetary profit is consistent with the utility from altruism? Is there complementarity or substitutability between these two sources of utility?

This problem has led to an extensive literature in economics on the study of intrinsic and extrinsic motivation (Frey 1997). According to this view, individuals are extrinsically motivated when the action is performed in the context of receiving a reward or avoid a punishment. The action is instrumental. Individuals may also be subject to intrinsic motivation. In this case, the action has no purpose other than itself. The individual acts for the pleasure inherent to the action.

Consider an example. It is possible to read with passion *Martin Eden*, one of the best books by Jack London. And, it is also possible to read this book, not for pleasure, but to prepare an exam. In the first case, the action is intrinsically motivated, and in the second case, it is extrinsically motivated.

Economists do not say anything more than this. A doctor can reduce utility directly by his work (if he is altruist for example) and/or indirectly by the income associated with this work. The main interest of this theory comes from the assumption of a crowding-out effect. Under certain conditions, the introduction of extrinsic motivation while the action was previously intrinsically motivated may

reduce the latter. Indeed, incentives (extrinsic motivation) may challenge the need for autonomy or the need for recognition, as the basis of intrinsic motivation.

Insofar as the assumption of medical altruism is credible, this crowding out effect seems particularly relevant. In fact, if we consider that medical altruism is a possible form of intrinsic motivation, the problem of the relationship between the different registers of motivation becomes central. Paradoxically, paying doctors can dissuade them. This reinforces the difficulties linked to the regulation of altruists (Mannion and Davies 2008; Marshall and Harrison 2005).

This motivation theory has been retranslated into the language of mainstream economics, i.e., as an asymmetric information problem (see Rebitzer and Taylor 2011 for a review). Heterogeneous doctors in their level of altruism can be sensitive about their image: they want to appear virtuous rather greedy (Siciliani 2009). So, an extrinsic reward may lead to a crowding out effect, depending on the average degree of doctor altruism.

This reformulation of motivation theory is problematic (Ballet *et al.* 2005). Beyond the issue already raised of the selfishness premium, there is a problem in inserting the concept of intrinsic motivation into the utility function. Intrinsic motivation is defined as a motivation triggered by inherent pleasure in performing a task. But, it is impossible to translate this kind of motivation into the utility function's language. Intrinsic motivation is an anti-utilitarian motivation. Therefore, there is a paradox in considering altruism as an intrinsic motivation once it does serve utility.

This new paradox of economic theory leads to a new problem for economic policy. How is one to reward an altruistic doctor if he could be the subject of a crowding out effect? This question assumes a major importance when we analyse the unsatisfactory results of pay-for-performance policies implemented in many countries (USA, England, France, Australia, etc.). Pay-for-performance is based on the idea that it is possible to change doctors' behaviour by indexing their compensation by numerical indicators of productivity. This position assumes that doctors are not intrinsically motivated in their job and that monetary incentives are a relevant and sufficient source of motivation (Wynia 2009). It is the hypothesis of complementarity of motivation, which is implicitly assumed. But, given the empirical data, this hypothesis seems hardly debatable. In fact, although the Patient Protection and Affordable Care Act of 2010 (Obamacare) extends pay-for-performance mechanism to Medicare programmes, this kind of incentives struggle to demonstrate their effectiveness (Eijkennar *et al.* 2013).

Once again, by reducing ethics to altruism, mainstream theory does not allow one to see the role of ethical judgements in doctors' behaviour. It is only once we start with this moral dimension that we can understand the relationships between different types of motivation:

The incentives involved in the institutional design of healthcare systems are never entirely pecuniary. Indeed, the nature of healthcare needs inspire a professional ethos of care and obligation that is above and beyond any pecuniary motive for healthcare workers. Healthcare institutions must nurture and harness this ethos of obligation. While pecuniary incentives are also important, they can be undermined by systems that overshadow and may serve to override ethical and other commitments through excessive emphasis on pecuniary rewards. (Hodgson 2013: 192–193).

4. CONCLUSION

What conclusions can be drawn from the introduction of the medical altruism hypothesis into mainstream theory? What does the assumption of medical altruism provide that the traditional assumption of profit maximisation does not?

According to Milton Friedman's methodological instrumentalism, economic theories should not be judged on the realism of assumptions but on their ability to predict behaviour. In this framework, profit maximisation hypothesis is not surprising. But, health economists quickly demonstrate the inability of this hypothesis to explain doctors' behaviour. The "no limit" strategy seems to be absurd. This is why the introduction of medical ethics—in the language of altruism—is essential. Introducing a more realistic hypothesis may "save" the theory. In this paper, we aim to assess the medical altruism hypothesis. In our opinion, by switching the hypothesis of profit maximisation to medical altruism, health economists lose the theoretical consistency in the interest of realism, but without producing effective policy recommendations.

In fact, the history of economic thought tells us that a doctor directed by individual profit is now considered as an unrealistic hypothesis. But this position has the advantage of avoiding paradoxes of economic theory. If doctors are only concerned by profit maximisation, they should be financially incentivised (motivated). Although there is no theoretical problem, the policy recommendations are generally ineffective or partially effective at best. The resounding failure of pay-for-performance in the USA (for example) or the inability to master the deficits is witness to this failure.

The interest in the concept of medical altruism is to save or improve economic theory with a more realistic assumption. However, though the assumption is more realistic, it induces paradoxes of economic theory. The problem for economists is that this theoretical inconsistency leads to further unresolved economic policy issues.

We think the issues of economic theory paradoxes and those of public policies problems are closely related because the meaning and form of the question raised by the theory guides the direction of the proposed responses to the public power.

Therefore, one of our conclusions is that solving these problems of public policy requires leaving the mainstream framework. Altruism is not reducible to instrumental altruism and ethics is not reducible to altruism of any sort.

Then, it becomes crucial to consider seriously medical altruism and medical ethics. Utilitarian calculus prohibits consideration of professional ethics' normative character. By placing ethical motivations and personal motivations on the same level, it is impossible to consider the ethic as a social norm where the doctor can give "something for nothing" without expecting anything return. And yet, as Elster showed (1998),⁸ if social norms were counted like economic utilities, they would have no effect. With most norms, the desired effect is obtained by seeking another objective. When applied to doctor's behaviour, this reasoning brings out the fact that it is, paradoxically, only by showing his insensibility to the patient's gratitude or social approval, and more generally by adopting ethical behaviour in a disinterested manner, that the doctor will meet with social approval or reciprocal commitment from his patient. In developing a professional ethics, the doctor expects a return from the patient. There is therefore no free ethic. But the quality of this ethic resides in the fact that it requires no return. It can only require payment on condition that it has not been practiced to that end, as the sociology of the gift suggest (Godbout *et al.* 2000) or the heterodox health economic conceptualisation of care shows (Davis and McMaster 2013; Hodgson 2008).

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⁸ Elster's example of the pill that reduces guilty feelings can be adapted to the case of the doctor to show that nobody can escape from a "bad conscience" by buying this pill, because wanting to be immoral is already being immoral: to think of the pill, one must already be feeling guilty. The moral problem is therefore not strictly reducible to a problem of cost, which would draw equivalence between behaviours with highly contrasting moral qualities.

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