Conflicts in Decision Making

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Abstract Following Nick Baigent's argument that one must go "behind the veil of preference" (Baigent, Jpn Econ Rev 46(1):88–101, 1995) to be able to develop a satisfactory theory of rational behaviour, we propose to analyse potential intrapersonal conflicts caused by different reasons, goals or motivations to choose one option over another, which may make the development of a coherent preference impossible. We do this by presenting an extensive, but certainly not exhaustive overview of psychological research on intrapersonal conflict, its influence on preference reversal (and hence on incoherent behaviour), on psychological well-being and on motivational and behavioural changes over time. We then briefly describe our own theory of choice under conflicting motivations (Arlegi and Teschl, Working Papers of the Department of Economics DT 1208, Public University of Navarre, 2012), which is a first attempt at putting psychological insights into intrapersonal conflict into an axiomatic economic context.

Keywords Goals • Intrapersonal conflict • Motivations • Multiple self • Preference reversal • Want/should-self

1 Introduction

In "Behind the veil of preferences", Nick Baigent [3] makes a number of important observations about the plausibility of having or revealing preferences of which many economists themselves are not necessarily aware. This is probably so because the

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common idea is that economics starts with given preferences, without questioning where those preferences come from. Students of economics are taught from early on that people *have* their own complete, transitive preferences, which enable a numerical *utility function* that represents such preferences to be defined, and that people choose what is best for them (i.e. they maximise their utility function) under the constraints that they face. It is assumed that people find out about their preferences through introspection.[1] Following Mas-Colell et al. [34], we call this the *preference-based approach*. Later, students are introduced to the concept of choice functions and to the idea of consistent behaviour, and that if people act consistently, such choices can be rationalised by a revealed preference ordering. Again according to Mas-Colell et al. [34], this is known as the *choice-based approach*. The "circle" seems to be closed: preferences are underlying choices, and can be revealed from those choices. Samuelson himself said: "The complete logical equivalence of [the revealed preference] approach with the regular Pareto-Slutsky-Hicks-Arrow ordinal preference approach has essentially been established. So in principle there is nothing to choose between the formulations. There is, however, the question of convenience of different formulations." [44, p. 1]. This "logical equivalence" however (and for that matter the term "preference") is a factor that may cause confusion. For example, as Baigent [3] highlights: "It is important to emphasize though, that the preference so revealed is not a preference that exists as a separate entity, distinct from the choices that reveal it. In fact, such a preference is only a description of choice and not an entity that has any independent existence." (p. 90). This means that while the preference-based approach assumes that preferences exist in the person in terms of their own "tastes",[2] the choice-based approach does not suggest that revealed preferences need to be such *person-inherent* or *intrinsic* preferences, in the sense of reflecting the person's tastes (which may include her interests, personal goals, etc.). Revealed preferences are just an ordering of alternatives, which may be based on *intrinsic* preferences or tastes, but also on other reasons such as norms, rules, obligations, etc. that make the person act consistently. However, economists usually do not say anything about what the reasons for "revealed preferences" may be. As Ken Binmore [9] would say: "The theory of revealed preference therefore makes a virtue of assuming nothing whatever about the psychological causes of our choice behavior." (p. 8).

But, as Amartya Sen [48] has pointed out, if nothing is assumed about the causes of behaviour, what is the rationale of imposing consistency on people's choices? Sen argues that there is no such thing as an "internal consistency of choice", which may be translated as consistency for its own sake or logical consistency. On the

[1] In regard to introspection, Mas-Colell et al. [34] write: "Introspection quickly reveals how hard it is to evaluate alternatives that are far from the realm of common experience. It takes work and serious reflection to find out one's own preferences." (p. 6).

[2] Mas-Colell et al. [34] for example write: "The [preference-based approach] treats the decision maker's tastes, as summarized in her *preference relation*, as the primitive characteristic of the individual." (p. 5).

contrary, choices are often made with respect to some reason, which Sen calls an "external reference".[3] For example, if choices are induced by maximising an "intrinsic" preference which, as Baigent [3] stresses, "exists separately from the choices it induces" (p. 90), then there is good reason to think that choices will satisfy consistency requirements, and more precisely those that are usually assumed by the choice-based approach. But there is no good reason to assume that people only want to maximise their "intrinsic" preferences. Hence, "the problem with the revealed-preference approach is that some choices do not reveal a *preference*"[4] [3, p. 89]. This may actually be true in two senses: first that people act consistently according to standard economics, but are motivated by reasons other than their "intrinsic" preferences, though they happen to satisfy those same consistency axioms. Second, people may not act consistently in the standard sense, which is usually considered to be irrational behaviour, but on the basis of something else, which happens not to satisfy those consistency axioms. In this case, one would need to see what people are trying to do—and if possible establish the consistency axioms that represent those reasons (see e.g. Baigent and Gaertner [4], Gaertner and Xu [19]).

The next question obviously is what happens if a person acts on grounds of several reasons, i.e. if she had multiple choice criteria? This, in principle, is no problem to economists. As Baigent [3] notes, it is probably most widely assumed, yet seldom fully articulated, that preferences in economics are considered to be "all-things-considered" (ATC). That is, a person may have multiple cares and concerns expressed in terms of different rankings and "[n]o doubt in economics many are inclined to think that a rational agent would aggregate the underlying rankings by weighting them and by making trade-offs, thus obtaining an ATC-preference." [3, p. 92]. This would also mean that choice necessarily implies the existence of a trade-off that can be used to determine an ATC-preference ordering. But Baigent shows with a simple example that this argument is false and concludes "[s]ince, therefore, choices need not reveal a preference at all, they certainly need not reveal a trade-off." (p. 93). Moreover, to establish an ATC-ordering, it is normally assumed that the underlying rankings are complete. However, this may not necessarily be the case. If a person acts on the basis of several concerns, neither they themselves, nor eventually the ATC-ordering, need be complete. Baigent takes

[3] Sen [48] says: "Statements *A* and *not-A* are contradictory in a way that choosing x from $\{x, y\}$ and y from $\{x, y, z\}$ cannot be. If the latter pair of choices were to entail respectively the statements (1) x is a better alternative than y, and (2) y is a better alternative than x, then there would indeed be a contradiction here (assuming that the content of "being better requires asymmetry). But those choices do not, *in themselves*, entail any such statements. *Given* some ideas as to what the person is trying to do (this is an external correspondence), we might be able to "interpret" these actions as implied statements. But we cannot do that without invoking such an external reference. There is no such thing as *purely* internal consistency of choice." (p. 499).

[4] What we call here an *intrinsic* preference.

the example of a person who has to choose between several job options in different locations and who takes into account the happiness of her family members as well as the variety of leisure activities in those locations. In both cases, there may not be a complete ranking for each of these criteria and thus an ATC-ranking is impossible to achieve by means of trade-offs.

This analysis clearly indicates that economists, who start their models with a given utility function, and especially those who use functions that contain multiple concerns such as fairness considerations or social norms etc. in addition to people's own intrinsic preferences are taking an extreme shortcut. Nothing guarantees that such utility functions actually exist. They may exist in certain cases if the individual happens to have complete orderings underlying their different concerns and has been able to assign weights and/or to form trade-offs to obtain a complete ATC-ordering, which is represented by that particular utility function; but this may not hold for many cases. This way of proceeding is comparable with the idea of first throwing the dart and then drawing the dartboard. It certainly works, but the question is in how far it really depicts and explains human behaviour. It is for this reason that we have always been susceptible to Baigent's suggestion that "[...] the starting point for the theory of rational choice should not generally be an ATC-preference, but the underlying cares and concerns that lie well behind the veil of an ATC-preference." (p. 95) and his follow-up question: "How are individuals to be characterized, given that, [...] characterization in terms of an ATC-preference is not generally satisfactory?" (p. 95). Baigent himself suggests for example characterising people as norm-holding individuals. Consider a cake cut into different pieces that can be ranked from the smallest to the largest. Standard economic theory would suggest that people prefer to eat the largest piece of cake. However, the norm says *not to choose the single largest one* and thus goes against their intrinsic preferences. Their choice problem, if they give lexical priority to the norm over intrinsic preferences, can then be represented as a "norm constrained (intrinsic) preference optimisation", which however is not consistent with the optimisation of any preferences. But the question is, why should people *always* give lexical priority to the norm? Why should they "prefer" the norm over their intrinsic preferences in all circumstances? One may rather think that if an ATC-preference is not generally a good characterisation of individuals it is because they may experience a conflict between their intrinsic preferences and obeying norms and may therefore not know how best to attribute weights to each of these concerns. That is, people may be torn between different reasons for choosing one option over another and thus experience some kind of internal conflict. The question, which interests us in particular in this paper, then, is how best to characterise individuals if they experience conflict and may not be able to say to which of the reasons and motives they would give priority. This is a largely unexplored question in economics, but it has received substantial attention in psychology in terms of "motivational" or "intrapsychic" conflict.

In the next section therefore, we introduce some of the psychological research on conflict. The section is subdivided into three main parts: the first describes the consequences of intrapersonal conflict on behaviour and choice, the second describes the influence of conflict on well-being and the third presents a more

general view in psychology of human development, which is assumed to be marked by different kinds of conflicts that induce people to change their behaviour or their concerns over time. In section three, we briefly introduce our theory of choice under internal conflict [1] as a first attempt to integrate this psychological research into an economic, axiomatic framework. We do this in a rather descriptive way, but add formal notations where necessary. The last section presents our conclusions.

2 Conflict in Psychology

2.1 Conflict and Preference Reversal

Of course, intrapersonal conflict is not unknown in economics. The main intrapersonal conflict discussed in economics is one where an individual acts against her longer-term interest by engaging in pleasant, enjoyable or more satisfactory actions in the present, which may however harm her well-being in the future. Strotz's [50] classic paper seems to have been the first to discuss this phenomenon in terms of a non-exponential discount function, which predicts impulsive and myopic behaviour in the present but more "considered" behaviour in the future. Such inconsistency has also been framed in terms of a dual or multiple self problem, where the myopic acting self has to be controlled by the more informed planning self [8, 15, 18, 45, 46, 51, etc.]. The source of the conflict in such models is the passage of time. These models have however been criticised for several reasons. One, as Loewenstein [31] points out, is that multiple self models are metaphorical and not an actual description of what happens within individuals. This, of course, may not bother economists too much because, as Schelling admits, only when talking to economists does he feel secure using the terminology of selves [47, p. 74], thus suggesting that economists have less difficulties in thinking about the economic agent as a succession of different selves as may be the case in other social sciences. This may be so because, as Loewenstein also points out, "[t]he strength of multiple self models is that they transfer insights from a highly developed field of research on interpersonal interactions to the less studied topic of intraindividual conflict." (p. 288). But the analogy of intrapersonal conflict with interpersonal conflict does not always fully capture the "nature" of the former. People are able to punish or control each other to avoid conflict in a way that is not possible among "multiple selves". Loewenstein himself sees conflicts more in terms of visceral factors such as hunger, thirst and sex drive, but also emotional states such as anger or fear affecting people's decisions. This has the advantage of explaining in what situations impulsive behaviour occurs, whereas non-exponential discounting literature has difficulties in explaining situations or reward-specific outbursts of impulsiveness. This is also the case because the only source of the problem in non-exponential discounting and multiple self models is time delay, whereas physical proximity and sensory contact can also be associated with impulsiveness. "[I]t is difficult to explain the impulsive

behavior evoked by cookie shops that vent baking smells into shopping malls in terms of hyperbolic discounting." [31, p. 279].[5]

The research group around Max Bazerman (e.g. [5–7, 35–37, 42]) has also published a number of papers, including reports on experiments, to highlight conflictual decision making and argue that conflict has more than just a temporal dimension. They observe that many people do not *want* to exercise, but know that they *should* do so. Eve *wanted* the apple, but knew that she *should* not eat it [6, p. 225]. Hence they argue that many decisions can be described as situations in which a *want* self and a *should* self struggle with each other. Broadly in line with Loewenstein [31], they see the *want* self as being more emotional and impulsive, and the *should* self as more rational and thoughtful. The above examples are compatible with a multiple or dual self view with the typical short-term and long-term interest conflict, but Bazerman and colleagues argue that their want/should self distinction may encompass more decision problems and preference reversal phenomena than can be explained with the temporal perspective of the multiple self model. One preference reversal that their want/should model can explain is that which is observed in joint versus separate evaluation problems. It has been noticed that people tend to choose one option if a decision problem presents them with a single choice option, but another when they are confronted with several possibilities at once. For example, Bazerman et al. [5] offered subjects (second-year MBA students) the choice either between six single job offers (separate evaluation) or three pairs of offers (joint evaluation). The job offers were set up to create a conflict between procedural justice concerns and the maximisation of their salary. The results of this experiment and others have consistently brought to light that people tend to choose the *want* option in separate evaluations (which in this case is said to be the job with the justice aspect),[6] but the *should* option in joint evaluations (the maximising salary option). O'Connor et al. [37] tested this theory with respect to the ultimatum game by creating two particular conditions, namely one in which subjects had to answer the question "What do you want to do?" (*want* condition) and another in which they were asked "What do you should do?" (*should* condition) either before, during or after responding to a 1$ offer (out of 10$). In agreement with their hypothesis, they observed that more individuals rejected the offer in the *want* conditions than in the *should* condition. In another experiment, O'Connor et al. [37] also sought to learn which of the two responses (*want* or *should* response) people preferred and found out that most people would rather like to act more thoughtfully and follow their own insights about what they *should* do in conflictual

[5]It should be clear by now that psychologists are far from imposing a strict preference structure in the economic sense on the individual (no consistency is imposed on people's choices, from which their preferences are revealed). Psychologists usually assume much simpler behavioural factors, such as different motivations or impulses, sometimes triggered and changed by varying contextual effects. These are therefore on a much more elementary level than the concept of "preferences" in economics.

[6]Bazerman at al. [6] note that it has been argued in procedural justice literature that procedural injustice creates an emotive (want) response.

situations, but when they are caught in a particular conflictual situation they respond with their *want* option. These and other experiments thus underline two particular issues, namely that in the heat of the moment people tend to give *want* responses, although in most cases they would have liked to give a *should* response, and that the availability of more options invites a more rational reflection and allows more people to choose their *should* option. Similarly, Rogers and Bazerman [42] find that people report stronger support for *should* policies when those policies are to be implemented in the distant future rather than in the near future. They call this finding the "future lock-in effect".[7]

Interestingly, the want/should explanation of the preference reversal concerning separate versus joint evaluations seems to be reversed when people know whether or not they will engage in a sequence of similar decision problems. Khan and Dhar [29] conducted an experiment in which they observed that a larger number of people tended to choose the vice (or *want*) good rather than the virtuous (or *should*) good (e.g. a lowbrow entertainment film versus a highbrow documentary) if they know that they face repeated choices of the same kind than if they have to make a one-shot decision.

Khan and Dhar [29] explain their results by arguing that people tend to be overly optimistic about their future behaviour in a repeated choice situation. These findings stand in contrast to the observation expressed by others that fragmenting a stream of activity into isolated choices encourages impatient choices [32]. Related to this, Prelec and Herrnstein [40] refer to this kind of problem as one where there is a "scale mismatch" (p. 322), which means that one element in an evaluation appears to have an impact only in the aggregate. For example, one may have decided to "always buckle up" in the car, but in fact the decision whether to use the seat-belt has to be faced each time one drives a car and it is not self-evident that it is followed every time. What emerges clearly from these studies is that choices made in isolation differ from those made sequentially. But they may also differ in connection with other decisions. With regard to this, Khan and Dhar [28] have shown that subjects are significantly more likely to choose a vice good if they have earlier engaged in a virtuous behaviour in a separate domain. For example, they show that subjects who are asked to help a foreign student to better understand a lecture subsequently donate less to charity. Related to this observation, Sachdeva et al. [43] argue that people seem to have a particular self-concept of their moral self-worth, which implies that people do not always behave in the same way but tend rather to use their self-concept as a reference point around which they can move. Hence if they perceive themselves as having acted morally, they feel licensed to act immorally on a subsequent occasion and vice versa. These results clearly indicate that people are aware of their underlying, often competing motivations and find

[7] With respect to these results, Milkman et al. [35] reflect on the possibility of "empowering" the *should* self and mention that their results give indications as to what people believe is better for them, rather than, as libertarian paternalism promotes, propose policies that facilitate the selection of options policy makers think are welfare-promoting (p. 336).

different ways to accommodate both or all of them over the stream of their actions. As Khan and Dhar [29] therefore point out, it would be interesting to study when people connect their current choice with future (or other) choices and when they do not do so. For example, "while deciding whether to attend a party or to prepare for an exam, people are often aware of another upcoming party next week. Similarly, while deciding what to have for lunch, people are aware of having to make the same decision later at dinner." (p. 287). In fact, choices are often seen as connected if they serve a particular goal. In particular, in the case where a choice involves a trade-off between two goals Dhar and Simonson [13] have shown that people prefer "balancing" the two goals, rather than "highlighting" one of them. For example, if the two goals are pleasure and good health, then Mr. A's dessert choice after dinner at a nice restaurant will be dependent on his previous main course choices. If he had a "tasty but unhealthy New York steak" he would rather opt for the "low-fat seasonal fruit salad", while if he had a "healthy but not so tasty low-fat pasta dish", he would rather choose a "great tasting but high-fat chocolate cake" (p. 32). He would not choose the chocolate cake after the steak, as "a neglect of one goal spoils the value of a peak experience on the other goal, for example, by creating guilt feelings" [13, p. 41]. Hence, the idea of *balancing* could be seen as inconsistent behaviour as the person may be unable to decide to which of the two goals she gives more weight. In fact, Dhar and Simonson [13] consider such behaviour as a form of self-control tactic, because by balancing one does not give in to any particular (possibly harmful) goal.[8]

2.2 *Conflict and Individual Well-Being*

In the above examples of intrapersonal conflict, researchers conducted experiments to test an underlying theory or general pattern of behaviour. However, there are also studies in psychology that have attempted to understand better particular kinds of conflict and their consequences on an individual's well-being. In each of these cases, intrapersonal conflict is generally understood as "[...] a situation in which one goal striving is seen by an individual as interfering with the achievement of other strivings in the individual's striving system." [16, p. 1041].

One intrapersonal conflict that has received considerable attention is the conflict between education or schooling and leisure (e.g. [17, 24, 30, 41]). Most of these authors acknowledge that young people, especially during their years at school or at university, have more than one goal. Many students are involved in extracurricular

[8] At least since Daniel Kahneman's book "Thinking Fast and Slow" [26], a particular kind of conflict, namely the one between, as Kahneman describes it, *System 1* and the *System 2* has become more well-known among economists. However, these are conflicts that have a cognitive origin most of the time and do not therefore correspond perfectly to the kind of psychological conflicts that we seek to consider here.

activities for various reasons (e.g. making friends, becoming more athletic, contributing to the school newspaper or radio station, etc.) that interfere with their academic work. In quite a number of cases, this "activity overload" impinges on their academic success, which may contribute to an overall decline in motivation to study, to concentrate and to be willing to continue attending school. Ratelle et al. [41], following Ryan and Deci's [14] "self-determination theory", distinguish between two kinds of motivation: one is "self-determined motivations", in which a person engages in an activity for its own sake or for the pleasure and satisfaction that she receives from such activity. Non-self-determined motivations on the other hand imply that a person engages in an activity for controlled reasons. That is, she does so to attain a reward or to avoid a punishment. Ratelle et al. [41] find that the interplay of two different conflicting motivations can be negative when motivations are non-self-determined. A school-leisure conflict, for example, predicts poor concentration, academic hopelessness and little intention to persist at school. These effects could also have negative consequences on psychological health. They therefore stress the need of students feeling pleasure and importance in pursuing school activities, because this may act as a protective factor against conflict with leisure.

Hofer [24] provides similar results. He uses the term *motivational conflict* when pupils strive for mutually exclusive goals at the same time, such as achievement goals but also a number of social and age-specific goals (connected to their body development, family, identity), and notes that in such cases engagement in school may decline and academic achievement is at risk. He refers to "goal switches to off-task behaviour" (p. 30) when pupils start doing something other than concentrating on their school activity while in class, e.g. day-dreaming, becoming angry or experiencing other negative feelings. He concludes that "[d]iscipline problems are not a failure in pupils' behaviour, rather they are a failure in the coordination of multiple goals" (p. 34). Different goals therefore need to be coordinated, a process Hofer calls "goal synthesis". One way of doing this is to put goals on a time line and to create a form of habitual behaviour, which has some self-regulatory benefits because each goal is allotted fixed time slots. Hofer also suggests the realignment of goals if inextricable goal conflicts continue to exist. In this case, one should look for new goals to replace inappropriate goals. In some other cases it would also mean downgrading specific goals to facilitate personal adjustment. An experiment run by Kilian et al. [30] on motivational conflict between learning and another enjoyable activity shows that if studying is associated with pleasure students will be much less distracted from following this goal and will in fact value the experience, i.e. there are ways to avoid a negative experience arising from competing motivations.

Another area of conflict that has been studied is the work/family context. In an overview article, Greenhaus and Beutell [20] describe this intrapersonal conflict in terms of "interrole" conflict. "Interrole conflict is experienced when pressures arising in one role are incompatible with pressures arising in another role." (p. 77). Obviously, multiple roles compete for a person's time and it has been shown that work/family conflict is positively related to the number of hours worked per week. These conflicts become even more important when, as above, they "motivationally

interfere" [17] with each other, in the sense that while one is physically attempting to meet the demands of one role, she is preoccupied with the pressures of another.

Other sources of conflict arise for example when behavioural styles that males (still quite often) exhibit at work (such as impersonality, logic, power, or authority) are not suited to the behaviour desired by their children. It has therefore been suggested that male managers may feel caught between two incompatible behaviour or value systems (see for references [20]). Scheduling conflicts arise when people do not manage to go to particular scheduled events, such as a concert, play, movie or a party). Pleck et al. [39] report that this is particularly a problem for women. Holahan and Gilbert [25] look at interrole conflict for working women who hold bachelor's degrees and are married with children. They hypothesise that women who perceive their employment as a career may experience greater interrole conflict than those who view it as just a job (even if they have the same level of education). However, they find exactly the contrary, i.e. greater involvement and personal investment in pursuit of a career does not seem to cause greater interrole conflict. In fact, the career group also stated that they received significantly more life satisfaction both from work and with respect to their own self-esteem, whereas the job group reported much less satisfaction from their work and family roles. Pleck et al. [39] report that being a parent increases the incidence of moderate or severe conflict by some 7 % points among husbands in two-earner families, but by twice as much among breadwinning husbands. This is about the same as the increase reported in conflict among the wives of employed husbands. Staines and O'Connor [49] report that parents of children under six experience greater work/family conflict than parents of school-age children, who again report greater conflict than childless couples. Clearly, interrole conflict and for that matter intrapersonal conflict is a cause of particular psychological strain and thus affects personal well-being. It causes emotional stress and lowers people's life satisfaction. As Emmons and King [16] report, conflict can even cause psychosomatic illnesses. In fact, in one of their studies they find a positive association between conflict and health centre visits.

2.3 Conflict and the Self

The above sections summarise, though certainly not exhaustively, a number of findings in psychology with respect to intrapersonal conflict and its consequences in terms of behaviour and people's psychological well-being. What seems to emerge clearly is that intrapersonal conflict is a pervasive phenomenon that interferes in many different, important life contexts and situations in which people are unable to attribute a clear priority ranking to their different concerns, motivations, goals or strivings, which would supposedly help to solve the conflict once and for all. Some studies have also indicated ways to alleviate the conflict experience in individuals, which generally entail an improvement in well-being.

"It has long been believed that reconciliation of opposing tendencies is a premier goal of human development" state Emmons and King [16, p. 1046],

summarising a great deal of research in psychology. In fact, research in child development has found that a child has to go through different developmental stages in which each stage is a more adequate way of understanding moral problems and resolving the conflicts encountered. This means that increased conflict is a condition for development [52, 53]. Higgins [23] reminds us that in the course of their development children learn at various age-stages to deal with egocentric and non-egocentric thought and to acquire a perspective-taking ability. That is, they come to understand that other people have different reactions to their behaviour and that they themselves prefer certain reactions to others; they then learn to adapt their behaviour accordingly. Over time, however, they learn to construct their "own standpoint", which may be distinct from the standpoint of significant "others" and these standpoints may come into conflict with one another because they learn to be more than just a "good boy" or a "good girl". In fact, Higgins is known for having developed the "self-discrepancy theory" [22], in which he postulates that people may experience conflicts between their "actual self", their "ideal self" and their "ought self". These discrepancies cause discomfort, and in particular he shows that a conflict between actual and ideal self causes depression, whereas a conflict between actual and ought self may lead to anxiety. Brim and Kagan [10] argue that throughout their lives people undergo change and that there are two fundamental dramatic conflicts inherent in the process of that change. "The first is the conflict between the person's wish to change while maintaining a sense of identity. The second is the conflict between the person and society; the person may wish to change, yet society may demand constancy, or the person may wish to remain the same, yet society may demand that the person change." (p. 17). That is, while society first transforms "the raw material of individual biology into persons suitable for the activities and requirements of society" [10, p. 19], people may then also start resisting societal demands and rebel against them. On the other hand, people may notice a difference between their actual and ought selves, to use Higgins' terms, and wish to conform rather than rebel. Such changes, according to Brim and Kagan, are usually supported by society. Conflicts of this kind are experienced throughout people's lifetimes as they move through a variety of positions in society.

Psychologists study people's self-concept and have long come to agree on the fact that there is no such thing as *one* single self-concept, but rather a multidimensional, multifacted dynamic structure [33]. Self-regulation, i.e. how a person controls her own behaviour, is therefore an important aspect of people's lives. Carver and Scheier [11, 12] in particular claim for example that people tend to compare their current state with a particular standard of behaviour. If they notice a discrepancy between the two they will attempt to reduce it. To use Brim and Kagan's [10] words, "[...] each person is, by nature, a purposeful, striving organism with a desire to be more than he or she is now." (p. 18). While to want to be more than one currently is causes a person to experience conflict and discrepancy, self-regulatory processes can help to achieve desired goals. Carver and Scheier [12] find that if people manage to make steady progress toward reducing this discrepancy they experience positive feelings and confidence. If they do not make any progress or progress only very slowly they experience doubt and negative effects. Hence, contrary to Higgins' view that all

discrepancies cause some form of negative experience, Carver and Scheier argue that what matters is the rate of progress in reducing the discrepancy and moving towards one's ideal. Thus actions in this context are not only choices that bring satisfaction to the individual (as economists may see them): in Carver and Scheier's terms they also imply changes between states (p. 22). Hence, action implies change but change may involve conflict, and vice versa.

3 A Theory of Choice with Conflicting Motivations

As the previous section indicates, motivational conflict is considered to be a widespread phenomenon in psychology and has been associated with inconsistent behaviour and "preference reversals". When, say, parents experience conflict between work and family and students between their academic and other social goals, such as making friends or, for instance, being politically active, then, in our opinion, this means more than their merely not being able to do all that they want within 24 h and thus being faced with a time constraint. In fact, if it were simply a time constraint then they could rank their alternatives and give more weight to those options that they like better or think are more important (e.g. work over family), maximise their utility and choose the time-distribution that best fits their own preferences or "tastes". In that case they would not experience any conflict. However, when parents say that they suffer from interrole and thus intrapsychic conflict, they may feel competing demands from the different life-spheres (family versus work) and even though they may like to work and like to be with their families, they have difficulties in deciding how much weight to give to each of these demands or how best to live with the pressures and concerns from competing domains. In economic terms, this means that they are unable to compare those "likings" and thus unable to form an *all-things-considered* preference ordering. In fact, as explained in the introduction, when talking about preferences, it is either assumed that people have already decided their *all-things-considered* preferences (which means that they have already been able to solve any potential conflict), or that preferences are simply a description of their consistent choices, and the reasons for those choices are not necessarily known to economists. As we have just observed, the assumption in the former case does not always make sense because, as psychological research shows, people do experience conflicts and are thus unable to determine their preferences. But with regard to the latter assumption there is also research, as summarised above, which highlights that inconsistent behaviour is associated with the experience of conflict and consequently no preferences can be revealed from such behaviour. In such cases, people may try for example to "balance" their different goals (e.g. students who have been partying often in one week are suddenly seen studying hard for a few days, only to go out more often afterwards once again, etc.). These kinds of conflict can also easily be seen as conflicts between what the person *wants* to do (e.g. spend more time with her children), and what she *should* do (e.g. work during weekends), and her behaviour

may differ, as pointed out above, according to the number of options available to her. This, however, is not the only way to describe possible conflicts. They may also arise as a consequence of the discrepancy between what a person would actually like to do (e.g. work full-time) and what other significant people she cares about expect her to do (e.g. work part-time and spend more time with the kids). In any case, competing demands or competing motivations may make it impossible to establish a unique *all-things-considered* preference ordering and as a consequence the person may "try by doing", that is, she may attempt several possible ways of reconciling her motivations and reasons for doing certain things in order to solve or alleviate the intrapsychic conflict. In economics, this would be considered as irrational behaviour (because it is inconsistent), but clearly it is not.

Following Baigent [3] we thus ask how such individuals can be characterised in an economic context. What follows is a short description of our theory of choice under conflicting motivations [1] in which we show that inconsistent behaviour is in fact associated with an underlying conflict between competing motivations. To simplify matters, we assume that people may experience conflict between two motivations, for example, in line with the spirit of some of the literature described above, between what a person *wants to do* and what that person thinks she *should be doing* (e.g. according to the goals that she has set for herself, or what parents or other significant people wish her to do, etc.). We refrain from calling these two motivations *want self* and *should self* as Bazerman et al. [6] do, because we do not want to attribute any "human-like features" to them such as the idea that the *want self* is more emotional, hot-headed or impulsive than the *should self*. The motivations are considered to be of equal status: we do not take any moral stand or assume that one is superior to the other. However, we do assume that motivations are more elementary, or more basic, than the standard idea of preferences. If the economic concept of preferences is taken seriously, then it is much more complex and more structured than motivations because they can be revealed from consistent choices. Motivations, as we understand them following psychological literature can be described as particular drives and forces that push an individual to do certain actions. Motivations could be visceral factors, as proposed by Loewenstein [31], but in the current context we think of them not as something that is triggered, say, by the smell of fresh cake, but as somewhat more permanent (e.g. following a career plan, being a good parent, eating healthy, being fit, etc.). That is why we consider it plausible to represent them in terms of single-peaked ordinal orderings of actions over a single dimension.[9] There is one or more particular actions which the individual is most motivated to choose, and any action further away from that peak will be less *wanted* or will satisfy less what the person *should* be doing. The set of actions along the dimension, normalised between 0 and 1, will depend on the problem at stake. For example, 0 could represent a student who enjoys her status

[9] As mentioned above, Dhar and Simonson [13] talk of "peak experiences" of people's goals. It does not therefore seem strange to think of particular experiences and motivations as single-peaked orderings.

as such, but more for the freedom and the social activities that she has available to her than for the studying in itself, while 1 is the opposite extreme. In between lies her *want*-peak ($\hat{W}$) at, say, 0.4, which indicates that she would enjoy a fair amount of studying, but still a substantial amount of time doing other activities, while her *should*-peak ($\hat{S}$) lies at 0.8, which would mean that she believes she should mainly study, and take only some limited time off to engage in extra-curricular activities. What we assume is that the individual is faced repeatedly with the same choice problem: for example the student has to make up her mind every day how much time to spend studying and how much on going out. The working mother has to decide every day whether to try to finish work early and go to the park with her kids, or to work overtime and make more progress with her workload. The person who wishes to be fit and healthy has to decide on each occasion whether to choose the tasty but very sweet dessert or the low-calory but less tasty cake in her favourite restaurant.

We assume that those two peaks do not overlap, which is a precondition for the experience of conflict. Whether a person experiences a conflict or not will depend on her *status quo* (SQ), which we define as the action currently chosen. Depending on the action currently chosen, which could lie either to the left or the right of either peak or between the two, the person may be confronted with different *types* of actions. We call these *A*-type actions if they satisfy both motivations more, *B*-type actions if they satisfy the *want* more and the *should*-motivation less, *C*-type actions if they satisfy the *should* less and the *want*-motivation more, and finally *D*-type actions, if they satisfy both the *want* and the *should*-motivation less than the action currently chosen, i.e. the SQ. We say that a person is confronted with a conflictual choice if she is faced with a choice between actions that satisfy one of the motivations but not both, that is with *B* or *C*-type actions. Figure 1 represents this characterisation of the individual.

The fundamental decision problem in such a situation is that the person is unable to compare each of the two motivations with the other. She is unable to establish how

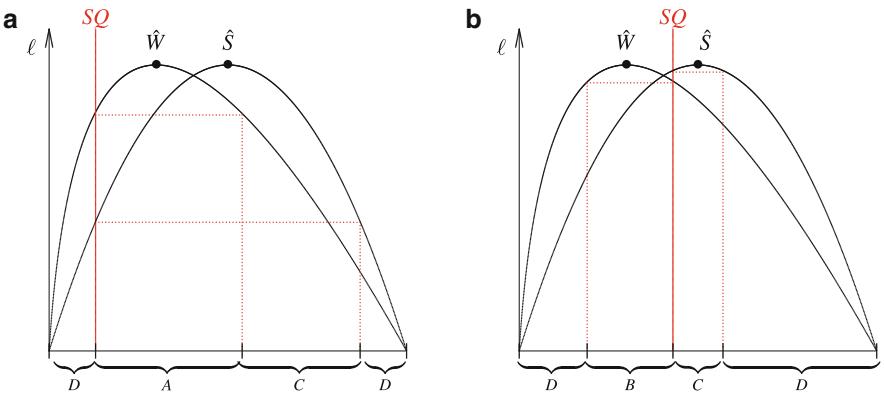

Fig. 1 Different types of actions (*curly brackets* indicate the respective range of actions). (**a**) Status quo to the left of $\hat{W}$. (**b**) Status quo in between the two peaks

to prioritise or weight either motivation and thus to choose an action based on an *all-things-considered* preference.[10] The question then is what reasonable conditions can be imposed on an individual's behaviour. We give just one example here, but discuss more conditions in Arlegi and Teschl [1]. It seems reasonable to assume that in such a situation the person would not choose a dominated action. We thus propose a condition called *Dominance* (DOM), according to which if the set of options includes two options such that one provides a lower level of fulfilment of both motivations than the other, i.e. that one option is *dominated* by the other, then the dominated option will never be chosen. DOM has as the consequence that (if it is assumed for instance that all actions over the course of the dimension are available) the individual restricts her choice to those actions that lie between the two peaks. Incomparability between the two motivations, however, makes any further condition difficult to justify. Consequently, once the person has chosen an action between the two peaks, which then becomes the SQ, she will only be faced with B and C-type actions, thus with conflictual actions that satisfy one but not both motivations with respect to the SQ. It is this circumstance that may lead people to act inconsistently.

For example, a well-known consistency condition that ensures that a preference relation can be found that rationalises a choice function is *Independence of Irrelevant Alternatives* (IIA) (see, for example, [27] or [9]). In words, IIA imposes that if an option x is chosen when y is feasible, then in another situation where the set of options is the same or more restricted but both options are still available, y will never be chosen. In our context, if we assume that DOM holds then we obtain that if a pair of actions (x, y) leads to an *IIA violation* (first x was chosen against y, but later y was chosen even though x was also available), then y can only be either a B or C-type action. Basically, the reason is that if DOM holds then x is an action between the two peaks and thus the new SQ. It is not difficult to check that if the SQ is between the two peaks then there are no A or D-type actions between the two peaks. Therefore any new action y that is taken will be either a B or a C-type action.[11] What we therefore show is that inconsistent behaviour is necessarily associated with conflict.

The next point to consider is that there is no reason to assume that motivations will not change over time. As seen in the previous section, psychologists think that motivations may change not only with the passage of time but also with the physical presence of particular objects (such as the smell of a cake). Of course, motivations may also change when people learn that they are in fact less or more important to them than they first thought. It has been suggested that goals (or motivations in our case) need to be realigned if they continue to cause irresolvable conflicts, and

[10]Pattanaik and Xu [38], inspired by Hare [21], propose a general model of multi-attribute choice where the different attributes are prioritised in one or another way depending on the occurrence of certain contextual characteristics of the decision problem. In our theory we do not presuppose the existence of such exogenous information.

[11]The formal proof, which can be found in Arlegi and Teschl [1] is a little more sophisticated and distinguishes between several particular cases.

in certain cases it has even been observed that goals are "downgraded" to reduce conflict. In fact, managing one's goals and motivations is a big part of research on self-regulation strategies.

Following the dictum of Carver and Scheier [12] that an "action implies change between states" (p. 22), we assume that motivations change with the actions chosen. We propose two different kinds of motivation change in the form of axioms, namely *reinforcement* (RF) and *dissonance reduction* (DR). Other motivation changes could be imagined, but for the moment we limit our analysis to these two. We do not necessarily assume that the person is aware of these motivation changes, i.e. for the moment we assume a rather myopic individual who does not have the knowledge of her motivation change required in order to, say, strategically choose actions to modify her motivations. We do however consider a more forward-looking person who may be aware of her motivation changes in Arlegi and Teschl [2]. The *reinforcement* axiom means that the individual will come to like or to want the chosen action more. Graphically, this is represented as the peak of the *want*-motivation, $\hat{W}$, moving towards the action chosen x to become $\hat{W}'$. Obviously, if the chosen action is the option that the person is most motivated to choose, the *want*-motivation does not change. The *dissonance reduction* axiom means that if the person chooses an action that lowers the fulfilment of what she *should* be doing, she experiences "dissonance", that is an unpleasant feeling that she would like to alleviate or to get rid of. This triggers a change in the *should*-motivation, in the sense that what the person *should* be doing is made more consistent with the action chosen. That is, the person accommodates what she *should* be doing with what she *wants* to do in order to restore some "consonance". Graphically, this means that the peak of the *should*-motivation, $\hat{S}$ moves towards the action chosen x and becomes $\hat{S}'$. Figure 2 represents the effects of the two axioms.

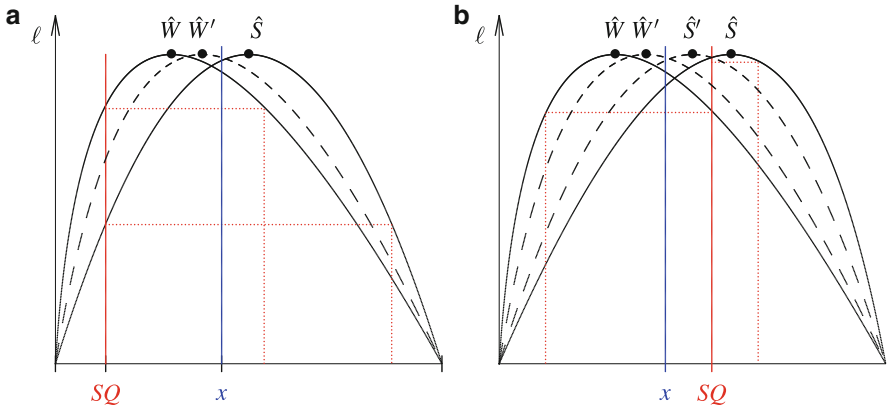

Fig. 2 Two psychological axioms. (**a**) Reinforcement: $\hat{W}$ moves towards x. (**b**) Dissonance reduction: $\hat{W}$ and $\hat{S}$ move towards x

If DOM, RF and DR are imposed, then it turns out that any sequence of different actions in which the individual engages will cause the peaks of the two motivations to move towards each other. As above, if DOM holds then the first action chosen will necessarily become the new SQ between the two peaks. From then on the individual will only be left with B or C-type actions. If the person chooses C-type actions, the $\hat{W}$ peak will continuously move towards the $\hat{S}$ peak, which does not move, whereas if she chooses a sequence of B-type actions, or a sequence of B and C-type actions, both peaks move and the distance between them is reduced. Consequently, engaging in a sequence of conflictual actions, DOM, together with RF and DR will reduce the set of undominated actions until eventually only one option may be left. In this case, the peaks converge and the individual has fully solved her conflict and may from then onwards "reveal" a preference in the standard economic sense. Hence, contrary to standard economic assumptions where changing preferences imply inconsistency, changing motivations here may actually lead to consistent behaviour. However, nothing in our analysis suggests that this needs to be case. In fact, in order to solve her conflict the person needs to engage in a series of conflictual choices, which may of course affect her psychological state and personal well-being. It may not always be easy to reduce the fulfilment of one motivation, even to gain satisfaction in another. It is therefore imaginable that the person might, for example, consistently choose a given SQ, which would increase her liking of this option because of RF but may not fully solve the conflict, i.e. the peaks would not fully converge and there may therefore always be a possibility of the person changing her behaviour as long as other undominated actions are available.

4 Conclusion

The role of motivations in human behaviour and the importance of conflict between different motivations is a well-known, well-reported issue among psychologists, but it has received only limited attention from economists. In our opinion, a careful formal analysis of the meaning of conflict between motivations and the effect of that conflict on an individual's behaviour and well-being constitutes a genuine exercise of what Baigent would understand as lifting the *veil of preferences*.

We extensively report psychological theories and experimental evidence of the fact that motivational conflict influences the consistency and well-being of decision makers, and of the importance of endogenous change in motivations. We then present the main ideas of our theory, which takes these aspects into account. We show that under a particular but not implausible way of representing conflict between motivations, there is a close connection between intrapersonal conflict and inconsistency in choice. Moreover, we show that when a more dynamic perspective of the problem is taken and endogenous changes in motivations are considered the interesting conclusion is reached that motivation change helps to reduce the possibility of inconsistencies. Finally, an interesting lesson that we have learnt from the theory that we propose is that conflict is a crucial aspect to be considered when

making judgements of well-being, and that this is an important, unexplored field that merits further research.

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