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INTERPRETATION OF INTERPERSONAL UTILITY COMPARISONS: POSITIVE, NORMATIVE OR DESCRIPTIVE

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Abstract

While interpersonal utility comparisons are indispensable to the determination of utility maxima, their interpretation as either normative or positive produces awkward conclusions.

This paper alternatively reinterprets interpersonal utility comparisons as descriptive and value-laden rather than as either normative or positive. On this basis they are characterized as functional concepts, and are thus argued to be objective. This treatment suggests that it is possible to derive evaluative statements from descriptive ones, contrary to the usual view of the is-ought problem. Recent philosophy of language results are employed to support these views.

1. Introduction

Since Musgrave (1959) it has been conventional to separate government activity into allocation and redistribution decisions, a distinction that also traditionally divides positive and normative public choice (Mueller, 1979, p.263). The difference between choices that benefit all members of the community and those that benefits some at the expense of others corresponds to the difference between moves to the Pareto frontier and moves along it. In normative public choice theory, social welfare functions, deriving originally from Bergson (1938) and especially Samuelson (1947), have embodied this distinction for

$$W = W(U_1, U_2, \dots, U_n)$$

where W is a real-valued function and the U_i are individual utility indexes, by requiring the Pareto principles as a necessary condition for maximization of W such that the familiar efficiency conditions apply. The individual utility indexes have generally been assumed to

be ordinal, particularly since Robbins' critique (1937) of cardinal interpersonal utility comparisons as normative.

However it has been shown that the Bergson-Samuelson social welfare function defined over ordinal utility indexes must be dictatorial if it is to select a single outcome consistently (Kemp and Ng, 1976; Parks, 1976). The Kemp-Ng impossibility theorem parallels Arrow's original impossibility theorem for axiomatic public choice, both in terms of the general structure of the proof and in intent.¹ In effect, without information about the intensity of preferences the Paretian social welfare function is insufficiently rich for a consistent non-dictatorial determination of a best point on the Pareto frontier, and thus inadequate for the identification of a utility maximum over both allocation and redistributive decisions. Yet this does not imply that social welfare function framework must be abandoned. Accepting Robbins' view that interpersonal utility comparisons are normative, Kemp-Ng state that

'it remains open to any individual to play the role of ethical observer, prepared to engage in interpersonal comparisons of *cardinal* individual welfares'

to produce a social welfare function (Kemp and Ng, 1976, p.65). Yet this presents problems for the social welfare function tradition of normative public choice theory. If the individual utility indexes that are arguments in the social welfare function are both cardinal and interpersonally comparable, then the conventional distinction between presumably uncontroversial allocation decisions and the more intractable redistribution ones is undermined, since the Pareto frontier ceases to have meaning in this framework. Indeed, because the traditional division between positive and normative theory depends upon a descriptive non-normative judgments concerning a social welfare maximum, the very character of economics as a discipline that distinguishes explanation and recommendation is itself jeopardized. Nor is it by any means clear that an alternative foundation of comparable force and objectivity is available to economics in the normative cardinal framework, since as noted by Pattanaik (1968) and Sen (1970), should individual ethical observers differ in their ethical preferences, then Arrow's problem of obtaining a social ranking from divergent individual rankings may preclude any determinate results whatsoever.

Alternatively, were Robbins mistaken that interpersonal utility comparisons are normative, a distinct, perhaps more subtle difficulty arises. Philosophers since Hume have argued that 'ought' cannot be inferred from 'is', that is, that evaluative statements cannot be inferred from positive ones. Thus, should comparison of individuals' cardinal utility indexes be characterizable in positive, non-normative terms, then the maximization of W , a normative judgment that social welfare ought to be at a maximum, would represent the attempt to derive an evaluative statement from positive ones based on interpersonal comparisons of utility. On logical grounds, then, such judgments could never be justified, and the Kemp-Ng results would in fact preclude inferring the desirability of a utility maximum, though not is virtue of the rationale of their impossibility theorem.

The dilemma for social welfare function analysis, then, is that while interpersonal utility comparison are indispensable to the determination of a utility maximum, their interpretation as either normative or positive produces conclusions which are unacceptable. This paper attempts to resolve this dilemma by reinterpreting these latter alternatives. That is, interpersonal utility comparisons are said to be neither normative nor positive, but descriptive and value-laden. As such, they are non-normative in that they do not involve the use of facts to evaluate social arrangements in terms of the traditional normative concerns of welfare, justice, or fairness. At the same time, they are non-positive in that they presuppose (non-normative) values.

The following section of this paper critically examines Robbins' view (1933, 1937) that interpersonal utility comparisons are normative. It is argued that it remains to be shown that interpersonal utility comparisons are normative. The succeeding section characterizes the way in which evaluative statements can be derived from 'is'. Interpersonal utility comparisons are shown to be embodied in descriptive statements. The final section argues that these descriptive statements are objective, despite being value-laden, thus justifying the use of interpersonal utility comparisons in economics for social welfare function analysis, while at the same time restoring the distinction in the discipline between explanation and recommendation.

2. Robbins' View of Interpersonal Utility Comparisons

In the last chapter of his influential *An Essay on the Nature and Significance of Economic Science* (1937) Robbins criticizes the cardinalist law of diminishing marginal utility, particularly in its application to income transfers from the rich to the poor. In his view, though the argument for such transfers appears initially plausible, in fact, because its assumptions 'can never be verified by observation or introspection', it 'begs the great metaphysical question of the scientific comparability of different individual experiences'. Indeed since there is nothing problematic in comparing or ordering a number of alternatives an individual encounters, nor in comparing one individual's orderings with those of others, the theory of exchange should avoid cardinal interpersonal utility comparisons. To do otherwise is to admit 'an element of conventional valuation' to the theory that renders it 'essentially normative' (Robbins, 1937, p.139).

Interpersonal utility comparisons, then, are non-scientific and normative, because they possess 'an element of conventional evaluation', For Robbins,

'the very diversity of the assumptions actually made at different times and in different times and in different places (in making interpersonal comparisons) is evidence of their conventional nature' (Robbins, 1937, p.140).

Yet though such assumptions are convenient and intrinsic to the daily practice of making interpersonal comparisons, it is not possible to demonstrate that these assumptions rest in any way 'on ascertainable fact'. And, if interpersonal comparisons are basically justified

'on grounds of general convenience [... or ...] by appeal to ultimate standards of obligation [... they] cannot be justified by any kind of positive science' (Robbins, 1937, p.141).

Granted, then, that interpersonal utility comparisons do rest upon 'an element of conventional evaluation,' that is, that they are value-laden or incorporate assumptions that cannot be justified factually, it still does not follow that they are specifically normative.

Values and value judgments are diverse in character, ranging across a variety of non-normative forms in even scientific argument: e.g., whether an inference is valid is a value judgment, whether Ockham's razor should be employed is a value judgment, that an elegant and concise proof is preferred to one not so, etc.. Normative value judgments, however, are of a specific nature. They represent to use facts in a particular sort of evaluation of social arrangements or decisions, namely, to draw specific conclusions about social welfare, justice, fairness, etc. Thus, it remains to be shown that the value-laden nature of interpersonal utility comparisons implies these comparisons are normative. Indeed, Robbins does not explicitly argue that this is the case, but rather seems to suggest sometimes that being value-laden is tantamount to being normative, and other times that interpersonal comparisons are simply objectionable whether value-laden or normative.

Indeed, it seems that what is most objectionable about interpersonal utility comparisons for Robbins is their lack of scientific status. That they can vary across time and place implies that they are not objective as presumably are scientific statements. Thus the determination of an individual's sense of satisfaction must rely on observation and interpretation of behavior or introspection. Yet reports of each of these is not susceptible to verification. That in everyday life individuals make interpersonal utility comparisons by adopting conventions of interpretation at best, then, only demonstrates the non-objective nature of these comparisons.

This view seems more central to Robbins' thinking. It is the subject of the discussion in the final section below. It is fair to say at this point, however, that though Robbins is generally taken to show interpersonal utility comparisons to be normative, he in fact does not make this case. This is significant, because most of the recent research on interpersonal utility comparisons assumes that they are indeed so, and because, as argued above, such an assumption ultimately jeopardizes the distinction between explanation and recommendation in economics.² Thus, since this paper will argue that interpersonal utility comparisons are descriptive, that is value-laden but not normative, it is appropriate to first consider how interpersonal utility comparisons permit inferring 'ought' from 'is', so as to avoid the second horn of the dilemma characterized above.

3. How to derive 'ought' from 'is'

Mueller (1979) inadvertently captures the difficulty associated with inferring 'ought' from 'is' in his suggested response to Hume:

'As David Hume pointed long ago, propositions concerning values cannot be derived from factual observations alone. Some intuitive conceptualization of right and wrong, of acceptable and unacceptable is required. Thus, efforts to introduce values into collective choice in a nonarbitrary way become a search for a community's shared notions of justice and morality' (Mueller, 1979, p.265).

That is since one cannot move logically from purely factual propositions to evaluative ones, it is necessary to introduce values in an 'intuitive fashion,' that is, by consulting one's sense of a community's shared values, with out attempting to base this intuition upon any factual characterization of that community. Yet, it is notorious that one individual's notion of what is shared differs from that of other individuals. Thus an 'intuitive' grasp of shared values can hardly be counted on to be 'nonarbitrary', such that the transition from purely factual propositions to evaluate ones appears insurmountable as Hume claimed.

Closer attention to the logical principle Hume relies upon, however, reveals the way in which evaluative propositions can indeed be derived from factual ones. Generally, there cannot be anything in the conclusion of an inference that is not contained in its premisses. More specifically, unless an inference's premisses themselves contain elements of evaluation, it is not possible to draw a conclusion that is itself evaluative in nature. Thus, an evaluative proposition can indeed be derived from a factual one when, in some manner, the factual proposition implicitly contains evaluative elements or is not purely factual. In fact, this sort of inference is more common than is customarily believed. Specifically, though the factual proposition in an inference often appears purely positive and value-free, in many cases the descriptive language of the proposition is value-laden. In such instances it is not inappropriate to infer an evaluative proposition from a factual one, and indeed this is a legitimate way in which normative judgments may drawn from description.

This is best demonstrated by an example. The following inference employs one factual proposition as the premise for an evaluative proposition:

(1) Smith *is* an airline pilot.

(2) Except under unusual circumstances, Smith, as airline pilot *ought* not crash the plane Smith pilots.

As in many similar examples that could be constructed, the conclusion follows legitimately from the premise, because the conclusion follows legitimately from the premises, because the premise presupposes an additional premise that justifies inferring the conclusion:

(1.1) Except under unusual circumstances, being an airline pilot means *ought* not crash the plane one pilots.

Thus, the inference is valid, because the conclusion contains nothing not present in the premises, once (1.1) is identified as implicit in or presupposed by (1). Yet (1) is a factual proposition, and (2) is an evaluative one, such that 'ought' is derived from 'is'.

Nor are examples of the sort above exceptional or unusual. The inference above merely makes use of a descriptive concept (airline pilot) that is functional. Functional concepts are those concepts that characterize things designed for or put to some purpose by characterizing good instances of those things or how those things ought to function. Thus (1) characterizes airline pilots by saying what an individual ought to do to be an airline pilot or what a good airline pilot is. In this sense airline pilot is an functional concept which is both descriptive and value-laden. The employment of such concepts permits inferring evaluative propositions from factual ones when the latter embody the evaluative propositions that characterize these concepts. Thus, though it appears Hume's law is violated, in fact it is not, since, as in the example above, an evaluative proposition is not derived from a purely positive one, though it is derived from a factual one.

Economics, as other social sciences, makes considerable use of functional concepts. In the present connection, the concept of an interpersonal utility comparison is functional. Thus, one characterizes an interpersonal utility comparison by characterizing what a good interpersonal utility comparison requires or what an interper-

sonal utility comparison ought to accomplish, that is, one which impartially and accurately compares the respective utilities from some choice or action of different individuals with the determination of a utility maximum in mind.³ Accordingly, the employment of interpersonal utility comparisons permits one to infer evaluative propositions from factual ones, in the manner of the example above. Thus:

(1) The transfer of commodity *x* from Smith to Jones increases total utility by adding more to Jones' utility than is derived from Smith's.

(2) Commodity *x* ought to be transferred from Smith to Jones.

This inference, as the one above, is valid once the premise implicit in (1), the interpersonal utility comparison, is identified.

Thus: (1.1) Transfers of commodities that increases total utility by adding more one to individual's utility more than is subtracted from another's ought to be effected.

The premise implicit in (1) tells us that the idea of an interpersonal utility comparison includes the recommendation to carry out total utility increasing transfers. Indeed, interpersonal are made solely with the intention of making transfers that increase total utility. Yet (1) itself merely describes the effect on total utility of a particular commodity transfer, so that again, an evaluative proposition (2) is derived from a factual one (1), or 'ought' is derived from 'is'.

What the example immediately above demonstrates, then, is that once the concept of an interpersonal utility comparison is understood to be functional it is possible to surmount the second horn of the dilemma confronting social welfare function analysis. Functional concepts are descriptive in the sense of being value-laden, though they are not thereby normative. Thus, given the Kemp-Ng impossibility theorem demonstrating the necessity of preference intensity information for determining utility maximization, the interpersonal utility comparisons permit evaluative conclusions - normative judgments - that both preserve the distinction between explanation and recommendation in economics and avoid violation of Hume's law.

Of course, though the inference above is valid, many would object that either interpersonal utility comparisons cannot be made, or

they cannot be made without making normative judgments. Thus, while there may well be many functional concepts in economics that permit inferring evaluative propositions from factual ones, the concept of an interpersonal utility comparison, many would assert, does not fall within this group. Put differently, Robbins' objection to such comparisons deserves reexamination to determine whether interpersonal utility comparisons are indeed descriptive in the manner suggested.

4. The objectivity of Interpersonal Utility Comparisons

Sen (1979) surveys descriptive and normative interpretations of interpersonal utility comparisons without judging the plausibility of either interpretation. Yet for the most part, the burden of argument has rested with those who claim that such comparisons are descriptive in the sense of being fully positive, since the very suggestion that certain solutions to the problems associated with the comparison of different individuals' interests produce reasonable results when the social welfare maximum is explained itself at the very least suggests that the purported descriptive characterizations of individuals' interests are ultimately normative. In effect, a reasonable account of determining the social welfare maximum, so that those intent upon describing the social welfare maximum, so that those intent upon describing how comparisons of individuals' interests are actually made in fact find themselves charged with prescribing how such comparisons ought to be made.

One of the more notable attempts to provide a descriptive and fully positive characterization of interpersonal utility comparisons founders on precisely this problem. Harsanyi (1955) claims in his influential treatment of the social welfare function that

'interpersonal comparisons of utility are not value judgments based on some ethical or political postulates but rather factual propositions based on certain principles of inductive logic' (Harsanyi, 1955, p.282).

Harsanyi distinguishes an individual's personal preferences from that individual's moral or social preferences, requires that both sets satisfy the von Neumann-Morgenstern-Marschak axioms of choice,

and argues that the social welfare function is a weighted sum of the individual utilities. Yet use of the von Neumann-Morgenstern-Marschak axioms introduces an element of arbitrariness into the analysis of cardinal utility, because the impartial observer responsible for assigning a set of weights to be attached to the positions of each individual in the determination of a social welfare maximum cannot but reflect a particular preference for risk (Pattanaik, 1968; Sen, 1970). Thus, though Harsanyi conceives the impartial observer as having an equal probability of being in the position of each of the n individuals in the alternative conceptions of society ranked according to their expected utilities, the impartial observer still exercises a particular taste for the risk of being in any such position. Harsanyi, accordingly, must ultimately recommend his account by emphasizing the impartiality that ought to obtain in the observer's assessment of each individual's subjective utility levels in different social states. That is, he must argue that his analysis produces a reasonable account of the social welfare maximum in the sense of being fair and impartial. This undermines his own claim to a fully positive, non-normative characterization of interpersonal utility comparisons, since values and seemingly normative judgments are implicit in this emphasis on impartiality.⁴

Difficulties such as Harsanyi's, however, point toward a strategy in any interpretation of interpersonal utility comparisons as descriptive and non-normative. The essential problem with many such attempts is that their authors assume that a descriptive characterization of interpersonal utility comparisons must be fully positive, despite the fact that the concept of an interpersonal utility comparison in relation to the determination of an social welfare maximum is clearly functional and thus value-laden. Accordingly, critics cannot but suspect that purported positive characterizations of interpersonal utility comparisons that are ostensibly value-laden have been formulated with an eye to particular subsequent normative results, though their authors may well be chiefly motivated by questions that concern a good characterization of interpersonal utility comparisons in the functional rather than normative sense of the term.

The serious issue, then, is whether one can in fact distinguish a descriptive account of interpersonal utility comparisons that is simply value-laden in the functional sense from one that is indeed

ultimately normative though formulated in descriptive language. The criterion for making such a distinction seems to rest in the distinction between kinds of value. Values functional to a given concept must be non-discretionary in that they are tied to the very definition of that concept. They cannot be the subject of choice in the case of any concept whose definition is generally agreed upon. Thus, to say what an interpersonal utility comparison is amounts to saying what a good interpersonal utility comparison is, such that the very meaning of the concept determines the way in which it is value-laden.

Accordingly, if it can be said that the author of a proposed descriptive account of interpersonal utility comparisons had discretion over which values are incorporated in that account, then it seems that one must conclude that the characterization of interpersonal comparisons in question has been formulated with an eye to subsequent normative judgments. A normative conception of interpersonal utility comparisons would, on the basis of this criterion, be appropriately regarded as subjective in the specific sense that its content is discretionary. In contrast, if the values implicit in the concept are non-discretionary in the sense above, then the account of interpersonal utility comparisons is descriptive, though value-laden, and thus provides an objective basis for subsequent normative judgments regarding a social welfare maximum. This objective basis, moreover, would permit an inference from descriptive propositions to evaluative ones, thus laying a foundation for normative judgment in economics that preserves the distinction between explanation and recommendation.

That one can look upon the values implicit in interpersonal utility comparisons in this way is suggested by the understanding of interpersonal comparisons present in recent, influential philosophy of language theories of the interpretation of meaning.⁵ In these theories, the interpretation of another's meaning – whatever the subject matter of the statements interpreted – can be said to be objective in the specific sense that the interpretation of another's meaning, though a value-laden enterprise, is neither consciously nor unconsciously carried out with an eye to any subsequent judgments whatsoever. Interpretation of another's meaning, of course is precisely what is involved in interpersonal utility comparisons, since they would presuppose that one can determine, largely in terms of

other's reports, the relation between the intensity of their tastes and the statements they make about those tastes. Thus, in the words of one proponent of these views,

'interpersonal have a basis in the sense that in the process of attributing propositional attitudes like beliefs, desires, and preferences to others interpersonal are necessarily made' (Davidson, 1986, p.203).

That is, the day-to-day attribution of various propositional attitudes (x's belief that such and such, x's desire that such and such, etc.) involves the interpretation of others' meanings in a fashion that presupposes an objective basis for these attributions in individuals' ability to make interpersonal comparisons. Indeed, that such comparisons are 'necessarily' made implies, on this view, that the basis on which interpersonal comparisons are made is neither consciously nor unconsciously determined, and thus cannot be said to be discretionary in the subjective sense of having been proposed with an eye to particular, subsequent normative judgments.

The philosophical theories of meaning interpretation in question stem from Quine's (1951) arguments that sameness of meaning, or synonymy, is not linguistically transparent. Sameness of meaning is empirically determined in that one individual's interpretation of another individual's sentences must ultimately depend upon the experience of the former in querying the latter's assent and dissent regarding the latter's meaning (Quine, 1960; 1976). An individual's meaning is thus not some mental phenomenon that might be identified apart from what the evidence of those queries would support, and accordingly, if it can indeed be said that individuals can successfully interpret one another's meanings, then they must have done so by making successful interpersonal comparisons in the process.

Most importantly, in the absence of any mentalistic meaning entities to anchor interpretation, a certain 'indeterminacy of translation' is clearly inescapable in any interpreter's account of another's meaning (Quine, 1989). This inevitable indeterminacy of interpretation - whether in the attribution of beliefs, desires, or preferences to others - makes it necessary to understand interpretation within framework of standards, values, and assumptions that are functional

to successful interpretation of others' meaning. At the same time, that this framework is indispensable in the determination any of meaning whatsoever implies that the values implicit in interpretation of another's meaning are not the subject of choice, but are constitutive of an individual's interpretation of other's meanings.

This is perhaps clearest in the explanation of an interpreter's attribution of a particular belief to some individual on the basis of that's individual's assertions. Generally, the attribution of a belief to another is made against a background of assumptions concerning that individual's other beliefs, desires, and intentions (Davidson, 1986, pp.203-206). This assessment necessarily makes use of the interpreter's own standards of consistency and of what is valuable, though the successful attribution of a belief to another depends upon placing the mind of the interpreter and the mind of the individual whose belief is being identified

'in nearly enough the same realm of reason and the same material realm' (Davidson, 1986, p.206).

In effect, the interpreter produces an acceptable interpretation of another's belief when relying upon the same, commonly held principles of meaning as does the individual's belief-expressing assertion itself make use of these same principles of communication and interpretation.

Of course, it is not to be denied that errors in interpretation and attribution are on occasion inevitable. Indeed, they may not be infrequent. Yet to suggest that error is the rule is to adopt a pervasive skepticism that denies communication and meaning are possible altogether. Moreover, it is not clear that it is not self-contradictory to assert one cannot successfully interpret another's meanings, since one's own meanings from occasion to occasion must be translatable with on another by means of the same standards, assumptions, etc. one uses to interpret other's meanings. The notion of an 'indeterminacy of translation', thus serves to emphasize the specific functional basis on which interpretation of meaning can generally be said to objectively occur by indicating the fundamental role of commonly held values, standards, and assumptions in this process.

The attribution of interests, desires, or preferences to others is no more nor less problematic than the attribution to them of their

beliefs. The suspicion that it is more difficult to interpret another's tastes rests on the mistaken presumption that the attribution of belief is by comparison not problematic, that cognitive meaning is linguistically transparent and psychologically primary, and that an interpreter's values and standards need not play a role in the characterization of another's beliefs. Yet the attribution of beliefs to others is based on the ability to make interpersonal comparisons, so that it follows that this same ability to make interpersonal comparisons makes interpretation of other's tastes possible as well, despite the familiar problems with the practice of determining intensity of tastes.⁶

In the present connection, it should again be emphasized, that what legitimizes interpersonal utility comparisons is that the values undeniably present in their characterization are non-discretionary and non-normative. Normative value is discretionary in that one's positions regarding welfare, fairness, and equity are employed to recommend a particular use of facts to produce a particular set of normative judgments. In contrast, the values implicit in interpretation are not discretionary in that they are constitutive of coherent interpretation, and according are not the subject of individual discretion. Though in practice interpretation may well smuggle in normative value in both the interpretation of beliefs and the tastes of others – as when it is said an account claimed as objective in fact ideological – that this practice is characterizable as a departure from legitimate interpretation strongly suggests that objective interpretation of other's beliefs and tastes is the rule rather than the exception.

5. Conclusion

In the second inference above, it was said that implicit in the concept of an interpersonal comparison as a functional concept is the notion that a successful interpersonal comparison is one that permits the identification of net utility gains in a commodity transfer between individuals. A successful interpersonal utility comparison, then, depends first and foremost upon the functional value of consistency in interpretation of tastes, irrespective of the individuals

involved. It is this value – equally well understood as impartiality – that ultimately justifies the recommended commodity ought to be transferred. Thus, the descriptive premise (1) above presupposes that an impartial comparison of the respective utilities of Smith and Jones for the purpose of determining a utility maximum dictates the commodity transfer that is prescribed in the conclusions (2).

Thus evaluative propositions can be derived from descriptive ones in economics without violating Hume's law. At the same time, the distinction between explanation and recommendation is preserved in economics, while the difficulties that arise in the social welfare function framework, as a consequence of the Kemp-Ng impossibility theorem, are surmounted by the characterization of interpersonal utility comparisons in descriptive but value-laden terms.

Notes

1. 'In other words, SWFs (Social Welfare functions) of the Bergson-Samuelson type are subject to impossibility results not very different from those that apply to SWFs of the Arrow type.'
2. For the literature on interpersonal utility comparisons, see Mueller (1979).
3. Whether this is possible is discussed in the last section.
4. See Mueller (1979, p.255) on this emphasis.
5. The literature is most often associated with Quine and Davidson. See Romanos (1983) for an examination of Quine's general influence.
6. The construction of index numbers is methodologically problematic, yet at the same time in principle it is believed these difficulties can be adequately surmounted. The same applies to interpersonal utility comparisons on the argument here. Thus problems of setting a common zero point and scale are not

insignificant, yet not in principle obstacles the use of interpersonal utility comparisons.

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