

Pigou's "Old" Welfare Economics, Hicks's Farewell to Welfarism, and Sen's Non-Consequentialist Economics of Well-Being and Freedom

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Abstract

John Richard Hicks played a crucial role in creating the “new” welfare economics on the basis of hypothetical compensation principle immediately after Arthur Pigou’s “old” welfare economics collapsed in face of Lionel Robbins’s epistemological criticism on the Benthamite utilitarian basis of Pigou’s edifice. As is the case with the “new” welfare economics based on the social welfare function due to Abram Bergson and Paul Samuelson, the Hicksian “new” welfare economics is constructed on the informational basis of interpersonally non-comparable ordinal utilities or, more generally, welfares. Towards the end of 1950s, Hicks made his farewell to the welfarist informational basis of normative economics, viz. welfare economics and social choice theory. The first purpose of this article is to locate Hicks’s *non-welfarist manifesto* in broader perspective, and gauge the depth of his criticism on the welfarist informational basis of normative judgments. His two unpublished manuscripts [Hicks (no date; c. 1955) and Hicks (no date; c. 1963)] will play an essential role in this endeavor. The second purpose of this article is to fortify the scaffolding of non-welfarist approaches to well-being and freedom through three parables: Jon Elster’s *Sour Grapes*, Ronald Dworkin’s *Legacy of a Millionaire*, and Amartya Sen’s *Lady Chatterley’s Lover Case*. The third purpose of this article is to evaluate two major contributions to non-consequentialist approaches to normative economics, viz. John Rawls’s Theory of Justice and Amartya Sen’s Capability Approach to Well-Being and Freedom. As an auxiliary instrument of analysis, the *informational tree of normative judgments* will be neatly introduced and extensively utilized.

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A study of the history of opinion is a necessary preliminary to the emancipation of the mind. I do not know which makes a man more conservative --- to know nothing but the present, or nothing but the past."

John Maynard Keynes, *The End of Laissez-Faire*, 1926.

God, give us Grace to accept with serenity the things that cannot be changed,
Courage to change the things which should be changed,
and the Wisdom to distinguish the one from the other.

Richard Niebuhr, *Serenity Prayer*, 1943.

1. Introduction

John Hicks, one of the major players in the eventful evolution of welfare economics after the advent of "old" welfare economics through Arthur Pigou's magnum opus, viz. *The Economics of Welfare* (1920), observed in Hicks (1975; 1981, p. 218) as follows: "Though Welfare Economics appears to have settled into the position of a regular, accepted, branch of economics --- or at least of economic teaching --- it remains to some extent a mystery. It has often been criticized, and its critics have never been fully answered; yet it survives. There is a problem here; I propose ... to make yet another attempt to clear it up." In spite of Hicks's repeated attempts, the mystery he identified and tried to resolve seems to be still not fully cleared and very much alive. This article intends to make a challenge to Hicks's mystery of welfare economics over again. To circumscribe the arena of my challenge as succinctly as possible, three preliminary remarks are in order.

To begin with, by welfare economics I here mean a branch of normative economics, which is concerned with the critical examination of the performance of actual and/or imaginary economic systems and also with the critique, design, and implementation of

alternative economic policies. Social choice theory, which is also a branch of normative economics, is concerned with the evaluation of alternative methods of collective decision-making as well as with the logical foundations of welfare economics¹.

In the second place, the origin of welfare economics and social choice theory in the sense I have described may be as old as the origin of human society. To substantiate this sweeping assertion, we have only to observe that some rules of collective decision-making cannot but be invoked whenever a group of individuals deliberate on making collective decisions for their common cause; likewise, some methods of social welfare judgments cannot be avoided whenever a group of individuals want to decide on the allotment of scarce resources in their collective possession, paying due attention to their well-being and freedom. These simple facts notwithstanding, I must emphasize that the *instrumental concern* about some rules of collective decision-making, on the one hand, and the *theoretical investigation* into their logical performance, on the other hand, are two important concerns of quite different nature. Likewise, it seems fair to say that the critical and systematic approach to the mechanism design and policy evaluation from the point of view of human well-being and freedom belongs to the relatively recent past, even if there were numerous precursors who left their marks on the methods of normative evaluations in the time-honored name of moral philosophy. It is for this reason that I will start my discourse on welfare economics with Arthur Pigou (1908; 1920) with only sporadic mention to such precursors as Jeremy Bentham (1776; 1789; 1843), John Stuart Mill (1859), and Vilfredo Pareto (1906) only when necessities dictate. Likewise, my discourse on social choice theory will start with Kenneth Arrow (1951) and his General Impossibility Theorem with only sporadic mention to the pioneering work by Jean-Charles de Borda (1781) and Marquis de Condorcet (1785).

In the third place, the logical chain that connects Arthur Pigou's "old" welfare economics through John Hicks's "new" welfare economics and his daring *non-welfarist manifesto*, and to Amartya Sen's capability approach to well-being and freedom will be made clear by means of what I christen the *informational tree of normative judgments*. This concept was introduced by Suzumura (2000; 2011; 2016a, Essay 28; 2016b), and will be extensively utilized throughout this article.

Without any further ado, let me begin with Pigou's "old" welfare economics and his

¹ The present definition of welfare economics and social choice theory capitalizes on Suzumura (2002). See, also, Sen (1996).

critics.

2. Pigou's "Old" Welfare Economics and Robbins's Criticism

Capitalizing on the long Cambridge tradition of moral philosophy, Pigou created the broad area of economic research in his treatise, *The Economics of Welfare* [Pigou (1920)], which begins with the *Preface* including the following memorable passage:

The complicated analyses which economists endeavor to carry through are not mere gymnastic. *They are instruments for the bettering of human life.* The misery and squalor that surround us, the injurious luxury of some wealthy families, the terrible uncertainty overshadowing many families of the poor --- these are evils too plain to be ignored. By the knowledge that our science seeks it is possible that they may be restrained. Out of the darkness light! To search for it is the task, to find it perhaps the prize, which the 'dismal science of Political Economy' offers to those who face its discipline. [Italics added for emphasis]

Pigou was a devoted utilitarian in the tradition of Jeremy Bentham (1776; 1789), and the main scenario of his welfare economics has been construed as follows: "Design an institutional framework of the economy so as to identify and implement a solution $x^* \in S$ to the following constrained maximization problem

$$(B-P) \quad \text{Max } \{u_1(x) + u_2(x) + \dots + u_n(x)\} \text{ over all } x \in S,$$

where S is the set of feasible social alternatives, u_i is the utility function of person $i \in N := \{1, 2, \dots, n\}$ with $2 \leq n < +\infty$, and (B-P) is the abbreviation of (Bentham & Pigou)."

There exist two problems of historical importance about this widely accepted formulation (B-P) of Pigou's scenario of welfare economics. The first problem is whether the scheme (B-P) sincerely captures what the originator had in mind. On re-reading Pigou's Preface to *The Economics of Welfare* carefully, it is hard to overlook the idiosyncratic expression: *instruments for the bettering of human life*. In the original scenario of Pigou, the purpose of welfare economics is *not* to draw a drastic blueprint of an ideal first-best economic system or economic policy, *but* to examine the down-to-

earth --- imperfect and defective --- economy with the purpose of discovering feasible instruments for the bettering of human life. Needless to say, there is a substantial gulf in between the constrained maximization program (B-P) and the program in search of instruments for the bettering of human life. To recognize these sharply contrasting schemes within the broad conception of welfare economics, and to re-orient the future research program in full awareness of this gulf is surely an important agenda².

The second problem is whether (B-P) per se could be construed as a legitimate “scientific” research program of welfare economics. It was in the context of this second problem that the criticism on the epistemological basis of the program (B-P) was put forward by Lionel Robbins (1932/1935), which caused a great stir in the profession.

Observe that the program (B-P) presupposes that the utility of different individuals can be added to, or subtracted from, one another to define the social objective of the sum total of individual utilities, which is to be identified with Bentham’s maxim of “the greatest happiness of the greatest number” [Bentham (1976)]. As a matter of fact, this identification between the maximization of the social sum total of individual utilities and the Benthamite maxim of “the greatest happiness of the greatest number” leaves us with a room for reasonable doubt³. However, Robbins’s criticism is not on this doubt, but on the epistemological basis of the program (B-P) per se, and it boils down to the categorical denial of the “scientific” possibility of interpersonal comparisons of utility with interobserver validity. Careful readings of Robbins (1932, pp. 138-150; 1938, pp. 636-637; 1981, p. 5) convinced me that he never rejected the possibility of “subjective” interpersonal comparisons of utility, nor did he ever claim that economists should not make “subjective” interpersonal comparisons of their own. His actual assertion was that “subjective” interpersonal comparisons of utility could not claim any “objective” interobserver validity.

In a paper entitled “Bergsonian Welfare Economics” [Samuelson (1981)], which is meant to “set the record straight as only a living witness and participant can”, Paul Samuelson testified to the impact of Robbins’s criticism in the dramatic way as follows:

² This problem was identified and emphasized in the concluding Essay 28 of Suzumura (2016a), in which I noticed the parallelism between these contrasting stances within welfare economics, on the one hand, and the contrasting stances of the *transcendental institutionalism* and the *comparative assessment approach* within the theory of justice, which is due to Amartya Sen (2009).

³ Readers who are interested are referred to Walter Bossert and Kotaro Suzumura (2016).

When Robbins sang out that the emperor had no cloths --- that you could not prove or test by any empirical observations of objective science the normative validity of comparisons between different persons' utilities --- suddenly all his generation of economists felt themselves to be naked in a cold world. Most of them had come into economics seeking the good. To learn in midlife that theirs was only the craft of a plumber, dentist, or cost accountant was a sad shock⁴.

By the end of the 1930s, it became widely recognized that the epistemological basis of Pigou's "old" welfare economics was hopelessly eroded. To salvage something valuable from the vestige of "old" welfare economics, new foundations had to be found for welfare economics solely on the basis of *ordinal* and *interpersonally non-comparable* utility information.

3. Advent of Two Schools of "New" Welfare Economics

Two schools of the ordinalist "new" welfare economics emerged in response to the challenge left by the collapse of Pigou's "old" welfare economics.

The first school of the ordinalist "new" welfare economics was proposed by Abram Bergson (1938), who introduced the core concept of *social welfare function* to be given *not* from inside, *but* from outside of economics. According to Samuelson (1981, p. 223), "[t]o one like [him]self, who before 1938 knew *all* the relevant literature on welfare economics and just could not make coherent sense of it, Bergson's work came like a flash of lightening, describable only in the words of the pontifical poet:

Nature and Nature's laws lay hid in night:
God said, Let Newton be! And all was light!"

Samuelson has been by far the most powerful disseminator of the Bergsonian "new" welfare economics, who wrote about the nature of social welfare function as follows:

Without inquiring into its origins, we take as a starting point for our discussion a function of all the economic magnitudes of a system which is supposed to characterize some ethical

⁴ Samuelson (1981, p. 226).

belief --- that of a benevolent despot, or a complete egotist, or “all men of good will,” a misanthrope, the state, race, or group mind, God, etc. Any possible opinion is admissible, including my own, although it is best in the first instance, in view of human frailty where one’s own beliefs are involved, to omit the latter. We only require that the belief be such as to admit of an unequivocal answer as to whether one configuration of the economic system is “better” or “worse” than any other or “indifferent,” and that these relationships are transitive; i.e., A better than B , B better than C , implies A better than C , etc. The function need only be ordinally defined, [Samuelson (1947, p. 221)]

Three remarks on the Bergson-Samuelson “new” welfare economics may be in order. (a) The genesis of the Bergson-Samuelson social welfare function was traced back all the way to Vilfredo Pareto (1913) by John Chipman (1976). There is no doubt that Pareto was remarkably ahead of his own time, and sympathetic eyes may catch a glimpse of the social welfare function in Pareto’s early writings. Nevertheless, I feel it fair to say that, without Bergson (1938) and Samuelson (1947, Chapter VIII), the concept of the social welfare function could not have been established as the central pillar of modern welfare economics. In this sense, Samuelson (1981, p. 248) was surely right when he wrote as follows:

After, and only after, you have worked out a clear understanding of this subject are you able to recognize the bits of the puzzle that Pareto had already discerned. Nor will this surprise historians of science such as Robert Merton or Thomas Kuhn: they have learned to expect multiple discoverers and rediscoverers of important scientific phenomena and theories. Thus, no less than 12 scientists can be said to be discoverers of the law of the conservation of energy. The fact that some of their writings were known to others in the group does not preclude legitimate claims to independent discovery if, as is often the case with early pioneers, the expositions are unclear and even defective in spots⁵.

(b) The main scenario of the Bergson-Samuelson “new” welfare economics of the individualistic type may be neatly expressed as follows: “Design an institutional framework of the economy so as to identify and implement a solution $x^* \in S$ to the following

⁵ See also Suzumura (2005, pp. 336-338) for my interview with Samuelson on the concept and origin of the social welfare function.

constrained maximization problem

(B-S) $\text{Max } f(u_1(x), u_2(x), \dots, u_n(x))$ over all $x \in S$,

where S is the set of feasible social alternatives, f is the Bergson-Samuelson social welfare function that maps the profile $\mathbf{u}(x) = (u_1(x), u_2(x), \dots, u_n(x))$ of individual utilities on $x \in S$ into an ordinal index of social welfare, and (B-S) is the abbreviation of (Bergson & Samuelson).” Observe that the constrained maximization paradigm captures the essence not only of Pigou’s “old” welfare economics through the program (B-P), but also of the “new” welfare economics based on the Bergson-Samuelson social welfare function through the program (B-S). The crucial difference between these programs can be boiled down to the difference between their objective functions: the social sum total of individual utilities in the program (B-P), and the ordinal index of social welfare provided by a Bergson-Samuelson social welfare function in the program (B-S). The transition from the program (B-P) to the program (B-S) was once regarded as a quantum leap in the history of welfare economics, with their concomitant contrast of informational basis, viz. *interpersonally comparable cardinal utilities* versus *interpersonally non-comparable ordinal utilities*. Nevertheless, it deserves emphasis that they share the essential feature of focusing on the *maximization of social welfare index* subject to resource constraints, thereby diverging from the original Pigovian idea of discovering feasible instruments for the bettering of human life.

(c) Concerning the nature and origin of the Bergson-Samuelson social welfare function, there is an important difference between Bergson (1938; 1954; 1976) and Samuelson (1947; 1981). Samuelson is determined in his flat denial to see whose value judgments the social welfare function represents, and how the social welfare function is generated on the basis of individual value judgments⁶. In contrast, Bergson (1976, p. 186) is ready to be concerned with the nature of the values to be represented in the social welfare function: “The practitioner of welfare economics is in principle free to take any values as a point of departure, but the resulting counsel as to economic policy

⁶ Samuelson’s purpose is not difficult to surmise. My conjecture is that Samuelson wanted to separate what belongs to the world of *facts* from what belongs to the world of *values*. In so doing, he wanted to solidify the scientific status of welfare economics. However, it is doubtful if we can separate the realm of “what is” from the realm of “what should be” even in principle. See, for example, Hilary Putnam (2002).

is not apt to be too relevant unless the values in question are held by, or can plausibly be imputed to, one or more officials concerned with the policies in question. Should the practitioner for any reason disapprove of those values, he may, of course, refrain from offering the officials any counsel at all.” It is precisely on the quoted observation by Bergson that Kenneth Arrow (1951) effectively focused in his monumental magnum opus, *Social Choice and Individual Values*, for logical scrutiny. He is concerned with the process or rule through which social values are democratically molded on the informational basis of individual values. His justly famous General Impossibility Theorem on the existence of eligible process or rule serves as a signal that calls for serious work on the interface between economics, ethics and politics, thereby casting light on the conditions under which the Bergson-Samuelson social welfare function can be democratically molded.

The second school of the ordinalist “new” welfare economics began with the work by Nicholas Kaldor (1939) and John Hicks (1940) on the basis of hypothetical compensation principles⁷. For any two social alternatives $x, y \in X$, where X is the set of all conceivable social alternatives, and for any individual $i \in N$, $x \succsim_i y$ holds if and only if x is at least as good as y in i 's judgments; $x \succ_i y$ holds if and only if x is strictly better than y in i 's judgments; and $x \sim_i y$ holds if and only if $x \succsim_i y$ and $y \succsim_i x$ hold, viz. x is indifferent to y in i 's judgments. Then x is said to be *Pareto superior* [resp. *Pareto indifferent*] to y if $x \succsim_i y$ holds for all $i \in N$, and $x \succ_i y$ holds for at least one $i \in N$ [resp. $x \sim_i y$ holds for all $i \in N$]. Observe that the concept of Pareto superiority and that of Pareto indifference are concerned only with the situations of unanimous agreements among individuals. To extend the applicability of Paretian social judgments to situations where conflicts among individual judgments may intervene, let the *compensatory equivalence relation* C on X be defined by $x C y$ holds if and only if x is derivable from y by means of hypothetical compensation payments among individuals. It is assumed that C is an equivalence relation, viz. C satisfies the axioms of reflexivity,

⁷ John Chipman and James Moore (1978, p. 548, footnote 2) emphasized that Enrico Barone (1908) had developed the compensation principle much earlier than Kaldor and Hicks, “who mentioned it no less than four times.” However, Barone’s seminal work was left unnoticed among English-speaking economists even after the English translation of his Italian original was published in Friedrich Hayek (1935).

symmetry, and transitivity⁸. Then the *compensatory equivalence class* $C(x) \subseteq X$ may be defined for each alternative $x \in X$ by $x^* \in C(x)$ holds if and only if $x^* C x$ holds. The *Kaldor superiority relation* $P_K \subseteq X \times X$ was introduced by Nicholas Kaldor (1939), which is defined by $x P_K y$ holds if and only if there is an alternative $x^* \in C(x)$ such that x^* is Pareto superior to y . Related to, but distinct from the Kaldor superiority relation is the *Hicks superiority relation* $P_H \subseteq X \times X$ introduced by John Hicks (1940), which is defined by $x P_H y$ holds if and only if there is *no* $y^* \in C(y)$ such that y^* is Pareto superior to x . It is clear that the Kaldor superiority relation and the Hicks superiority relation are based on the ordinal and interpersonally non-comparable utility information, and they try in common to extend the range of prescriptions on the improvement of human life beyond the range of the Pareto superiority relation. It should be pointed out, however, that there is no reason to believe that the change in accordance with the prescription by P_K or by P_H should be regarded as a socially better step from any ethical viewpoint, as the utility distribution that prevails at x or at y , which forms the standard of reference for P_H or P_K may be outright unjust. Furthermore, there is a serious problem of logical coherence of P_K as well as P_H . Indeed, there is a situation, which is not far-fetched at all, where we may be advised by P_K as well as by P_H to move from x to y , and then back from y to x again by the same compensation principle. This paradox is known as the *Scitovsky paradox* after Tibor Scitovsky (1941); it could be resolved by the mixed combination of P_K and P_H , but even this *Scitovsky double criterion* for superiority, P_{Sc} say, was smashed by the work of Terence Gorman (1955), who showed the possible intransitivity of P_S ⁹.

To sum up my verdicts on the performance of the two schools of “new” welfare economics, it seems fair to say that they fall much short of providing sound inheritors of the defunct “old” welfare economics à la Pigou on the informational basis of ordinal and interpersonally non-comparable utilities. The social welfare function school à la

⁸ The concept of compensatory equivalence relation is due to Arrow (1951, pp. 40-41).

⁹ Samuelson (1950) introduced the hypothetical compensation principle of his own, which was defined in terms of the *uniform outward shift of the utility possibility frontier*. This principle can generate the *Samuelson superiority relation*, P_{Sa} say, which is transitive by construction. It is shown that there is a possibility of contradiction if we want to invoke the Pareto superiority relation and the Samuelson superiority relation side by side, so that the problem of logical incoherence of hypothetical compensation principle cannot be exorcised by the use of P_{Sa} . See Suzumura (1999b) for details on this point.

Bergson and Samuelson have three conspicuous defects: (a) it fails to capture the original Pigovian idea of discovering feasible instruments for improving human life; (b) it presupposes that a social welfare function is given from outside of economics, thereby making its proposed escape route from Robbins's criticism on the "old" welfare economics somewhat vacuous; and (c) if we try to tackle the social choice theoretic investigation into the process or rule to mold social welfare function from individual values, it opens the Pandora's box of the Arrowian general impossibility theorems. In the case of the second school based on hypothetical compensation principles, it is consistent with the Pigovian paradigm of discovering feasible instruments for *improving* human life rather than *optimizing* somehow defined social welfare. However, this school is plagued with logical inconsistencies of policy recommendations thereby generated.

Routes of escape from the poverty of welfare economics cannot but be sought elsewhere.

4. Hicks's Farewell to Welfarism: How Deeply is It Rooted?

Capitalizing on many twists and turns in the brief history of "old" and "new" welfare economics, Edward Mishan (1960, p. 197) declared in his "A Survey of Welfare Economics, 1939-1959" as follows:

While it continues to fascinate many, welfare economics does not appear at any time to have wholly engaged the labours of any one economist. It is a subject which, apparently, one dabbles in for a while, leaves and, perhaps, returns to later in response to a troubled conscience --- which goes some way to explain why, more than other branches of economics, it suffers from an unevenness in its development, a lack of homogeneity in its treatment and, until very recently, a distressing disconnectedness between its parts.

Almost simultaneously, John Hicks (1959), who played an important role in the evolution of "new" welfare economics, wrote an esoteric "Preface --- and a Manifesto" in his *Essays in World Economics*, and told farewell to *economic welfarism*:

The view which, now, I do *not* hold I propose (with every apology) ... to call "Economic Welfarism"; for it is one of the tendencies which has taken its origin from that great and im-

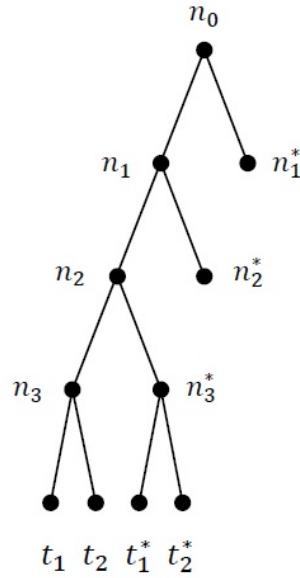
mensely influential work, the *Economics of Welfare* of Pigou. But the distinction which I am about to make has little to do with the multifarious theoretical disputes to which the notion of Welfare Economics has given rise to. One can take any view one likes about measurability, or additivity, or comparability of utilities; and yet it remains undetermined whether one is to come down to one side or other of the Welfarist fence. The line between Economic Welfarism and its opposite is not concerned with what economists call utilities; it is concerned with the transition from Utility to the more general good, Welfare (if we like) itself.

How should we understand the contents and reach of this *Manifesto*? As an auxiliary step in answering this question, let us introduce what we call the *informational tree of normative judgments*, which helps us classify various informational bases of normative judgments¹⁰.

Suppose that we are engaging in normative social judgments on alternative economic systems and/or economic policies. To make sensible judgments, the agent in charge must be provided with relevant information about alternative systems and/or policies. Suppose that the agent stands at the initial node n_0 of the tree. Any sensible agent will surely require information about *consequential outcomes* that are brought about by alternative systems and/or policies. If the agent's informational requirement consists of information about consequential outcomes and nothing else, the agent's stance is called *consequentialism*, whereas if his/her informational requirement goes beyond consequential outcomes, pure and simple, the agent's stance is called *non-consequentialism*. Examples of non-consequential information abound. Suffice it to quote the *opportuni-*

¹⁰ The informational tree of normative judgments was introduced and extensively applied in Suzumura (2011; 2016a; 2016b).

Figure 1: Informational Tree of Normative Judgments



- n_1 : Consequentialism; n_1^* : Non-Consequentialism;
- n_2 : Welfarist-Consequentialism (Welfarism);
- n_2^* : Non-Welfarist-Consequentialism (Non-Welfarism);
- n_3 : Welfarism based on the Ordinal Welfare;
- n_3^* : Welfarism based on the Cardinal Welfare;
- t_1 : Welfarism based on the Interpersonally Non-Comparable Ordinal Welfare;
- t_2 : Welfarism based on the Interpersonally Comparable Ordinal Welfare;
- t_1^* : Welfarism based on the Interpersonally Non-Comparable Cardinal Welfare;
- t_2^* : Welfarism based on the Interpersonally Comparable Cardinal Welfare

ty set of alternatives, from which a culmination outcome is chosen, and the *intrinsic procedural characteristics* of economic systems and/or policies through which a culmination outcome is brought about. In Figure 1, consequentialist informational basis corresponds to the node n_1 , and non-consequentialist informational basis corresponds to the node n_1^* . Note that the non-consequentialist stance does not necessarily mean that consequentialist information is completely excluded from consideration; it means that attention is paid to some non-consequentialist information with or without paying attention to consequentialist information. A special case of non-consequentialist stance is the *deontological stance*, which focuses only on non-consequentialist features of economic systems and/or policies in full neglect of consequentialist features thereof.

Suppose now that Mr. A, the agent in charge of normative judgments, stands at the consequentialist node n_1 . There are alternative methods of describing consequential outcomes of alternative systems and/or policies. Consider, for example, an economic policy for redistributing income and/or wealth among individuals. The outcome of the redistribution policy may be described by the ex post utilities, or more generally welfares, accruing to individuals. Alternatively, it may be described by means of the ex post statistical measures such as Gini coefficient or some variants thereof. The informational stance that requires the former type of information is called *welfarist consequentialism*, or *welfarism* for short, whereas the informational stance that requires the latter type of information is called *non-welfarist consequentialism*, or *non-welfarism* for short¹¹. In the informational tree of normative judgments, the former stance corresponds to the node n_2 , whereas the latter stance corresponds to the node n_2^* .

Suppose now that Mr. A stands at the welfarist node n_2 . The point of bifurcation at this node is whether Mr. A adheres to the *ordinal* concept of utility, or more generally welfare, or he accepts the *cardinal* measurability of utility or welfare. In the former case, Mr. A proceeds to the informational node n_3 of *ordinalist welfarism*; in the latter case, Mr. A proceeds to the informational node n_3^* of *cardinalist welfarism*.

Suppose, finally, that Mr. A is at the node n_3 of ordinalist welfarism [resp. the node n_3^* of cardinalist welfarism]. The point of bifurcation at the node n_3 or the node n_3^* is the interpersonal comparability, or the lack thereof, of utilities or welfares. Starting

¹¹ In this case as well, the informational stance of non-welfarism need not be insensitive to any welfarist information. What characterizes non-welfarism is that it is sensitive to *some* non-welfarist information without being totally insensitive to welfarist information.

from the node n_3 [resp. the node n_3^*], we may identify two terminal nodes t_1 and t_2 [resp. t_1^* and t_2^*], where t_1 is the *ordinalist welfarism without interpersonal comparability* and t_2 is the *ordinalist welfarism with interpersonal comparability* [resp. t_1^* is the *cardinalist welfarism without interpersonal comparability* and t_2^* is the *cardinalist welfarism with interpersonal comparability*].

With this informational tree of normative judgments at hand, some of the representative approaches in normative economics can be neatly located and compared with each other in terms of their informational requirements. To begin with, consider the terminal node t_1 of ordinalist welfarism without interpersonal comparability. It is this informational basis that is commonly shared by the “new” welfare economics of the social welfare function school à la Bergson and Samuelson, the “new” welfare economics of the compensation principles school à la Kaldor, Hicks and Scitovsky, and most, if not all, Arrovian social choice theory. Consider next the terminal node t_2^* of cardinalist welfarism with interpersonal comparability. Recollect that Pigou’s “old” welfare economics was based on the Benthamite utilitarianism and it is an important example belonging to this node t_2^* . What about the terminal node t_2 of ordinalist welfarism with interpersonal comparability, and terminal node t_1^* of cardinalist welfarism with interpersonal non-comparability? A typical example of the former class is the welfarist characterization of the Rawlsian principle of justice¹² [Peter Hammond (1976) and Amartya Sen (1977)], whereas a typical example of the latter class is the *Nash social welfare function* [Amartya Sen (1970a, Chapter 8 & Chapter 8*) and Mamoru Kaneko and Kenjiro Nakamura (1999)].

We are now ready to resume Hicks’s *Non-Welfarist Manifesto*. In order to cut my way through this complex territory, let me decompose the relevant question to be answered into two sub-questions in the spirit of “divide and reign”:

(Q₁) Did Hicks’s *Manifesto* aim at *economic welfarism* as such in particular, but not at *welfarism* more generally? Put differently, was Hicks resigned himself to stay within the territory of welfarism even after he liquidated his commitment to economic welfar-

¹² As a matter of fact, John Rawls’s own theory of justice is *not* founded on the welfarist informational basis. For this reason, “the welfarist recharacterization of the Difference Principle [by Rawls (1971)] is not strictly ‘Rawlsian’ rule [Sen (1996, p. 55, footnote 9)].”

ism, or was he ready to cross the welfarist boundary and proceed towards non-welfarism?

(Q₂) Supposing that Hicks was prepared to leave the kingdom of welfarism, how far was he ready to go back along the informational tree of normative judgments? In other words, was he resigned himself to remain within the territory of consequentialism, or was he willing to cross the consequentialist boundary towards non-consequentialism?

Since the arena of this investigation is slippery, let me begin my study of the sub-question (Q₁) by reiterating the distinction between the concept of welfare in general, and that of economic welfare in particular. According to Pigou (1920, pp. 10-11),

[w]elfare ... is a thing of very wide range. ... It will be sufficient to lay down more or less dogmatically two propositions; first, that the elements of welfare are states of consciousness and, perhaps, their relations; secondly, that welfare can be brought under the category of greater or less. A general investigation of all the groups of causes by which welfare thus conceived may be affected would constitute a task so enormous and complicated as to be quite impracticable. It is, therefore, necessary to limit our subject-matter.

Through what means did Pigou limit his subject-matter? His device for simplification was straightforward:

In doing this we are naturally attracted towards that portion of the field in which the method of science seems likely to work at best advantage. This they can clearly do when there is present something measurable, on which analytical machinery can get a firm grip. The one obvious instrument of measurement available in social life is money. Hence, *the range of our inquiry becomes restricted to that part of social welfare that can be brought directly or indirectly into relation with the measuring-rod of money. This part of welfare may be called economic welfare.* [Italics added for emphasis]

Pigou was certainly not unaware of possible difficulties of separating economic welfare, thus defined, from welfare in general. Thus¹³:

It is not, indeed, possible to separate [economic welfare] in any rigid way from other parts [of general welfare], for the part which *can* be brought into relation with a money measure will be different according as we mean by *can*, “can easily” or “can with mild straining” or “can with violent straining.” The outline of our territory is, therefore, necessarily vague. ... Nevertheless, though no precise boundary between economic and non-economic welfare exists, yet the test of accessibility to a money measure serves well enough to set up a rough distinction. Economic welfare, as loosely defined by this test, is the subject-matter of economic science. The purpose of [*The Economics of Welfare*] is to study certain important groups of causes that affect economic welfare in actual modern societies.

With this background in mind, it is natural to surmise that what Hicks did was to reject Pigou’s convention of separating economic welfare from general welfare, thereby joining hands with numerous contemporary critics. I contend that this easy misperception of the nature of Hicks’s *Manifesto* is mainly responsible for the long neglect that surrounded the observation by Hicks. To illustrate how easily this misunderstanding can arise, it suffices to quote the following passage¹⁴:

It is impossible to make “economic” proposals that do not have “non-economic aspects”, as the Welfarist would call them; when the economist makes a recommendation, he is responsible for it in the round; all aspects of that recommendation, whether he chooses to label them economic or not, are his concern.

It is my contention that Hicks was *not* just resurrecting a mundane criticism on Pigou’s separation of economic welfare from general welfare. Quite to the contrary, he was in fact declaring that we should go back all the way to the non-consequentialist node in the informational tree of normative judgments. To give substantial support to my bold

¹³ See Pigou (1920, p. 11).

¹⁴ See Hicks (1981, p. 137).

contention to this effect, I have only to cite the following “one strong example” from Hicks (1981, p. 137):

One of the issues that can be dealt with most elaborately by Welfarist methods is that of Monopoly and Competition: the theory of the social optimum which would be reached in a (practically unattainable) condition of all-round perfect competition, and of the departures from the optimum which must occur under any form in which a system of free enterprise can in practice be organised, is one of the chief ways in which the Welfarist approach has left its mark. I do not question that we have learnt a great deal from these discussions; but they leave me with an obstinate feeling that they have failed to penetrate to the centre of the problem with which they are concerned. ... Why is it, for instance, that anti-monopoly legislation (and litigation) get so little help, as they evidently do, from the textbook theory? Surely the answer is that the main issues of principle --- security on the one side, freedom and equity on the other, the issues that lawyers, and law-makers, can understand --- have got left right out.

Thus, by invoking such non-welfarist values as security and freedom on a par with welfarist values, Hicks was in fact ready to go against the exclusive use of welfarist values as the informational basis of welfare economics. Thus, my answer to the sub-question (Q_1) cannot but be the following: *Hicks was prepared not only to go beyond economic welfarism, but also to cross the welfarist fence towards non-welfarism.*

The sub-question (Q_2) requires far more careful treatment than the sub-question (Q_1). For the sake of concreteness, let me choose the value of individual liberty for scrutiny. Hicks carefully called our attention to the problem of striking a fair balance between the welfaristic value and the non-welfaristic value. Indeed, Hicks (1981, p. 139) wrote as follows:

I have ... no intention, in abandoning Economic Welfarism, of falling into the “fiat libertas, ruat caelum” which some latter-day liberals seem to see as the only alternative. What I do maintain is that the liberal goods are goods; that they are values which, however, must be weighed up against other values.

To understand Hicks's statement to this effect, let us consider a requirement of *Pareto efficiency* and a requirement of *individual liberty* along the line of Sen (1970a, Chapter 6*; 1970b). Let $N = \{1, 2, \dots, n\}$ be the set of individuals in the society, and let X be the set of all social alternatives. $\mathbf{D} = (D_1, D_2, \dots, D_n)$ denotes the n -tuple of subsets of $X \times X$, where $(x, y) \in D_i$ holds if and only if x and y differ only in the private matter of some individual $i \in N$. It is intended that the set D_i is i 's *protected sphere of personal liberty* in the sense of John Stuart Mill (1859) and Isaiah Berlin (1969). \mathbf{D} is called the *libertarian rights-system* of the society. To give substance to these interpretations, each individual $i \in N$ is said to be assured of his/her *libertarian rights* over his/her protected sphere D_i if and only if, for each profile $\mathbf{R} = (R_1, R_2, \dots, R_n)$ of individual weak preference orderings, and for each pair x and y of social alternatives, the condition

$$(\mathbf{IL}) \quad (x, y) \in D_i \cap P(R_i) \Rightarrow [\forall S \subseteq X: x \in S \Rightarrow y \notin C(S; \mathbf{R})]$$

is satisfied, where $P(R_i)$ stands for the strict preference corresponding to R_i , and $C(S; \mathbf{R})$ is a non-empty subset of each non-empty subset $S \subseteq X$ of feasible alternatives. It is intended that $C(S; \mathbf{R}) \neq \emptyset$ represents the set of socially chosen alternatives from the opportunity set S when the profile \mathbf{R} prevails.

Likewise, the social choice rule C is said to satisfy the condition of *Pareto Unanimity* if, for each profile \mathbf{R} , and for each pair x and y , the condition

$$(\mathbf{PU}) \quad (x, y) \in \bigcap_{i \in N} P(R_i) \Rightarrow [\forall S \subseteq X: x \in S \Rightarrow y \notin C(S; \mathbf{R})]$$

is satisfied.

Note that the common apodosis of **IL** and **PU** requires that “an alternative y should not be chosen from the opportunity set S in the presence of an alternative x in S when the profile \mathbf{R} prevail,” whereas the premise of **IL** [resp. that of **PU**] requires that “the pair (x, y) belongs to individual i 's protected sphere and i him/herself prefers x to y ” [resp. “all individuals in the society unanimously prefer x to y ”]. Thus, the Condition **IL** [resp. the Condition **PU**] requires that each individual's preference over the pair in his/her protected sphere should be respected [resp. the unanimous preferences of all individuals should be respected] in social choice.

Within this conceptual framework, Sen (1970a, Chapter 6*; 1970b) showed that it is logically impossible to design a social choice rule C that is universally applicable to every profile of individual weak preference orderings and satisfies the Condition **IL** for each and every individual $i \in N$ as well as the Condition **PU**. This logical impasse is called the *impossibility of a Paretian liberal*. It sends a perplexing message that the Hicks's proposed weighing-up exercise is destined to fail in general if the value of individual libertarian rights and the value of Pareto efficiency are put on the stage. Observe that the Condition **PU** is welfaristic in nature, whereas the Condition **IU** is non-welfaristic in nature. The former claim is easy to confirm, as both the premise and the apodosis can be verified only by means of the profile R . The confirmation of the latter claim requires something different. To see if the premise of the Condition **IL** is or is not satisfied, it is necessary to check if the pair (x, y) belongs to the relevant individual i 's protected sphere or not, viz. we must be provided with the non-welfaristic information on x vis-à-vis y . Thus, the impossibility of a Paretian liberal shows that the *non-welfaristic claim of libertarian rights conflicts irrevocably with the welfaristic requirement of Pareto efficiency*.

Before we leave this arena, care should be taken with the fact that Sen's formal articulation by means of social choice rules met several criticisms in the literature. An important and widely supported criticism is due to Robert Sugden (1985), and Wulf Gaertner, Prasanta Pattanaik, and Kotaro Suzumura (1992). The gist of their criticism is rooted in the long libertarian tradition, according to which what libertarians can legitimately claim is that people should be warranted of the freedom of choice over their personal matters. They presented not only a criticism against Sen's articulation of libertarian claims, but they also submitted an alternative articulation of libertarian rights, which came to be called the *game-form articulation of libertarian rights*¹⁵. Although the proponents of the game-form articulation criticized Sen's articulation by means of social choice rules, let me hastily emphasize that there is *no* claim by the proponents of the game-form articulation that this alternative approach can resolve Sen's impossibility of a Paretian liberal at one stroke. Indeed, Rajat Deb, Prasanta Pattanaik, and Linda Lazzolini (1997) demonstrated that the impossibility of a Paretian liberal essentially

¹⁵ Those who are interested in the details of game-form articulation of libertarian rights should go to Sugden (1985), Gaertner, Pattanaik, and Suzumura (1992) and Suzumura (1996; 2011).

survives even when Sen's articulation is replaced by the alternative articulation by means of game-forms.

Should we conclude, then, that the attempted alternative game-form articulation of libertarian rights is nothing other than a mare's nest? My answer is emphatically in the negative for at least two reasons. In the first place, the classical concept of the freedom of choice should not be slighted in the context where the focal issue is the logical sustainability of individual liberty in the presence of boisterous demand on behalf of public interests; the robustness of Sen's pioneering impossibility theorem in the context of game-form articulation of libertarian rights is a valuable revelation in itself, as it sends an unambiguous signal to the effect that the problem to be confronted by social choice mechanism designers and economic policy-makers is confirmed even when we replace Sen's articulation by --- arguably more defensible --- game-form articulation. In the second place, in contrast with Sen's libertarian rights, which remains within the territory of non-welfarist consequentialism, the game-form libertarian rights cross over the boundary of consequentialism and step into the territory of non-consequentialism. This being the case, the meaning of the impossibility of a Paretian liberal seems to have different implications altogether, depending on whether we adopt Sen's articulation or the game-form articulation, which is a valuable perception in itself.

I am now ready to answer the sub-question (Q_2). To confirm my provisional verdict on this issue, I dig deeper into Hicks's attempt to reconstruct the foundations of welfare economics. As a matter of fact, Hicks made serious efforts to this effect, repeatedly at that, but he seems to have abandoned it in the end. Indeed, Hicks's effort to shoot "another shot at welfare economics" in Hicks (no date; c. 1955), as well as his further effort to "revise welfare economics" in Hicks (no date; c.1963), was left eventually incomplete and unpublished. My fortunate access to these unpublished typescripts helped me solidify my provisional verdict, but I can present my answer to the sub-question (Q_2) even on the sole basis of Hicks's published work, viz. Hicks (1969/1981; 1975): *Hicks revealed his willingness to go back along the informational tree of normative judgments all the way to the non-consequentialist node.* This verdict is vindicated by his emphasis in Hicks (1975) of such non-consequentialist features of the world as security, freedom, and equity, the neglect of which being recognized as one of the causes of the poverty of traditional welfare economics, "old" and "new."

5. *Sour Grapes, Will of a Millionaire, and Lady Chatterley's Lover*

To make a plea for crossing the welfarist fence towards more fertile land is one thing, and to convince people that not crossing the fence may cause a serious epistemological error is another thing. I believe that Hicks made a great contribution to the former step, but he seems to have left the latter step to other scholars. Let me cite three attempted persuasions, which are convincing in my own judgments¹⁶.

Sour Grapes: Jon Elster

Consider a fable of *The Fox and the Grapes*, which is one of Aesop's fables made popular by La Fontaine;

The fox who longed for grapes, beholds with pain
The tempting clusters were too high to gain;
Grieved in his heart he forced a careless smile,
And cried, They're sharp and hardly worth my while.

John Elster (1982; 1983, Chapter III) tried to throw light on a foundational problem of utilitarian, or more generally welfaristic, theory by means of this fable of *sour grapes*. He asks: "Why should individual want satisfaction be the criterion of justice and social choice when individual wants themselves may be shaped by a process that preempts the choice? And in particular, why should the choice between feasible options only take account of individual preferences if people tend to adjust their aspirations to their possibilities?" Invoking the fable of sour grapes, Elster elaborates his point further:

For the utilitarian [and the welfarist more generally], there would be no welfare loss if the fox were excluded from consumption of the grapes, since he thought them sour anyway. But of course the cause of his holding them to be sour was his conviction that he would be excluded from consuming them, and then it is difficult to justify the allocation by invoking his preferences¹⁷. ||

¹⁶ This section depends heavily on Suzumura (2016a, Introduction, Section 1.6).

¹⁷ Elster (1982, p. 109).

The difficulty of exclusively using welfaristic informational bases in normative evaluations may be further highlighted by a parable of a millionaire introduced by Ronald Dworkin (1981; 2000). Simplifying Dworkin's parable for the sake of brevity, the story goes as follows.

Will of a Millionaire: Ronald Dworkin

There is a millionaire with two sons, who is seriously ill in bed and wants to make his will. One son has an innate handicap from his unlucky birth, for which there is no reason that he should be held personally responsible. He is in need for expensive medical assistance for a decent subsistence. Another son is a playboy with expensive tastes for champagne, which he nourished for himself through luxurious life of his own choice. In this situation, how shall the millionaire draw his will? According to Dworkin, the millionaire's reasoning goes as follows: "If we want genuinely to treat people as equals ... then we must contrive to make their lives equally desirable to them, or give them the means to do so. ... When the question arises how wealth should be distributed, ... those who are seriously physically or mentally handicapped do seem to have, in all fairness, a claim to more than others. [Thus] most people would resist the conclusion that those who have expensive tastes are [also] entitled to a larger share than others. Someone with Champagne tastes [may] also needs more resources to achieve welfare equal to those who prefer beer. [This may be true, but] it does not seem fair that he should have more resources on that account" [Dworkin (1981, p. 189)]. To treat the handicapped son "fairly" with the son who has Champagne tastes, it seems to be the case that the exclusive dependence on welfaristic informational basis will lead us into a mistake; we must go behind the veil of utility or welfare and dig deeper into non-welfaristic or even non-consequentialist informational bases. ||

The above two arguments by means of parables are meant to expose the conceptual difficulties we may face if we rely exclusively on welfaristic informational basis. To add force to these *case-implications criticisms*, so-called, there are *conflicting principles criticisms*, so-called, which are meant to expose some hidden problems of welfarism by exposing logical conflicts between the welfaristic principle and the non-welfaristic principle. To the extent that the non-welfaristic principle in question is appealing, we are led to apply the critical axe to the welfaristic principle. The following parable is

due to Sen (1970a, Chapter 6 & Chapter 6*; 1970b), which is a well-known parable that leads to such a conflicting principles criticism to welfarism¹⁸.

***Lady Chatterley's Lover*: Amartya Sen**

“There is one copy of a certain book, say *Lady Chatterley's Lover*, which is viewed differently by 1 and 2. The three alternatives are: that individual 1 reads it (x), that individual 2 reads it (y), and that no one reads it (z). Person 1, who is a prude, prefers most that no one reads it, but given the choice between either of the two reading it, he would prefer that he reads it himself rather than exposing guillible Mr 2 to the influences of Lawrence. (Prudes, I am told, tend to prefer to be censors rather than being censored.) In decreasing order of preference, his ranking is z, x, y . Person 2, however, prefers that either of them should read it rather than neither. Furthermore, he takes delight in the thought that prudish Mr 1 may have to read Lawrence, and his first preference is that person 1 should read it, next best that he himself should read it, and worst that neither should. His ranking is, therefore, x, y, z .

Now if the choice is precisely between the pair (x, z), i.e., between person 1 reading the book and no one reading it, someone with liberal values may argue that it is person 1's preference that should count; since the prude would not like to read it, he should not be forced to. Thus, the society should prefer z to x . Similarly, in the choice exactly between person 2 reading the book (y) and no one reading it (z), liberal values require that person 2's preference should be decisive, and since he is clearly anxious to read the book he should be permitted to do this. Hence y should be judged socially better than z . Thus, in terms of liberal values it is better that no one reads it rather than person 1 being forced to read it, and it is still better that person 2 is permitted to read the book rather than no one reading it. That is, the society should prefer y to z , and z to x . This discourse could end happily with the book being handed over to person 2 but for the fact that it is Pareto inferior alternative, being worse than person 1 reading it, in the view of both persons, i.e., x is Pareto superior to y .”¹⁹ ||

¹⁸ It should become clear that the following parable is nothing other than the intuitive setting of Sen's *impossibility of a Paretian liberal* discussed earlier.

¹⁹ Sen (1970a/1982, p. 288 in 1982 reprint).

So much for the illustrations of some pathological features of welfarism. We are now ready to proceed to the non-consequentialist approaches in normative economics.

6. Non-Consequentialist Economics of Well-Being and Freedom

Suppose that Hicks, Elster, Dworkin, and Sen were jointly successful in calling serious attentions from fellow economists to non-consequentialist approaches to normative economics. The next order of business, then, is to examine what has been done in response to their collective plea. There are two major pioneering work to be evaluated in this context: John Rawls's *A Theory of Justice* [Rawls (1971)] and Amartya Sen's *Capability Approach to Well-Being and Freedom* [Sen (1980; 1985; 1987; 1999)].

John Rawls argues in his monumental work, *A Theory of Justice* (1971), that the two principles of justice would be chosen in the *original position* of primordial equality²⁰. The first principle requires that *each individual should be assured of an equal right to the most extensive liberty that is compatible with a similar liberty for all individuals*. The second principle requires that *inequalities are arbitrary unless it is reasonable to expect that they will work for every individual's advantage*. To make the second principle operational, it is required that *social inequalities should be arranged so as to make the worst-off individual best-off*. According to Rawls (1971, p. 54 and pp. 60-65), all *social primary goods*, which are general-purpose means for pursuing various ends, and include such diverse things as *rights, liberties, opportunities, income and wealth*, and the *social basis of self-respect*, should be distributed equally among individuals in the society unless an unequal distribution of any, or all, of these things is to everyone's advantage. In his perception, all social primary goods have a use whatever an individual's rational life plan may be.²¹

²⁰ Recollect that the original position is the hypothetical situation among individuals, which is supposed to lead to a certain conception of justice. According to Rawls (1971, p. 12), "[t]he principles of justice are chosen behind a veil of ignorance. This ensures that no one is advantaged or disadvantaged in the choice of principles by the outcome of natural chance or the contingency of social circumstances. Since all are similarly situated and no one is able to design principles to favor his particular condition, the principles of justice are the result of a fair agreement or bargain."

²¹ In addition to these social primary goods, there are other goods such as *health, vigor, intelligence, and imagination*, which are also of primary value in everybody's life, but they are *natural* --- in contrast with *social* --- primary goods. The possession of natural primary goods is also under the influence of the basic social structure, but, unlike social primary goods, they are not subject to direct social controls.

With this perception of the universal use value of social primary goods, Rawls crossed the Rubicon in the decision of choosing the informational basis of his theory of justice: “While the persons in the original position do not know their conception of the goods, they do know, I assume, that they prefer more rather than less primary goods. And this information is sufficient for them to know how to advance their interests in the initial situation.” In his emphasis on the *means* rather than *ends* in the pursuit of people’s rational life plans, Rawls dissociates himself from teleological theories of evaluation in general, and welfaristic theories of evaluation in particular.

The basic purpose of the capability approach, which Sen has been developing ever since its first advent in the 1980 Tanner Lecture on Human Values [Sen (1980)], seems to be to drive in a robust wedge between the standard utilitarian concentration on *opulence* or on *utility*, which he criticizes, and the Aristotelian concentration on the *achievement* of valuable functionings and the *capability* to achieve such functionings, which he endorses as the informational basis of the economics of well-being and freedom.²² By shifting the focus of normative economics in this way, Sen succeeded in turning over a new leaf in the rocky history of welfare economics and social choice theory.²³

Keeping this ambitious agenda in mind, let us see how its analytical framework can be neatly articulated. The most basic ingredients of this approach are *functioning* and *capability*, which are defined by Sen (1996, p. 57) as follows:

Functionings represent parts of the state of a person --- in particular the various things that he or she manages to do or be in leading a life.²⁴ The capability of a person reflects the al-

²² In his contribution to *The Quality of Life* [Nussbaum and Sen (1993, p. 30, footnote 2)], Sen observed that “[t]hrough at the time of proposing the [capability] approach, [he] did not manage to seize its Aristotelian connections, it is interesting to note that the Greek word *dunamin*, used by Aristotle to discuss an aspect of the human good, which is sometimes translated as ‘potentiality’, can be translated also as ‘capability of existing or acting’.”

²³ Recollect that “[s]ocial choice theory is concerned with the evaluation of alternative methods of collective decision-making, as well as with the logical foundations of welfare economics. In turn, welfare economics is concerned with the critical scrutiny of the performance of actual and/or imaginary economic systems, as well as with the critique, design and implementation of alternative economic policies [Suzumura (2002, p. 1)].”

²⁴ A functioning must be distinguished from the commodities that are used to achieve this functioning. For example, cycling is a functioning, which should be distinguished from possessing a bicycle. Likewise, a bicycle should be distinguished from the happiness generated by the act of cycling. Thus, a functioning is distinguished both from having a commodity, to which it is

ternative combinations of functionings the person can achieve, and from which he or she can choose one collection. The assessment of welfares and of freedoms can be related to the functionings achieved and to the capability to achieve them.

Except in the imaginary Land of Cockaigne, there is no free lunch. Therefore, the point of departure of the capability approach should be the material background of the human activities, viz. the human command over commodities. Indeed, commodities have *instrumental* values in enabling individuals to function. A functioning of an individual is his/her achievement, viz. what he/she can manage to do or to be subject to his/her command over commodities. Let there be l commodities in the society, and let \mathbb{R}_+^l denotes the *commodity space*, viz. the set of all commodity vectors with l components. In the characteristics approach in demand theory, which was developed by William (Terence) Gorman (1956/1980) and Kelvin Lancaster (1966), the *characteristics* are the desirable properties that commodities bring about. The essence of the Gorman-Lancaster approach is that it is not the possession of commodities *per se*, but the accession to the corresponding characteristics that makes the commodity possession valuable to individuals. Assume that there are m characteristics and k functionings in the society. The set of all characteristic vectors and that of all functioning vectors are denoted by \mathbb{R}_+^m and \mathbb{R}_+^k , respectively. Finally, there are n individuals, and the set of all individuals is denoted by $N = \{1, 2, \dots, n\}$.

Let $\mathbf{x}_i \in \mathbb{R}_+^l$ be a commodity vector possessed by individual $i \in N$. A function c , which is independent of his/her index, converts \mathbf{x}_i into a characteristic vector $c(\mathbf{x}_i) \in \mathbb{R}_+^m$. The characteristics vector $c(\mathbf{x}_i)$ allows individual i to attain a certain functioning vector through his/her choice of a *utilization function* f_i from the set F_i of accessible utilization functions.²⁵ Thus, the vector \mathbf{b}_i of i 's achieved functionings is specified by $\mathbf{b}_i = f_i(c(\mathbf{x}_i)) \in \mathbb{R}_+^k$, which represents the being or doing that i can manage to achieve by making use of the commodity vector \mathbf{x}_i in his/her possession through an appropriate utilization function f_i of his/her own choice from the accessible set F_i .

posterior, and having utility from that functioning, to which it is prior. See Sen (1985a, p. 10).

²⁵ Unlike the function $c: \mathbb{R}_+^l \rightarrow \mathbb{R}_+^m$, the utilization function $f_i: \mathbb{R}_+^m \rightarrow \mathbb{R}_+^k$ and the set F_i of accessible utilization functions carry the index i of the individual in question. An obvious case in point is that, in the society with gender prejudice or racial discrimination, individuals i and j may have different set of accessible utilization functions F_i and F_j depending on their respective gender or race.

We are now ready to define the set $A_i(\mathbf{x}_i; F_i) \subseteq \mathbb{R}_+^k$, which consists of all attainable functioning vectors on the basis of the commodity vector $\mathbf{x}_i \in \mathbb{R}_+^l$ via an appropriate choice of the utilization function $f_i \in F_i$, by:

$$A_i(\mathbf{x}_i; F_i) := \{ \mathbf{s}_i \in \mathbb{R}_+^k \mid \exists f_i \in F_i: \mathbf{s}_i = f_i(c(\mathbf{x}_i)) \}.$$

Let $E_i \subseteq \mathbb{R}_+^l$ be the set of commodity vectors from which $i \in N$ is entitled to choose without outside interference. In what follows, the set E_i will be called *i's entitlement*. Given the entitlement E_i and the accessible set F_i of utilization functions, the set defined by

$$A_i(E_i; F_i) := \bigcup_{\mathbf{x}_i \in E_i} A_i(\mathbf{x}_i; F_i)$$

will be called as *i's capability*. The capability of $i \in N$ represents the *effective freedom* that he/she entertains, given his/her command over commodity vectors under the circumscription by his/her entitlement E_i , and the extent of his/her freedom of choosing a utilization function, viz. F_i . For example, one may be opulent in his/her entitlement due to the tolerance of his/her slavery master, but his/her choice of functioning vector may be severely limited by his/her slavery status.

Within this conceptual framework, Sen defines the well-being of an individual by means of the extent and quality of his/her capability.²⁶ According to the scenario of the capability approach, the well-beings of individuals in the society hinge squarely on the profile $\mathbf{E} = (E_1, E_2, \dots, E_n)$ of entitlements, the transformation function c that maps a commodity vector $\mathbf{x}_i \in E_i$ into the vector of characteristics $c(\mathbf{x}_i) \in \mathbb{R}_+^m$ for each and every $i \in N$, the profile $\mathbf{F} = (F_1, F_2, \dots, F_n)$ of admissible utilization functions, the profile $\mathbf{v} = (v_1, v_2, \dots, v_n)$ of individual evaluation functions, where the function $v_i: \mathbb{R}_+^m \rightarrow \mathbb{R}$ represents *i's* evaluation of his/her functioning vectors such that, for any two functioning vectors $\mathbf{s}, \mathbf{t} \in \mathbb{R}_+^k$, $v_i(\mathbf{s}) \geq v_i(\mathbf{t})$ implies that the functioning vector \mathbf{s} represents a no less valuable way of life than the life circumscribed by another functioning vector \mathbf{t} according to *i's* own judgments, and the profile $\succcurlyeq = (\succcurlyeq_1, \succcurlyeq_2, \dots, \succcurlyeq_n)$ of

²⁶ In Sen's (1994, p. 334) own circumlocution, "[i]t is possible to characterize well-being and freedom in terms of our capability to achieve functionings that we have reason to value."

extended evaluation orderings.²⁷

Let us explain some of these basic ingredients of Sen's theory of human well-being item by item.

(a) Quite separate from the evaluation function v_i of individual $i \in N$, there is his/her utility function $u_i: \mathbb{R}_+^k \rightarrow \mathbb{R}$ such that $u_i(\mathbf{s}) > u_i(\mathbf{t})$ if and only if i feels better, or happier, or more fulfilled with the functioning vector \mathbf{s} than with the functioning vector \mathbf{t} . The ranking of \mathbf{s} vis-à-vis \mathbf{t} in accordance with v_i and that in accordance with u_i may well differ from each other. There is nothing schizophrenic in these conflicting rankings.²⁸ Suffice it to consider a heroin addict who may feel happier with the functioning vector \mathbf{s} , which allows free access to heroin, than with the functioning vector \mathbf{t} , which excludes any access to heroin, but the same person may judge differently on \mathbf{s} vis-à-vis \mathbf{t} in quiet and reflective moments in which he/she evaluates the goodness of human lives from the impersonal and socially conscious viewpoint.

(b) Why should we invoke the profile $\mathbf{v} = (v_1, v_2, \dots, v_n)$ of individual evaluation functions rather the profile $\mathbf{u} = (u_1, u_2, \dots, u_n)$ of individual utility functions as the informational basis of a theory of human well-being? Observe that $u_i(\mathbf{s}) > u_i(\mathbf{t})$ for two functioning vectors \mathbf{s} and \mathbf{t} just implies that i feels better, or happier, or more fulfilled with \mathbf{s} than with \mathbf{t} . If one refuses nevertheless to accept that i 's well-being is higher with \mathbf{s} than with \mathbf{t} , there should be a clear and persuasive reason for that judgments. Sen's (1985a, pp. 21-22) reasoning goes as follows:

A person who is ill-fed, undernourished, unsheltered and ill can still be high up in the scale of happiness or desire-fulfillment if he or she has learned to have 'realistic' desires and to take pleasure in small mercies. ... Considerations of 'feasibility' and of 'practical possibility' enter into what we dare to desire and what we are pained not to get. Our mental reactions to what we actually get and what we can sensibly expect to get may frequently

²⁷ The concept of extended evaluation orderings are not explicitly introduced by Sen, but it seems to be a useful vehicle to crystalize his idea of *intrinsic* rather than *instrumental* role of overall freedom. It will be expounded further in the item (c) below.

²⁸ This contrast between a person's evaluation function and his/her utility function is strongly reminiscent of John Harsanyi's (1955) dual concepts of "ethical" preferences and "subjective" preferences.

involve compromises with a harsh reality. The destitute thrown into beggary, the vulnerable landless labourer precariously surviving at the edge of subsistence, the overworked domestic servant working round the clock, the subdued and subjugated housewife reconciled to her role and her fate, all tend to come to terms with their respective predicaments. The deprivations are suppressed and muffled in the scale of utilities (reflected by desire-fulfillment and happiness) by the necessity of endurance in uneventful survival.

This reasoning seems to be persuasive enough to drive in a wedge between individual utilities, on the one hand, and individual evaluations, on the other.

(c) The replacement of the profile of individual utility functions with the profile of individual evaluation functions is one of the necessary steps towards a fruitful theory of human well-being based on the capability approach, but it falls short of being sufficient.²⁹ Recollect that welfarism in general, and utilitarianism in particular, are conspicuously indifferent to *negative freedoms* à la John Stuart Mill (1859/1977) and Isaiah Berlin (1969), as well as to *overall* (or *positive*) *freedoms*. In contrast, Sen's capability approach to human well-being assigns an important role to negative freedom as well as to positive freedom. Indeed, as Sen (1996, p. 59) asserts, “[a]s a first approximation it is plausible to argue that well-being achievement depends only on the achieved functionings, whereas the freedom to achieve well-being is correspondingly associated with the capability to function.” However, careful scrutiny reveals that:

[F]reedom may have intrinsic importance for a person's well-being also. Acting freely and being able to choose may be directly conducive to well-being, not just because more freedom may make better alternatives available. This view on the direct relevance of freedom is contrary to the one typically assumed in standard economic theory, in which the contribution of a set of feasible choices is judged exclusively by the value of the best element available. Even the removal of all the elements of a feasible set (e.g. of a 'budget set') other than the chosen best element is seen, in that theory, as no real loss, since the

²⁹ Lest I should be misconstrued, let me emphasize that the use of evaluation functions instead of utility functions in the capability approach to human well-being does *not* imply that utility or welfare information have no role to play in this approach. They serve to provide one of the informational bases for *ex post* examination of how successful is the choice of policy towards improving human well-being.

freedom to choose does not, in that view, in itself matter.

In contrast, if choosing is seen as a part of living (and ‘doing x ’ is distinguished from ‘choosing to do x and doing it’), then even the achievement of well-being need not be independent of the freedom reflected in the capability set. The ‘good life’ is partly a life of genuine choice, and not one in which the person is forced into a particular life --- however rich it might be in other respects. With this additional consideration, the assessment of well-being as well as that of the freedom to achieve well-being would depend on the person’s ‘capability set’.

The concept of extended evaluation ordering is introduced in this article in order to make the notion of the intrinsic value of freedom of choice operational, which is formally defined by an ordering \succsim_i for each $i \in N$ as follows:

$\forall i \in N, \forall \mathbf{s}, \mathbf{t} \in \mathbb{R}_+^k, \forall S, T \subseteq \mathbb{R}_+^k : (\mathbf{s}, S) \succsim_i (\mathbf{t}, T)$ holds if and only if, according to i ’s judgments, choosing a functioning vector \mathbf{s} from an opportunity set S is at least as good as choosing a functioning vector \mathbf{t} from an opportunity set T .³⁰

Three remarks on this definition seem to be in order. In the first place, individual i has an intrinsic preference for the freedom of choice if \succsim_i satisfies

$$(\mathbf{s}, S) \succ_i (\mathbf{s}, \{\mathbf{s}\}) \text{ for some } (\mathbf{s}, S) \text{ such that } \mathbf{s} \in S \subseteq \mathbb{R}_+^k \text{ and } \{\mathbf{s}\} \subsetneq S,$$

so that he/she prefers having freedom to choose \mathbf{s} from S rather than being forced to choose \mathbf{s} from the singleton opportunity set $\{\mathbf{s}\}$.³¹

In the second place, it makes sense to assume for the sake of consistency that the evaluation function v_i and the extended evaluation ordering \succsim_i are so related that

³⁰ In order for this definition to make sense, we must require that \mathbf{s} [resp. \mathbf{t}] and S [resp. T] must be such that $\mathbf{s} \in S$ [resp. $\mathbf{t} \in T$] holds.

³¹ This analytical framework of the extended evaluation ordering is due to Kotaro Suzumura and Yongsheng Xu (2001; 2003), where the axiomatic characterization of consequentialism and non-consequentialism is presented. Furthermore, the impact of using extended individual preference orderings and extended social preference orderings on the validity of the Arrovian impossibility theorem is examined in Suzumura and Xu (2004).

$$\forall \mathbf{s}, \mathbf{t} \in \mathbb{R}_+^k: (\mathbf{s}, \{\mathbf{s}\}) \succsim_i (\mathbf{t}, \{\mathbf{t}\}) \text{ if and only if } v_i(\mathbf{s}) \geq v_i(\mathbf{t})$$

holds for all $i \in N$.

In the third place, “the valuation [relation] can quite easily be a partial ordering that is substantially incomplete. There is no general presumption that it is always possible to rank the values of two types of living vis-à-vis each other. The choice is not an all or nothing one, and it is quite possible that a person may be able to rank one functioning vector over another without being able to rank every pair of such vectors. ... [I]t often makes a great deal more sense to accept the less ambitious structure of partial orderings than to insist on arbitrarily completing all partial orders.”³² Although the present formulation of the extended evaluation relation uses a complete ordering rather than a partial ordering, the following argument can be modified only slightly to accommodate the possible incompleteness of the extended evaluation relation.

To summarize the argument in the item (c) above, it is assumed in Sen’s capability approach that each individual has three angles of gauging the performance of economic systems and/or economic policies. The first angle is to gauge the system performance by means of how he/she feels good, or happy, or fulfilled with his/her accomplished functioning vector. The second angle is to gauge the system performance by means of his/her evaluation of the accomplished functioning vector. The third angle is to gauge the intrinsic value of his/her conferred freedom of choice through the extended evaluation ordering. In conjunction with each other, these three angles are meant to capture multifarious concerns of human being, and the accommodation of all three angles is the key task for the overall evaluation of human life.

Observe that the function c , which converts commodity vectors into characteristic vectors, is largely prescribed by the current state of technology and hardly under each individual’s control --- at least in the short-run. In contrast, the capability $A_i(E_i; F_i)$ for each $i \in N$ is subject to the deliberate choice of legal and political systems as well as resource allocation mechanisms, which determines the distribution of entitlements among individuals; it is also subject to the thoughtful choice of utilization function f_i of

³² Sen (1985a, p. 16).

each and every $i \in N$. Thus, the capability $A_i(E_i : F_i)$ of each individual $i \in N$ is subject to the social choice of resource allocation mechanism, which determines the profile $\mathbf{E} = (E_1, E_2, \dots, E_n)$ of individual entitlements, as well as to the design and implementation of legal rules and prevailing conventional rules, which constrain the profile $\mathbf{F} = (F_1, F_2, \dots, F_n)$ of the sets of accessible utilization functions.

I am now in the stage of illustrating the use and usefulness of this framework by articulating my interpretation of the scenario of Sen's theory of well-being.

Let me start from the "first principle of justice" of John Rawls, according to which "each person is to have an equal right to the most extensive basic liberty compatible with a similar liberty for others [Rawls (1971, p. 60)]." To capture the essence of this principle, let me require that the economic system should be so arranged that the profile $\mathbf{E} = (E_1, E_2, \dots, E_n)$ of individual entitlements and the profile $\mathbf{F} = (F_1, F_2, \dots, F_m)$ of sets of accessible utilization functions must satisfy the following condition. Let \mathcal{A} be the family of non-empty subsets of \mathbb{R}_+^k such that $A \in \mathcal{A}$ holds if and only if the profiles \mathbf{E} and \mathbf{F} can be so arranged that

$$A = A_1(E_1 : F_1) = A_2(E_2 : F_2) = \dots = A_n(E_n : F_n)$$

holds. Making use of this family \mathcal{A} , we define $A(\mathbf{E} : \mathbf{F})$ as a \supseteq -maximal element of \mathcal{A} , viz.

$$A(\mathbf{E} : \mathbf{F}) \in \mathcal{A} \ \& \ [\nexists A \in \mathcal{A} : A \supseteq A(\mathbf{E} : \mathbf{F}) \ \& \ \neg A(\mathbf{E} : \mathbf{F}) \supseteq A]$$

holds. By definition, $A(\mathbf{E} : \mathbf{F})$ embodies the basic idea of *equitable allocation of maximal overall freedom*, which seems to lie at the core of Sen's capability approach.

We may now define the *best functioning vector* for each and every individual $i \in N$ subject to the "first principle of justice" by $\mathbf{s}_i^* \in A(\mathbf{E} : \mathbf{F})$ such that

$$\forall \mathbf{s}_i \in A(\mathbf{E} : \mathbf{F}) : (\mathbf{s}_i^*, A(\mathbf{E} : \mathbf{F})) \succsim_i (\mathbf{s}_i, A(\mathbf{E} : \mathbf{F})).^{33}$$

³³ If I want to do without the assumption of completeness of \succsim_i , the first step I should take is to define the strict evaluation relation \succ_i as follows:

$$\forall \mathbf{s}, \mathbf{t} \in \mathbb{R}_+^k, \forall S, T \subseteq \mathbb{R}_+^k : (\mathbf{s}, S) \succ_i (\mathbf{t}, T) \Leftrightarrow \{(\mathbf{s}, S) \succsim_i (\mathbf{t}, T) \ \& \ \neg (\mathbf{t}, T) \succsim_i (\mathbf{s}, S)\}.$$

Observe that the “first principle of justice”, which requires that all individuals have the equal capability $A(\mathbf{E} : \mathbf{F})$, need not imply that the profile \mathbf{E} of individual entitlements [resp. the profile \mathbf{F} of sets of accessible utilization functions] should be such that $E_i = E_j$ for all $i, j \in N$ [resp. $F_i = F_j$ for all $i, j \in N$] must hold. Quite to the contrary, if someone in the society is either handicapped, or is facing racial or sexual discrimination, the economic system and/or economic policy should be so arranged as to compensate him/her by securing his/her preferential access to more fertile entitlement [resp. the richer set of utilization functions] so that, in the final analysis, he/she can secure equal capability, viz. equal overall freedom.

This is as far as I can go along the original scenario of the capability approach à la Sen (1980; 1985a).³⁴ In the rest of this section, I will invoke my analysis in Section 2 on the informational tree of normative judgments and cast some light on the informational idiosyncrasies of the capability approach.

It is clear that Sen dissociates himself from the exclusive use of utility or welfare information for the reason discussed in the item (b). Thus, his approach is not based on the informational basis of welfarism, viz. the node n_2 , neither is it based on the more classical information basis of *opulence* or *material affluence*.³⁵ Needless to say, utility (or more generally welfare) and opulence do have roles to play, but their roles are only indirectly related to human well-being. The role utility or welfare plays is to serve as an ex post evidence of the improvement, or otherwise, of human well-being, whereas

Then the *maximal* functioning vector $\mathbf{s}_i^{**} \in A(\mathbf{E} : \mathbf{F})$ is defined by

$$\nexists \mathbf{s}_i \in A(\mathbf{E} : \mathbf{F}): (\mathbf{s}_i, A(\mathbf{E} : \mathbf{F})) \succ_i (\mathbf{s}_i^{**}, A(\mathbf{E} : \mathbf{F})).$$

I may now replace the best functioning vector, which may not exist if the relation \succsim_i lacks completeness, by the maximal functioning vector and the capability approach can be sustained only with a few terminological modifications.

³⁴ Needless to say, the scenario I have pursued in the main text is not the only way to utilize the capability approach for theoretical purposes. Those who are interested are cordially invited to consult Amartya Sen (1985a), Carmen Herrero (1996), Kaushik Basu and Luis F. López-Calva (2011), and several related works cited there.

³⁵ Sen is quite explicitly against the use of opulence or material affluence as the informational basis of well-being analysis. Indeed, he asserts that “[c]ommodity command is a *means* to the end of well-being, but can scarcely be the end itself. To think otherwise is to fall into the trap of what Marx called [in *Das Kapital*] ‘commodity fetishism’ --- to regard goods as valuable in themselves and not for (and to the extent that) they help the person [Sen (1985a, p. 28)].”

opulence or materialistic abundance has an instrumental role to play.

Tracing back along the informational tree of normative judgments, the closest node to the node n_2 is the node n_1 of consequentialism. Judging from the discussion in the item (c), however, the node n_1 of consequentialism cannot be a tranquil anchorage of the capability approach. Indeed, the evaluation of accomplished functioning vector alone cannot capture the informational basis of the capability approach, which is because the capability provides the crucial information about the intrinsic value of opportunity to choose. Thus, within the conceptual framework of the informational tree of normative judgments, our verdict on Sen's capability approach should be such that it is founded on the informational basis of non-consequentialism, viz. the node n_1^* .

At this juncture, it may be useful to compare Sen's capability approach and Rawls's theory of justice from the informational point of view³⁶. As John Roemer (1996) aptly pointed out, there are four similarities between Sen and Rawls: (α) both theories are *non-welfaristic* in their informational bases; (β) both theories are *egalitarian* in their targets; (γ) both theories emphasize *ex ante opportunities* rather than *ex post outcomes*; and (δ) both theories focus on the concept of *freedom* from the perspective of actual possibility to achieve in contrast with the formal lack of legal barriers to individual's freedom of choice³⁷. These similarities notwithstanding, it is too obvious to overlook that there are conspicuous differences between Sen's capability approach and Rawls's theory of justice.

To begin with, "[t]he move away from achievement to the *means* of achievement (in the form of Rawls's focusing on primary goods) may well have helped to shift the attention of the literature to the *direction* of seeing the importance of freedom, but the shift is not adequate to capture the *extent* of freedom. If our concern is with freedom as such, then there is no way to escape from looking for a characterization of freedom in the

³⁶ By Rawls's theory, we here mean his original theory based on the concept of primary goods, rather than the welfaristic variant used widely by social choice theorists. See, for example, Peter Hammond (1976), Claude d'Aspremont and Louis Gevers (1977) and Amartya Sen (1977).

³⁷ Ronald Dworkin's (1981b; 2000) theory of *equality of resources* shares the non-welfaristic informational basis and egalitarianism with Rawls and Sen, but it pays special attention to an individual's *responsibility* due to his/her voluntary choice of actions in the background. See, however, Roemer (1996) who showed that, under a special interpretation of the concept of resources, *equality of resources* and *equality of welfare* become indistinguishable. In this case, Dworkin's theory of equality of resources would have to be classified within the perspective of welfaristic theories of equality.

form of alternative sets of accomplishments that we have the power to achieve.”³⁸ Sen’s capability is precisely an alternative set of this nature.

In the second place, although some recent moves in political and moral philosophy have been motivated by the concern for the importance of freedom, the gap between *resources*, which are of *instrumental use* for the achievement of freedom, and the extent of *freedom per se* is important enough as a matter of principle; it may also be crucial in practice. Freedom must be distinguished not merely from *achievement*, but also from *means* to freedom.³⁹

7. Concluding Remarks: Disclaimers and Ways Ahead

Let me conclude this article with two disclaimers and a wish for the future work in normative economics, viz. welfare economics and social choice theory.

To begin with, I should call the readers’ attention to the fact that Hicks’s *manifesto* is still little known, to say nothing of being appreciated, by economics profession. For the sake of making the record straight, let me cite an exchange of opinions I had with Paul Samuelson as late as November-December 2000, which was subsequently published in *Social Choice and Welfare*, Vol. 25, 2005:⁴⁰

KS: What is your current response to Hicks’s *manifesto* against economic welfarism? Do you feel sympathetic to his conversion?

PS: As a reporter on the philosophy of ethics, how would I want to react to J. S. Mill’s disagreement with Bentham’s dictum: The pleasure of the game push-pin is as important as Shakespeare’s poetry? Understanding Mill’s reaction I would still have to say: “Each has a right to his opinion. After all it is his (Bentham’s) opinion.” If Hicks is newly converted to being able to admit judgments like this I see nothing revolutionary in that. Why is it a rejection of something called “welfarism?”

Samuelson certainly has his right to his opinion, and his apathetic view on Hicks’s *manifesto* may be widely held by economics profession even now. Although I would feel satisfied if my reasoning in this article is found sensible, I fully support the view

³⁸ Sen (1987, pp. 33-34).

³⁹ See Sen (1987, pp. 36-37) on this point.

⁴⁰ KS stands for Kotaro Suzumura, and PS stands for Paul Samuelson.

that proof is better than argument. In this arena of alternative informational bases of welfare economics and social choice theory, one of the sound methods of proof seems to be to develop a non-consequentialist normative economics, which proves to be not only sustainable as a lighthouse to emanate bright lights, but also fertile enough to bring about otherwise unattainable fruits.

In the second place, to call the readers' attention to the fertile possibility of promised land for normative economics if only we are ready to cross the welfarist fence is *not* tantamount to denying the possibility of further explorations of normative economics based on the informational basis of welfarism, or even narrower sub-classes thereof, all at once and by one stroke. Quite to the contrary, depending on the purpose of analyses, the informational basis of the terminal node n_1 , viz. welfarism based on the interpersonally non-comparable and ordinal utilities or welfares, may be the perfectly legitimate informational basis. An outstanding example is the theory of voting, e.g. the rank-order method of decision-making and the simple majority decision rule, which was pioneered by Jean-Charles de Borda (1781) and Marquis de Condorcet (1785)⁴¹. Dogmatism is the worst enemy of scientific investigations. There is no intention on my part to infringe on the conventional wisdom to this effect.

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⁴¹ In a recent article, viz. Walter Bossert and Kotaro Suzumura (2016), Bossert and Suzumura tried to formalize an alternative interpretation of the maxim of Jeremy Bentham (1996) to the effect that "[i]t is the greatest happiness of the greatest number that is the measure of right and wrong." In the prevailing understanding, Bentham's maxim is interpreted by means of the maximization of the sum-total of individual utilities, which is clearly based on the informational basis of the terminal node t_2^* , viz. welfarism based on the interpersonally comparable cardinal utilities or welfares. Bossert and Suzumura reformulated and axiomatically characterized Bentham's maxim by means of the informational basis of the terminal node t_1 . This is a small step to make further and rich use of the informational basis of interpersonally non-comparable ordinal utilities or welfares.

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