Review Article

Evolution and Theoretical Implications of the Utility Concept

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This article examines the evolution of the concept of utility in economics, addressing the conceptual and terminological fragmentation that characterises the interdisciplinary debate. The study adopts the scoping review framework to systematically analyse the main theoretical approaches, ranging from utility as preference to utility as subjective satisfaction and well-being. Particular attention is paid to procedural utility, i.e. the utility derived from the way decisions are made and interactions develop, divided into three areas: individual, linked to autonomy and self-determination; interpersonal, linked to the quality of social relations; and institutional, referring to participation and recognition. The analysis is based on three research questions: (i) how different theoretical traditions have interpreted utility and well-being; (ii) what convergences and divergences emerge in the contemporary literature; (iii) what implications this has for research and public policy. The results highlight the complementarity between approaches and suggest extending economic reflection to dimensions that are central to the well-being of individuals and societies.

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1. Introduction

This study contributes to the debate on the concept of utility being the backbone of the utilitarianism concept that has been very influential among economists, apart from being necessary for understanding of people's welfare Haslett[1]. We highlight aspects that complicate treating it as univocal. The term utility has undergone a shift in meaning over time[2][3], transitioning from representing a material property of goods to a subjective mental state, later becoming synonymous with revealed preference, and recently, becoming a subject of reflection within the happiness and economics approach. The plural nature of

utility makes comparison and aggregation, i.e. rankings of relative preferences[4], intrinsically challenging[5] due to its multiple frameworks[6].

Alongside these two approaches—genealogical and pluralist—we focus on a third perspective that identifies two peculiarities. The first deals with the coexistence of two meanings of utility: a chrematistic anchored in the Aristotelian, and to some extent Smithian tradition, and a hedonic meaning. The latter concerns hedonic utility (HU), which can be derived from outcomes and the processes by which they are obtained[7][8].

We propose a broad typology of forms of utility to strengthen the theoretical foundations of welfare economics. Although the classification may also have implications for behavioural modelling, our primary objective is normative: to provide a conceptual framework for assessing well-being beyond the mere satisfaction of preferences. For clarity, preferences are treated here as indicators of well-being rather than as descriptors of observed behaviour. This distinction separates the normative from the positive perspective while preserving shared characteristics. It is anticipated though that preference orderings are sometimes invoked for simplification purposes.

We explore the concept of utility by tracing its main conceptual transformations to recover its original semantic richness and theoretical depth. Critical steps in this evolution are identified: the pre-Bentham distinction between instrumental utility (IU) and pleasure, the post-Bentham identification of utility with personal well-being, the aseptic redefinition of utility in the revealed preference approach, and its re-hedonisation in the happiness and economics approach. Of these, the first two are particularly relevant. Indeed, while useful in the context of, e.g. consumer choices, the revealed preference approach struggles in areas where procedural dimensions are important.

The impossibility of inferring welfare preferences from choices in the presence of procedural costs confirms the need to distinguish between these two concepts. In this sense, it is impossible to maintain consistency between choices and preferences on the one hand and between preferences and welfare on the other hand[9][10][11]. Although the happiness and economics approach enables the dissection of the sources of perceived well-being, it risks underestimating its material component. We aim to highlight the centrality of two conceptual distinctions. The first is the distinction between chrematistic and HU[12][13], recovering the semantic clarity present in classical thought, and the second is the distinction between procedural and outcome utility (OU), extending the concept of procedural utility (PU) to non-institutional

contexts. These two distinctions open new critical perspectives on dominant economic theories, and raise questions about the legitimacy of exclusively using the OU in collective choices.

In this context, the procedural and communicative approaches can offer an alternative to the simple aggregation of individual preferences, suggesting the need for justification and universalisation in collective decision-making processes.

The goal is to systematise knowledge on the evolution of the concept of utility in economics with implications that can benefit public decision-makers, who can draw useful insights for the development and adaptation of sectoral policies, and scholars with this contribution useful for further theoretical and empirical research. This work engages with the classical literature on welfare economics and utility theory, strengthening the link between conceptual reflection and recent applications.

The insights drawn from the literature identifies some established trends, as well as the emergence of multidisciplinary approaches. The original contributions of this work consist of a generalised summary of the main findings and a set of proposals aimed at enriching both academic and operational debate, offering an interpretative framework.

After the introduction, the second section examines the transformation of the meaning attributed to the concept of utility throughout the history of economic thought. The third section proposes a classification of the main theoretical utility variations, paying particular attention to the distinctions between dual utility, OU, PU, and hedonic and instrumental utility. The fourth section explores the nature of PU, which is analysed in four respects: individual action, interpersonal relations, communicative intersubjective contexts, and institutionalised processes. The final section discusses the theoretical implications of our work.

2. Research framework

Fragmentation that characterises economic analysis of utility and well-being makes it difficult to compare different approaches and limits the possibility of drawing implications for research and public policy. The theoretical basis has been selected by combining classic contributions from welfare economics and utility theory with the most recent developments in the literature to ground the analysis in a solid and up-to-date conceptual framework. The research gap identified consists in the lack of an integrated framework capable of relating the different analytical and terminological traditions.

Despite the growing number of contributions in the economic, psychological and philosophical fields, we believe that a systematic reflection helps clarifying their theoretical links. To address this gap, the literature review was conducted using the scoping review framework[14][15], suitable for exploring complex and multidisciplinary research fields. In particular, the procedure involved: (i) identifying the problem and research questions, (ii) defining inclusion criteria, (iii) systematic searching of international databases and the selection of contributions through specific keywords, and (v) the integration of classical references for the historical reconstruction of the debate.

This approach ensures a consistent selection of sources and allows us to distinguish between results derived from the literature and original contributions proposed in this work. Given these considerations, this study is based on the following research questions (RQs): RQ1. How have different theoretical traditions defined and interpreted the concept of utility and well-being? RQ2. What are the main conceptual and terminological convergences and divergences in the contemporary literature on utility and well-being? RQ3. What implications arise from the analysis for the academic debate and the development of well-being-oriented public policies?

3. Evolution of the utility concept

The concept of utility has evolved across the history of economic thought along with significant changes in its meaning[2]. Initially, utility referred to the property of an object that tends to produce benefit, advantage, pleasure, or happiness or to prevent harm, pain, or unhappiness[16]. A first conceptual change occurred from this definition of utility as an object's capacity to generate benefit. Pleasure and pain should therefore be understood as abbreviations of broader categories of value and disvalue making the measurement of individual well-being more operational. The second change concerns the introduction of the axiomatic approach to revealed preferences and a new approach emerged in which well-being is conceived as a subjective state of happiness, commonly measured through indicators of subjective well-being. While the concept of happiness has evolved remarkably, up to become closely associated with the economic concept of utility; influenced by philosophy, psychology, sociology, and economics[17], the convergence may be explained by the use of the term within the revealed preference approach. Happiness may involve utility and measurement challenges, with potential for both subjective and objective approaches[18].

Eudaimonic utility (from Aristotle's concept of eudaimonia that unlike the pre-Socratic hedonists, does not identify happiness with pleasure but with a virtue-oriented life) considers well-being as the result of a life lived in accordance with one's values, development of one's potential and the achievement of meaningful goals[19][20]. Notwithstanding, well-being can be understood as a broader construct that integrates both elements[21][22][23] and reflects both the hedonic and eudaimonic components.

If utility is understood as a good's capacity to generate positive mental states, then it is not surprising that the hedonic benefit received by an individual comes to be considered utility and, by extension, that individual utility is defined as the sum of benefits derived from the goods possessed. Am instrumental conception of utility refers to the objective properties of goods that have utility insofar produce material benefits. The change in meaning, from an instrumental to a final conception, was made possible by an underlying shift from an objective/material view of utility to a subjective/hedonic view.

It is, therefore, important to verifying the use of the term in authors before Bentham. For example, Adam Smith adopts an objective and instrumental conception of utility in The Wealth of Nations, which he calls value in use[24]. A similar view is found in Hume, that distinguishes the useful from the immediately agreeable, recognising that, alongside utility as the basis of moral approval, there are qualities that people approve of simply because they are pleasant, either to those who possess them or to others[25]. Smith's objective conception of utility is consistent with that of Aristotle where it is stated that wealth is not, manifestly, the good we seek since it is used to procure other things; in this regard Aristotle's works shed also light on the meaning of money[26] and its role. Here, the utility of material goods is understood in an instrumental and objective sense; it is worth noting that Aristotle also uses the Greek term *chreia* that also has a subjective connotation and Smith also acknowledges the special pleasure of mutual sympathy that can be described as an intersubjective or procedural source of utility. Chrematistic indicates the IU of goods, referring to the term that designates wealth. This objective view of utility has been progressively replaced by a subjective conception—utilitarianism. This shift can already be seen in Ricardo's writing[27], in which utility is not the measure of exchange value, yet is essential. If a product or a service were useless, that is, if it could not possibly contribute to our satisfaction, it would have no exchange value, regardless of how rare it might be or how much effort it might take to obtain it[28][29]. A subjective conception of utility was also formulated by Mill, when he stated that the utility of a good in the estimation of the purchaser represents the extreme limit of its exchange value: a higher value is not possible, except in exceptional circumstances[30]. For Mill, therefore, the value attributed to use is identified with the individual's maximum willingness to pay.

In this context marginalism and mathematical formalisation influences expanded as the concept of utility originally developed as an alternative to classical labour theory of value, and authors such as Pareto[31], Pantaleoni[32] and Edgeworth[33] played a remarkable role in its formalisation in the neoclassical tradition. Indeed, Pareto marks a turning point by introducing the order of preferences[34][35] and prominent authors including, among others, Jevons, Menger and Walras, represent the initial phase of neoclassicism while conceiving utility as measurable[36].

An example of this approach is Edgeworth's proposal who theorised a hedonimeter to directly measure the pleasure or pain experienced by individuals, expressing the ambition to measure well-being as an observable quantitative quantity[37][38]. To the same token, Pantaleoni maintains a hedonistic basis while adopting marginalist reasoning[39] and It is worth mentioning the contribution of Mazzola who, somehow anticipating the modern theory of public goods, stipulated the principle that the provision of public services should be guided by marginal cost[40].

Marginalists conceived utility as a quantity measurable in cardinal terms, allowing comparisons between both goods and individuals and with Pareto's contribution, utility became measurable in ordinal terms, i.e. as an ordering of preferences[41]. This transition made it possible to formalise consumer choice outside of psychological measurements, giving shape to the axiomatic framework of revealed preferences central to neoclassical economics. The framework contain a number of different theories[42] including the prominent Samuelson's contribution to consumer's choice paradigm[43] in which utility becomes a formal tool of economic analysis. The consolidation or ordinal utility can be seen also in the Robbins concenpt of economics as decision science[44].

This non-exhaustive resume shows how utility has shifted from an objective property of goods to a subjective state and finally to a formal tool of choice theory, and is useful for the approaches discussed in the next sections.

4. Utility approaches

The material and psychological nature of the concept of utility reveals a more complex view of individual and collective well-being. We explore this complexity examining the influence of dual utility on utilitarian thinking, the distinction between the outcome utility and that of processes, and the relationship between instrumental and HU while the revealed preference approach shows how utility can be treated as an ordinal construct, independent of direct psychological or normative interpretations.

4.1. Dual utility and its influence on utilitarianism and consequentialism

The dual nature of utility facilitates a clearer interpretation of many economic phenomena. First, there is often a trade-off between instrumental and HU: goods with high IU, such as water, tend to have a negligible hedonic component, which explains the low willingness to pay and the resulting low exchange value[45][46]. Conversely, goods with high hedonic content often lack instrumental properties while generate a high willingness to pay. Second, the fact that goods with high IU but low HU have a low subjective valuation does not imply that consumers completely disregard their objective characteristics. These effects also include those associated with goods that have purely technical or instrumental functions. These considerations regarding the relationship between goods and individuals through the lens of dual utility are illustrated in Figure 1 as an adaptation of a diagram proposed by Collard & Sen[47]. The main changes are as follows: (i) the distinction between the two categories of utility, objective and subjective, represented separately; (ii) the differentiation between instrumental and hedonic functions.

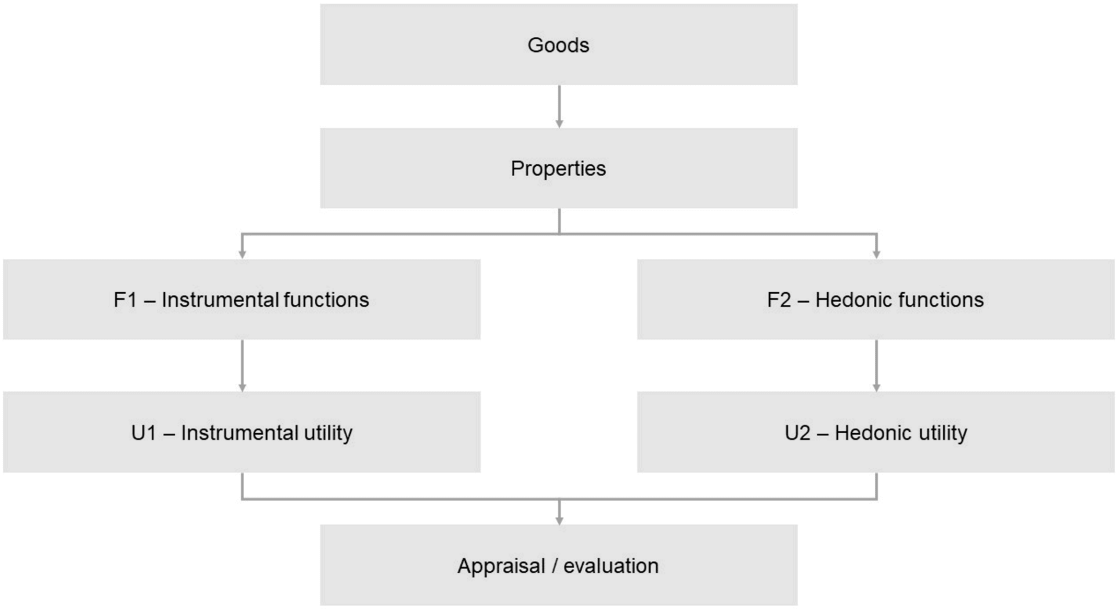

Figure 1. Concepts involved in the relationship between goods and people

As mentioned above, some goods are characterised by high IU and low HU, while others essentially generate subjective utility, with no significant objective benefits. Goods that activate only one of the two components are rare, while goods that produce opposing effects are more common because of the mentioned trade-off. A paradigmatic example of goods that generate exclusively IU is a crucial drug for

treating a specific disease. Its consumption does not produce any HU, yet individuals are willing to pay for it. In this scenario, the perceived utility is entirely attributable to the good's functional properties. Examples of goods that generate exclusively HU can be vintage cars kept by collectors or prototypes exhibited at motor shows. These goods have no IU but are desirable to individuals who derive aesthetic, symbolic, or identity satisfaction from their possession. Collectable items, such as stamps and coins no longer in circulation, are examples of HU: their original function has ceased to exist, but a willingness to pay for them remains, reflecting emotional, symbolic, or cultural value. The above-mentioned drug may also be an example of goods with positive IU and negative HU; e.g., if unpleasant to the taste or causes unpleasant sensations when taken. One would experience an objective benefit in terms of health, but this benefit is accompanied by a subjective disvalue linked to the sensory experience. The complexity increases if the drug, while producing a health improvement, causes side effects. In this scenario, positive IU, negative IU, and negative HU coexist, involving subjective assessments that must mediate between conflicting effects.

Numerous cases fall into the category of goods with negative IU and positive HU, such as reckless driving or high-risk sports. Addictions, e.g. to alcohol or smoking, also belong to this class. In all these cases, individuals are subject to objective disvalue, potentially harmful to their health or safety. Still, they perceive a mental or emotional benefit sufficient to compensate for these risks, at least in the short term. Below is a formal representation of the four categories of goods, based on Equation 1 i.e. a utility function comprising two components, where U is the total utility perceived by the subject, U_i reflects the IU and U_h stands for the HU.

$$U = U_i + U_h \tag{1}$$

It should be noted that equations that represent utility are formalised as the sum of the components, assuming that they are linearly separable. This simplification is relevant because, e.g. nonlinearities, threshold effects, or interactions between components could be considered. Therefore, although we adopt this separability for clarity, richer functional forms could capture more complex relationships. Table 1 resumes the utility (U_i, U_h), according to a class of goods.

Category	U_i	U_h	Example	
Goods with only IU	>0	$=0$	Effective drug with no hedonic impact	Value based solely on functionality
Goods with only HU	$=0$	>0	Non-functional collectible car, rare stamp	No instrumental function
Positive IU, negative hedonic	>0	<0	Effective but unpleasant medicine with side effects	Hedonic discomfort reduces overall value
Negative IU, positive HI	<0	>0	Harmful but tasty foods, smoking, reckless driving	Subjective pleasure outweighs objective harm

Table 1. Some approaches to utility

The dual nature of utility creates theoretical issues for utilitarianism. In particular, the hedonic approach overlooks the effects of the availability of the material foundations for well-being that do not generate mental perceptions and, therefore, do not constitute psychological experiences. Material well-being does not necessarily coincide with psychological well-being; therefore, the two dimensions should be assessed separately. For example, an air conditioning machine improves well-being. However, although material benefits persist over time, psychological benefits tend to fade with habit. Conversely, a machine failure reduces well-being at both levels. More generally, welfare approaches tend to consider OU, neglecting two elements: HU can also be derived from the processes that lead to the outcome, and relational goods can be produced by interpersonal interactions not aimed at specific outcomes.

Thus, while material goods generate well-being only when obtained, psychological effects can arise from the availability of these goods and the path to obtaining them[48][49]. Furthermore, communicative interaction between people is procedural and can lead to Pareto improvements without changing outcomes. These exchanges do not alter material well-being but affect subjective well-being. Thus, the utility can be considered a complex set of at least four components: instrumental, hedonic, procedural, and communicative utility. Equation 2 formalises the utility function into a four-component form as

argued, where $U_{i,o}$ is the IU from the outcome, $U_{h,o}$ is the HU outcome, $U_{h,pr}$ the procedural, and $U_{h,com}$ the communicative HU:

$$U = U_{i,o} + U_{h,o} + U_{h,pr} + U_{h,com} \tag{2}$$

Classical utilitarian theories that focus primarily on $U_{h,o}$ neglect stable levels of material well-being $U_{i,o}$, the relevance of procedures $U_{h,pr}$, and the role of relational and communicative goods $U_{h,com}$. Similarly, traditional welfarism risks assessing quality of life solely based on tangible and perceived outcomes, ignoring pathways and relationships.

4.2. Outcome and Procedural utility

If we do not consider the goods achieved in the outcome as the only source of utility, we must also examine the types of well-being that are not derived from outcomes[50]. Indeed, people also value the procedures that lead to the outcomes[51]. Hahn, for example, proposes three examples in which the same outcome can be achieved through different paths: choosing or being forced to take a job with certain characteristics and remuneration, choosing or being forced to participate in a dangerous military mission, and choosing or being forced to allocate part of one's income to a charitable cause[48]. In all these cases, the outcomes are identical, but the process that made them possible changes. Even if individuals chose the same options, it is intuitively acceptable that they would prefer to arrive there through free rather than compulsory action. Accordingly, an individual's utility function depends not only on the goods obtained Q through an action A, that is $U_i = U_i\left(Q_i(A)\right)$ but also on the utility derived from the action itself, which can be formalised as $U_i = U_i\left(A, Q_i(A)\right)$. Removing the possibility of choice changes the utility, even if the goods obtained remain unchanged. The same effect occurs if the condition of the action changes, for example, from free to compulsory. While not a radical change, the introduction of PU could have significant implications for the analysis of welfare economics.

4.3. Hedonic and instrumental utility

The utility of autonomy is one of several possible forms of PU, and some recent developments are worth considering since individuals evaluate actual outcomes ans also the conditions and processes that lead to them. The economic concept of utility is outcome-oriented, where individual utility is seen in terms of the benefits and costs associated with instrumental outcomes. In contrast, PU refers to processes' non-instrumental, positive, and negative satisfaction. The authors highlight PU's psychological nature, contrasting it with IU, characterising outcome; PU emphasises utility's hedonic content. They also link

the concept of PU to the sense of self and self-esteem, which influence people's well-being and are conditioned by decision-making processes and interactions with institutions and other individuals. This can be summarised as a dual conception of utility, which is depicted in Figure 2.

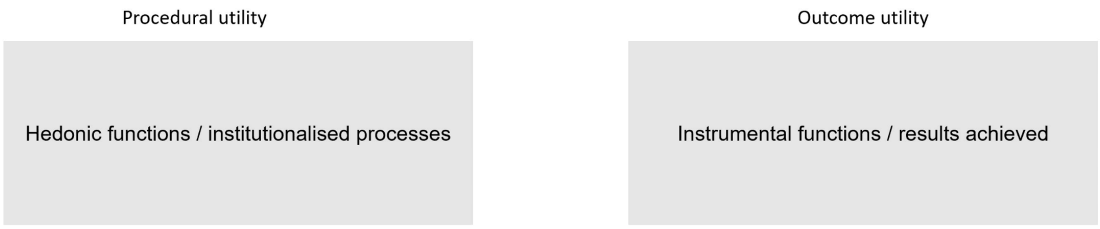

Figure 2. *Utilities taxonomy according to Frey et al.*
Distinction between psychological (hedonic) PU derived from procedures that influence individuals in institutionalised processes and the OU, consistent with the traditional approach.

While we agree with the distinction highlighted in Figure 2 and the importance of the well-being derived from the treatment individuals experience within institutionalised processes, we believe the scheme can be implemented as depicted in Figure 3. This amended scheme includes the different types of utility that can affect human well-being, when well-being is understood sufficiently broadly and when the interactions among individuals and between individuals and institutions are considered.

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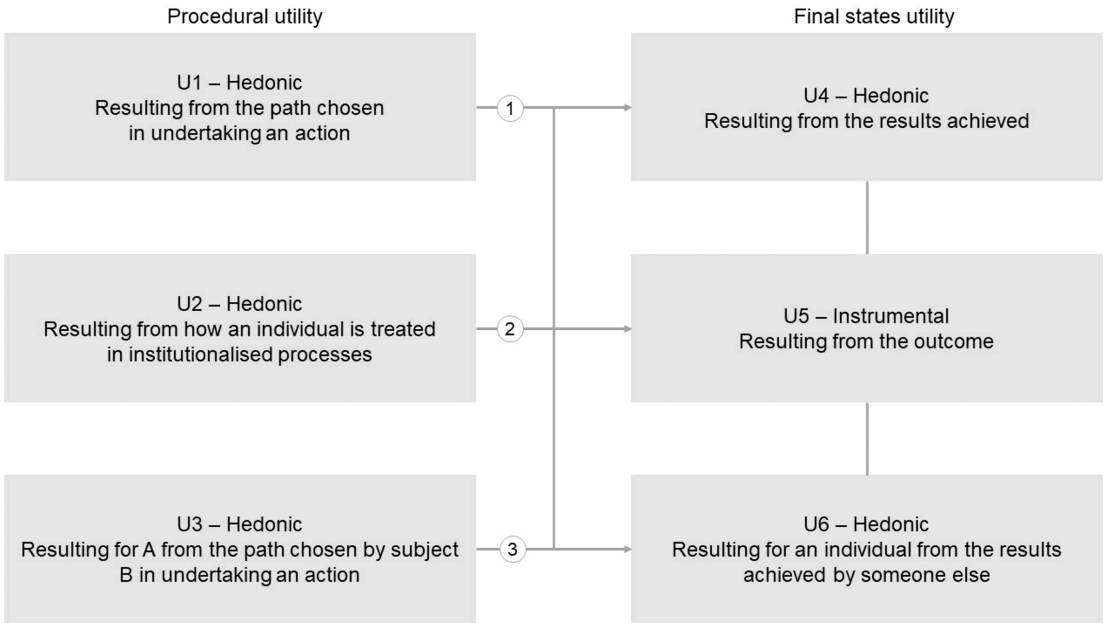

Figure 3. *Proposed utilities taxonomy.*

Implementation of the distinction of utility referred to in Figure 2, with the addition of four other types of utility that influence human well-being.

A distinction is made between procedural, instrumental, hedonic, and other forms of utility related to interactions between individuals and institutions. Figure 3 retains the distinction between the utilities introduced in Figure 2 (level 2) and four are added. It should be noted that the diagram is intended to represent only the welfare effects that accrue for an individual as a result of actions. Actions that can influence a person's well-being fall into different categories based on who undertakes them: the beneficiary of the welfare effect, an institution, a different subject with whom there are links, such as to entail an interdependence of utilities. In the first case, i.e. beneficiary, the utility can be further separated into the following types:

- PU arises from the method selected to act, as outlined in Box U1. Consider the task of lawn mowing: an individual can either perform the task personally or outsource it. If the individual experiences procedural pleasure from undertaking the task, they will likely choose to mow their lawn. Conversely, if the HU derived from this personal involvement is negative, the individual will evaluate the cost of purchasing the service.

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- IU from the outcome achieved. This corresponds to the IU described in Box U5, which is obtained through the goods acquired in that outcome. For example, purchasing a new car provides material benefit through its use for commuting to work and during leisure time.
- HU from the outcome, representing the psychological well-being as in in Box U4. For instance, if a new car is a desired sophisticated sports model, its possession provides significant satisfaction. It is important to note that outcome's IU and HU differ and can coexist in varying proportions. The subjective experience associated with goods and services, and value and symbolic and cultural value. In fact, a good can convey identity, status or cultural belonging even in the absence of an immediate hedonic experience. For this reason, in our typology, symbolic and cultural value represent a subtype.

It is worth noting that the hedonic/instrumental distinction does not precisely correspond to the subjective/objective divide. For instance, objective list theories of well-being identify goods such as knowledge that may be beneficial independently of their instrumental usefulness. Conversely, there can be subjective values that are not hedonic, such as valuing the existence of a forest without directly experiencing it. To this end, we use the hedonic/instrumental distinction for categorisation purposes without implying a broader equivalence with the subjective/objective debate in theories of well-being. Also, it is important to clarify that the term hedonic is not used uniformly in the literature. In the happiness and economics tradition, for example, it is often linked to mood and to experiences of meaningfulness, or more narrowly to happiness as the intrinsic component of well-being[52][53][54]. Our use of the term is broader: we also include symbolic and cultural values as forms of utility that can contribute to well-being, even when they are not reducible to immediate states. We acknowledge that this represents a departure from the narrower usage in happiness and economics. Even in case (b), well-being generated through procedures adopted in institutionalised contexts can be divided into the PU (box U2) and the instrumental and hedonic outcome utilities. Finally, case (c) represents a hypothesis of interdependence in well-being: the individual acting is a different subject from the beneficiary. However, the procedural path adopted in the action and/or the outcome achieved produces external HU. For example, if an individual embarks on a career path that is a source of satisfaction, this could bring HU, even if one is not making that choice (Box U3). If, in addition to embarking on this path, the individual achieves a result that confirms the value of that decision, this will provide additional HU but linked to an outcome (Box U6). In other examples, the action of an individual may have material effects on the outcome of someone else (Box U5). The utility effects thus far derive from actions that an individual, others, or institutions may perform. Nevertheless, there may be sources of well-being arising from

particular actions that are not deliberate or instrumental, i.e. that do not aim to change external reality. For example, sleeping or breathing produces well-being but is not intentional; conversing with a stranger for no particular purpose can produce well-being but is not instrumental; thinking and meditation are sources of well-being but do not necessarily aim to change the external world, may not have a specific goal, and may not constitute deliberate actions. Finally, let us consider the case of events that can generate well-being but which do not constitute actions: meeting by chance an individual with whom we will fall in love and who will make us happy is an event that generates well-being but does not result from deliberate action and could not be represented, a priori, in the preference order of either of the two people who met.

This example illustrates the limits of modelling well-being exclusively through preference orderings. Inseed, preference orderings relate to the behavioural theory in economics, but they also constitute an independent theory of what wellbeing is, see Angner[55]. However, our typology emphasises the plurality of utility forms that contribute to well-being, which may or may not align with preferences. As follows the consequences of these considerations. First, it should be noted that, beyond the many types of utility identified above, the most important distinction is between the hedonic and instrumental cases (Box U5). HU derives from mental states; IU derives from the objective properties of the goods included in the outcome and from what they can do for the material well-being of the individuals to whom those outcomes belong. A good's IU does not always translate into HU that seems to depend more on changes than on its absolute level. Therefore, it is necessary to distinguish between psychologically perceived and non-psychological well-being, considering all possible sources of HU goods, which also offer IU, and social relations between people and institutions. Unlike material goods, the latter are derived from social and cultural practices and traditions whose preservation is fundamental to happiness, but which are not adequately considered in traditional theories of welfare economics.

Formally, we can define overall utility U as a function that depends on the actions taken by an individual, the outcomes, and the processes leading to those outcomes. Utility can be divided into two main components: IU U_i, which represents the utility derived from the outcome and the material benefit obtained through the action; and HU U_h, which represents the psychological well-being derived from the experience of the process and the intangible or psychological benefits associated with the outcome. We can write the total utility U in Equation 3 where: $U_i = f(X)$ and $U_h = g(X, P)$.

$$U = U_i + U_h \tag{3}$$

Specifcally, X is the outcome (e.g. the purchase of a good or the achievement of a material goal), P is the process or procedure that leads to the outcome (e.g. the path taken to obtain a good or a result), $f(X)$ reflects the function that links IU to the outcome X, and $g(X, P)$ is a function that links HU to both the result X and the process P. In the context of interdependence, an individual's utility may depend not only on their actions, but also on the actions of others. To formalise these interdependencies, we can introduce a term that represents the effect of others' actions on utility in Equation 4.

$$U_i = U_{ii} + U_{hi} + \sum_{j \neq i} \phi \left(U_{ij}, U_{hj}\right) \tag{4}$$

Where U_i is the total utility of individual i, which depends on their actions and the actions of others, $\phi \left(U_{sj}, U_{hj}\right)$ represents the effect of the actions of another individual j on the utility of i, including both instrumental and hedonic effects. To distinguish between different types of utility (procedural, instrumental, hedonic), we can divide the contributions to overall utility according to the type of source, where U_p represents the utility derived from the procedure itself, regardless of the outcome. It can be expressed as a function $h(P)$, where P is the procedure followed. So, $U_p = h(P)$. IU U_i represents the utility derived from the material effect of the outcome X and can be expressed as $U_i = f(X)$ while HU U_h: Represents the psychological well-being derived from the outcome X and the process P and can be specified as $U_h = g(X, P)$.

5. Procedural utility

While outcome utility depends on the results achieved, PU arises from different factors that manifest during an action and its main characteristics can be summarised as follows: the focus is the process followed, not from the results obtained, the process can be initiated either by the individual experiencing the utility or by someone else that can be an individual or an institution, and if it is an institution, the individual involved may be internal or external to it. In this respect, Table 2 provides a comparative synthesis to strengthen the conceptual connection among the three domains of PU—individual, interpersonal, and institutional.

Domain	Agent(s)	Source of Utility
Individual action	Same subject	Autonomy, freedom, capacity, direct involvement
Interpersonal Relationship	Self and other individual	Communicative interaction, mutual recognition, dialogic exchange
Institutionalised Processes	Individual and institution	Fairness, transparency, participation, procedural justice

Table 2. Procedural utility dimensions

5.1. Procedural utility in individual actions

When the action that generates PU is performed by the same individual who experiences it, four primary sources of procedural well-being can be distinguished: Negative freedom[56] as defined by Nozick: the individual derives utility from the fact that they can act without external interference; Capacity to act as introduced by Sen: The individual experiences utility from having the resources and abilities necessary to act[57]; Autonomy in choice as foundable in Hahn: the individual feels satisfied by choosing an action freely and autonomously[58]; Personal action: The individual derives well-being from doing something directly instead of delegating it to others as foundable in Scitovsky thought. These forms of well-being respond to the human need for autonomy and self-determination, corresponding to four different aspects of action: being free from external constraints, having the necessary capabilities, choosing freely, and acting in the first person. These sources of utility are independent from the outcome. For example, a individual can feel satisfied simply knowing that they have the option to change jobs, even if they decide not to. If the individual decides to change job of their own free will, their satisfaction will be greater than if they had made the same choice under external pressure, even if the results are the same. Finally, there is a specific well-being associated with doing things yourself. If one enjoys mowing the lawn or picking up my child from the nursery, these actions give me pleasure that I would not experience if I entrusted them to others, even if the result is the same. Therefore, in addition to the utility linked to results (result values), utilities are linked to freedom, choice, autonomy, and direct action. These types of utility represent distinct sources of subjective well-being.

5.2. Procedural utility in interpersonal relationships

When PU is generated by an individual other than the recipient, it is a hedonic externality where the utility arises from how the action is performed. Another case concerns the interdependence: it is possible to feel good about the well-being of those close to oneself[59][60]. Interpersonal PU should be understood as the pleasure derived from the relationship itself, regardless of the results it produces. Interpersonal relationships are based on mutual attention between people, and cannot be crystallised into an objective result. There are similarities and differences between market and personal relationships and recent literature underlines that people exhibit different traits of personality that play a role[61]. In the market, cooperation occurs through money, the procedure is bargaining, and the result is a basket of goods. In personal relationships, however, the means are language, the procedure is dialogue, and the result may be an agreement. However, while utility is linked to the outcome in the market, in personal relationships, utility arises above all from the dialogue itself, even if no agreement is reached. PU in personal relationships, therefore, derives from the possibility of communicating with others. A network of social relationships, comprising active communication channels, improves hedonic well-being.

5.3. Intersubjective procedural utility as communicative utility

Many kinds and type of well-being can be identified[62] as the indicators that can be used[63] in social interaction analysis. Habermas' theory of communicative action analyses how people use language and rationality to interact with the world and others. Human beings interpret reality through language and cultural tradition, which offer a shared set of meanings and values. This tradition guides interpretation and is also continually renewed through social interactions and the transmission of norms and knowledge, which constitute the symbolic dimension of a community. However, society does not live by symbols alone: it must also ensure material reproduction, i.e. maintaining living conditions. This generates two forms of knowledge use:

- The non-communicative use of knowledge to achieve individual or collective material goals;
- The communicative use of knowledge to achieve a shared understanding of interpreting reality.

Each of these modes corresponds to a different model of rationality. The first can be associated with teleological action, that is, success-oriented, with instrumental rationality; one acts to achieve results. The second is associated with communicative action, which is oriented towards shared understanding and communicative rationality. Habermas defined communicative action as the interaction between

subjects who seek understanding and communicative agreement to coordinate, by mutual consent, the interpretation of the situations in which they find themselves, their plans of action and, therefore, their actions. In this case, language serves as a means of understanding each other rather than as a means to obtain advantages. It is a tool for building relationships, agreements, and mutual understanding[64][65]. Teleological action, however, is efficiency-oriented: the most effective means are chosen to achieve established goals. Language has an instrumental function here in describing reality and planning practical actions. Two subtypes of teleological action include instrumental action and strategic action. In both cases, the goal remains material- and result-oriented. Habermas' theory offers valuable insights into economic analysis, particularly regarding rationality, social evolution, and the epistemological foundations of economic behaviour. His distinction between material reproduction linked to instrumental action and symbolic–cultural reproduction linked to communicative action provides a framework for discussing key areas of economic theory. This dichotomy between system and lifeworld corresponds to different types of rationality and values: outcome-oriented in the former, procedural in the latter. Communicative action becomes necessary when coordination involves shared understanding rather than material exchange, and the interest must be benevolence and reciprocity. The duality between egoistic and benevolent motives was already present in Smith's work, although framed in psychological terms[66]. Habermas transforms this psychological dualism into an institutional and communicative one suitable for modern capitalism. In this respect, Habermas theory of communicative rationality echoes Smith's idea that the human tendency to persuade is the basis of both intellectual and material exchange[66].

5.4. Language-based preferences

Provided hat economic preferences vary remarkably depending, for example on age, gender, and cognitive ability influencing preferences o name a few, and are influenced by factors like bio-geography, culture, and economic outcomes[67], the role of language in shaping decisions is gaining momentum. A paradigm shift is taking place in behavioral economics, which is increasingly recognizing the influence of language on human decisions given that people's preferences and choices are affected by the language used[68]. The way options are described can significantly shape preferences, especially when moral or social considerations are involved. Language is an unavoidable contextual factor that influences preferences and evaluations[69] and, in turn, utility. Recent works have also highlighted the role of language-based preferences, which appear related to $U_{h,\,\mathrm{com}}$. According to such studies, communicative

interactions do not only produce procedural and hedonic effects, but also shape preferences themselves through linguistic framing and discourse. For instance, a recent article describes a paradigm shift from outcome-based to language-based preferences[70]. Similarly, another work proposes quantitative tools to measure these effects[71]. In particular, this study shows how linguistic content can significantly influence strategic decisions, marking a shift from outcome-based to language-based utility and the authors suggest that it can explain human behavior beyond mere economic outcomes. The above mentioned studies suggest that while traditional models have often assumed that individuals maximize their utility based on outcomes, a growing body of evidence demonstrates that the way choices are formulated can alter the decision-making process, even to a greater extent than the outcome itself.

5.5. Procedural utility in institutionalised processes

Considering the value people attribute to outcomes and the processes and conditions that lead to those outcomes[51], PU is an alternative approach to the traditional economic framework, focusing on utility derived from instrumental outcomes. The authors explored this concept concerning the relationship between individuals and institutions, highlighting how people derive their well-being from the quality of treatment they receive in institutional processes. Central to this is the sense of self, i.e. each individual's reflective perception of themselves and their social recognition. How institutions treat individuals affects their overall well-being, regardless of the outcomes[72]. This is particularly relevant in situations where individual outcomes depend on the behaviour of others, whether individuals or institutions[73][74].In a subjective approach, individuals' preferences concern the decision-making methods of institutions; in an objective approach, utility arises from interactions governed by procedural rules, which indirectly influence well-being. Finally, a key element is the perception of fairness and impartiality in procedures. Studies on procedural impartiality have shown that a procedure that is perceived as fair promotes acceptance of the outcome and reduces subsequent conflict[75][76]. The impartiality of procedures is a central element of PU in hierarchical contexts, where decisions are made under authority. Individuals are susceptible to the quality of treatment they receive and the transparency of the rules. Even price increases perceived as unfair in situations of extraordinary demand are sources of procedural disutility[77][78][79]. Political participation is one area in which PU plays an important role; ative citizen involvement in decision-making processes generates both outcome and PU, linked to the perception of self-determination[8]. The departure from conditions of fairness and impartiality in institutionalised processes has a cost in terms of perceived subjective well-being that does not concern the outcome

generated but should be adequately considered when designing and managing the functioning of collective institutions.

6. Discussion

We highlight how the distinction between utility meaning offers useful interpretative keys for rethinking the legitimacy of collective choices and the justifications for redistributive policies. Utility has shifted from an objective property of goods to subjective well-being, and in neoclassical theory it became a formal representation of choices. This shift has an important consequence: if utility coincides with the well-being generated by goods, there is a risk of neglecting non-material sources of well-being, such as relational goods, PU derived from individual actions, and that generated by relationships. This redefinition anchors utility exclusively to the outcomes, limiting possible assessment related to the procedures that lead to those outcomes, especially in the revealed preference approach where utility is interpreted as a formal representation of choices.

Without investigating subjective motivations, this approach allows consumers to integrate their outcome's chrematistic and hedonic components into their evaluations. However, it ignores PU by failing to consider what is not directly reflected in outcomes and this becomes problematic when the theory refer to public choices. In other areas, procedural components, such as communicative ones, may be central to assessing well-being. In this sense, the choices do not always reflect the states that maximise overall utility. For example, an individual may prefer outcome X to state Y, not because X is better, but because Y involves a procedural violation. This calls into question the assumption of a double bind between choices, preferences, and well-being. Note that equating choice with consent is misleading: an agent may choose one outcome over another without consenting to the first, e.g., when choices are imposed.

Preferences can be described so that their correspondence with choices is preserved, or to keep them in line with well-being as understood by the individual in question; however, it is not generally possible to guarantee both simultaneously. It is reasonable to assume that, all other things being equal, an individual prefers a more useful outcome and that their choices reflect these preferences. However, it cannot be assumed that preferences-choices and preferences-wellbeing always coincide, especially in the presence of procedural effects. Many empirical approaches are employed by scholars to get information on well-being[80], consistently, the happiness and economics approach recovers a hedonic conception of utility by

directly measuring subjective well-being using surveys that are widely used in contemporary research[81].

Our argument is twofold: first, to recover the distinction between chrematistic utility and HU; second, to extend the notion of utility, in institutionalised contexts, to individual actions and intersubjective relationships. Both extensions open up interpretative spaces in established economic theories. The idea that outcomes are the only source of utility and the sole driver of behaviour has become rare in economics. Yet individuals also care about how outcomes are generated, and these process preferences generate PU. The distinction between OU and PU therefore invites us to reconsider the validity of OU as a sufficient basis for collective choices, a validity that appears weakened once procedural aspects are acknowledged. At the same time, the distinction between chrematistic utility and HU raises further questions about the legitimacy of collective choices made by coercive institutions. Recognising the priority of chrematistic utility, linked to the satisfaction of basic needs, provides a stronger justification for redistributive policies than the utilitarian framework relying solely on the hypothesis of decreasing marginal utility of income.

The reconstruction of the conceptual evolution of utility shows that each level adds specific implications. The objective dimension highlights the role of basic needs and underpins arguments about redistribution and welfare guarantees. The subjective dimension emphasises the heterogeneity of individual preferences, to this extent there are evidence of preference conformism[82], and the centrality of satisfaction. The procedural dimension reveals that the way decisions are made and the resulting recognition can also generate utility. These perspectives suggest that public policy design benefits from recognising outcomes, processes and symbolic aspects of choices.

7. Conclusion

By addressing the conceptual fragmentation that characterises the debate on utility, we sought to answer three main questions: how different theoretical traditions have interpreted utility and well-being; what convergences and divergences emerge in the contemporary literature; and what implications this has for research and public policy. Despite the plurality of approaches, it is possible to identify common elements and complementarities that provide a basis for coherent reflection. From an academic point of view, this helps to clarify the theoretical foundations of the concept of utility; from a practical point of view, it suggests that policies should focus not only on immediate outcomes but also on building structural conditions for individual and collective well-being. We think that recovering the distinction between

chrematistic hedonic principles while acknowledging the role of procedural utility, provides useful interpretative tools and strengthens the justification for public policies.

Statements and Declarations

Author Contributions

G.D.F. conceived the study and drafted the initial manuscript. U.A. contributed to the conceptual framework and manuscript revision. M.B. provided the theoretical analysis and critical review. All authors contributed equally to the development of the article and approved the preprint version.

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