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Review

Evolution and Theoretical Implications of the Utility Concept

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Abstract

We review the evolution of the concept of utility in economics, addressing the conceptual and terminological fragmentation that characterises the interdisciplinary debate. This 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, related to the quality of social relations; and institutional, referring to participation and recognition. The analysis is based on three aspects: (i) how different theoretical traditions have interpreted utility and well-being; (ii) what convergences and divergences emerge in the contemporary literature; (iii) and what implications these factors have for research and public policy. We highlight the complementarity between approaches and suggest extending economic reflection to dimensions that are central to the well-being of individuals and societies. The insights of this study have public policy implications, indicating that, through well-defined institutions, distributive justice, and welfare systems, taxpayers' hedonic utility can be transformed into the chrematistic utility of beneficiaries.

Keywords: utility; well-being; preferences; happiness; procedural utility; outcome utility; economic theory; collective choices; public economics

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1. Introduction

Utility is the backbone of the utilitarianism concept that has been very influential among economists, apart from being necessary for understanding people's welfare (Haslett, 1990). We highlight aspects that complicate treating it as univocal. The term utility has undergone a shift in meaning over time (Broome, 1991; Witt, 2016), 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 (Fabian et al., 2022), intrinsically challenging (Sen, 1991) due to its multiple frameworks (T. J. Brennan, 1989).

Alongside these two approaches—genealogical and pluralist—we focus on a third perspective that identifies two peculiarities that have not been adequately highlighted in the debate so far. The first deals with the coexistence of two meanings of utility: chrematistic utility (CU), anchored in the Aristotelian and, to some extent, Smithian tradition, and hedonic utility (HU). The latter concerns utility that generates the second peculiarity, given that it can be derived from outcomes and the processes by which they are obtained (Easterlin, 2004; Frey & Stutzer, 2000). The distinction between CU, deriving from the

objective properties of goods, and HU, subjectively produced by persons thanks to goods, has important consequences on the interpersonal comparability of utility since, in the second case, it meets the well-known problems raised by Robbins. At the same time, in the first, it is exempt.

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. Preference orderings may sometimes be 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 (Schwartz & Cheek, 2017; Sen, 2006; Yang, 2018). 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 CU and HU (Millgram, 2000; Vigliarolo, 2020), 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 established economic theories and raise questions about the legitimacy of exclusively using the OU in collective choices.

In this context, the procedural and communicative approaches, the latter inspired by the philosopher Habermas, 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 utility concept in economics with implications that can benefit public decision-makers, who can draw valuable insights for developing and adapting sectoral policies, and scholars, 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 identify some established trends and 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 Section 2 examines the transformation of the meaning attributed to the concept of utility throughout the history of economic thought. The Section 3 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 Section 4 explores the nature of PU, which is analysed in four respects: individual action, interpersonal relations, communicative intersubjective contexts, and institutionalised processes. The Section 5 discusses the theoretical implications of our work.

2. Research Framework

Fragmentation that characterises economic analysis of utility and well-being makes it challenging 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 is the lack of an integrated framework relating the different analytical and terminological traditions.

Despite the growing number of contributions in the economic, psychological and philosophical fields, a systematic reflection helps clarify their theoretical links. To address this gap, the literature review was conducted using the scoping review framework (Arksey & O'Malley, 2005; Levac et al., 2010), which is 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 (iv) 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. Nevertheless, our analysis has some limitations, both in its scope, which is far from exhaustive and in the necessary simplifications.

Given the abovementioned considerations, this study is based on the following research questions: How have different theoretical traditions defined and interpreted the concept of utility and well-being? What are the main conceptual and terminological convergences and divergences in the contemporary literature on utility and well-being? What implications arise from the analysis for the academic debate and the development of well-being-oriented public policies? It should be recognised that many concepts more explicit than utility exist to describe property ownership, social welfare, or individual satisfaction and pleasure, explaining such phenomena solely in terms of utility remains problematic. That said, our work contributes to reducing the fragmentation of utility analyses, facilitating comparison among alternative approaches and providing implications for public policy.

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 (Broome, 1991) even if we think that significant changes in the meaning of utility can be interpreted as parallel and coexisting meanings rather than substitutions. Broome starts from Bentham's original definition of utility, which is inherent in goods: "By utility is meant that property in any object, whereby it tends to produce benefit, advantage, pleasure, good, or happiness. . . or . . . to prevent the happening of mischief, pain, evil, or unhappiness to the party whose interest is considered".

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 (Bentham, 1996). It is worth noting that although Bentham is remembered as the founder of the hedonistic tradition, he does not offer a single definition of well-being but understands pleasure and pain as abbreviations of broader categories of value and disvalue. Furthermore, some of the terms he uses refer to a clearly hedonic utility (pleasure, good, and happiness in the positive sense, and pain, evil, and unhappiness in the negative sense), while others refer

to a utility that is not necessarily only hedonic (benefits and advantages in the positive sense, harm in the negative sense). The dentist's drill and the nurse's syringe undoubtedly produce benefits and advantages, but hardly any pleasure.

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. Gradually, utility came to be understood not as the capacity of a good to produce benefit, but as the actual benefit generated for the owner. This interpretation has led to individual utility being considered the sum of the benefits obtained from the goods, measuring individual well-being more operationally, at least in theory. 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 becoming closely associated with the economic concept of utility, influenced by philosophy, psychology, sociology, and economics (Semenov & Nedeljković, 2023), 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 subjective and objective approaches (Ramrattan & Szenberg, 2021).

Eudaimonic utility (from Aristotle's concept of eudaimonia, which, 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 (Huta, 2016; Ryan & Deci, 2001). Notwithstanding, well-being can be understood as a broader construct that integrates both elements (Henderson et al., 2013; Joshanloo et al., 2020; Pancheva et al., 2020) 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. An instrumental conception of utility refers to the objective properties of goods that have utility insofar as they produce material benefits. From an instrumental to an outcome conception, the change in meaning was made possible by an underlying shift from an objective/material view of utility to a subjective/hedonic view.

Therefore, verifying the authors' use of the term before Bentham is important. For example, Adam Smith adopts an objective and instrumental conception of utility in The Wealth of Nations, which he calls value in use (Winfrey, 1993). A similar view is found in Hume, which 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 (Sidgwick, 2011). 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 also shed light on the meaning of money (Crespo, 2020) 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*, which 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 (Cremaschi, 2004), in which utility is not the measure of exchange value, yet is essential. The distinction between

use value and exchange value, made by classical economists, more clearly articulates the reasons for use value and exchange, while also revealing that the value of goods has a social content beyond the individual–object relationship.

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 (Ricardo, 2014; Robinson & Sraffa, 1951). 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 (Mill, 2010). For Mill, the value attributed to use is identified with the individual's maximum willingness to pay. The above-mentioned considerations lead to a dual conception of utility. On the one hand, utility is linked to objective properties—for example, the nutritional value of food, which affects physical and material well-being; similarly, the protective capacity of a vaccine or the curative power of a medicine. On the other hand, utility is associated with the subjective representation of certain qualities—such as the adherence of a good to aesthetic or cultural standards—that generate hedonic well-being. Willingness to pay, therefore, incorporates both components without implying that the objectivity and subjectivity of the sources of utility are ontologically equivalent.

In this context, influences of marginalism and mathematical formalisation expanded as the concept of utility developed initially as an alternative to the classical labour theory of value. A significant economic methodological choice in its treatment of the concept of utility is methodological individualism, which is very important for the concept of utility (Kjosavik, 2003).

Authors such as Pareto (McLure, 2008), Pantaleoni (Becattini, 2018) and Edgeworth (Samuels, 1992) played a remarkable role in its formalisation in the neoclassical tradition. Indeed, Pareto marks a turning point by introducing the order of preferences (McLure, 2000; Ventura et al., 2016) and prominent authors, including, among others, Jevons, Menger and Walras, represent the initial phase of neoclassicism while conceiving utility as measurable (Moscati, 2013).

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 (Colander, 2007; Skyrms & Narens, 2018). To the same token, Pantaleoni maintains a hedonistic basis while adopting marginalist reasoning (Flux et al., 1898), 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 (Fausto, 2008).

Marginalists conceived utility as a quantity measurable in cardinal terms, allowing comparisons between goods and individuals. With Pareto's contribution, utility became measurable in ordinal terms, i.e., as an ordering of preferences (Batley, 2007). This transition made it possible to formalise consumer purchasing choices outside of psychological measurements, giving shape to the axiomatic framework of revealed preferences central to neoclassical economics.

The framework contains a number of different theories (Hands, 2014), including the prominent Samuelson's contribution to the consumer's choice paradigm (Houthakker, 1950), in which utility becomes a formal tool of economic analysis. The consolidation or ordinal utility can also be seen in Robbins's concept of economics as decision science (Shizgal, 2012). Incorporating the approaches of neoclassical economists to the measurability of utility, the concept has become a formal tool in economic analysis. That said, methods relating to the measurability of utility have been criticised (Blaug, 1993).

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 helpful for the approaches discussed in the following 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 more straightforward interpretation of many economic phenomena. First, there is often a trade-off between IU 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 (Seol & Kim, 2022; Shao & Li, 2021). Conversely, goods with high hedonic content, e.g., diamonds in the well-known Smith example, often lack instrumental properties while generating 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, or that they are not relevant. For example, a cooking pot is useful in a practical sense, but it does not usually generate hedonistic mental states in those who use it. 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 and Sen (1984). The main changes are as follows: (i) the distinction between the two categories of utility, practical/objective and hedonic/subjective, represented separately; (ii) the differentiation between instrumental and hedonic functions.

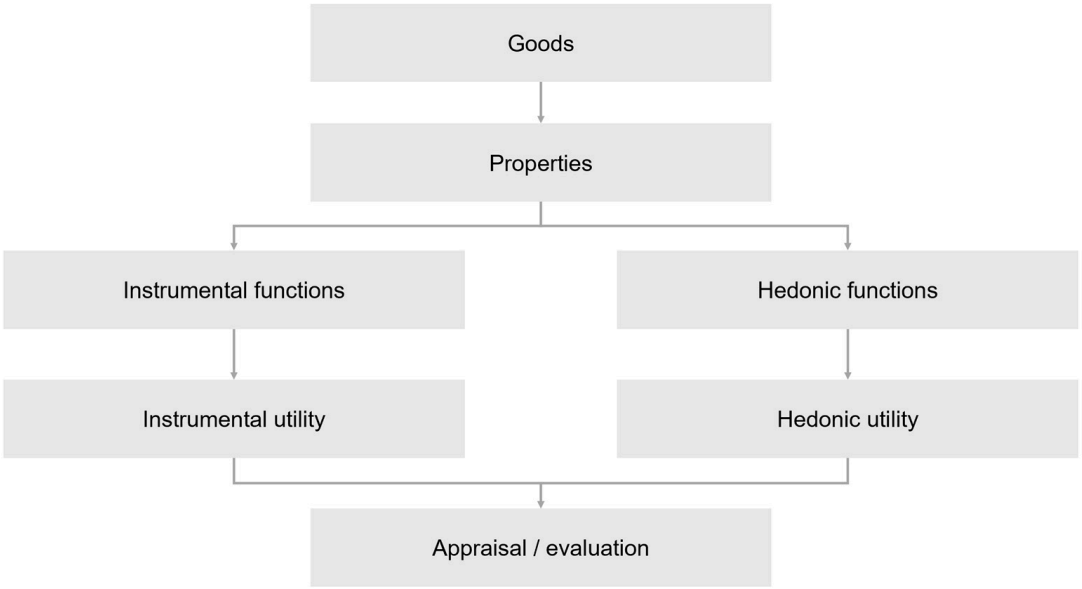


Figure 1. Concepts involved in the relationship between goods and people. Source: The authors.

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. The subsequent recovery will also produce hedonic effects, but these are indirect effects compared to the use of the drug. 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 drug mentioned above may also be an example of goods with positive IU and negative HU; e.g., it may be unpleasant to taste or cause 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, e.g., a radiation therapy or a vaccine. In this scenario, positive IU, negative but with low impact 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 harming their health or safety. Still, they perceive a mental or emotional benefit sufficient to compensate for these risks, at least in the short term. Table 1 contains 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.

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

Table 1. Some approaches to utility.

	Type		**Cases**	
Category	**IU**	**HU**	**IU**	**HU**
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 collectable car, rare stamp	No instrumental function
Positive IU, negative HU	>0	<0	Effective but unpleasant medicine with side effects	Hedonic discomfort reduces overall value
Negative IU, positive HU	<0	>0	Harmful but tasty foods, alcohol, drugs, smoking, reckless driving	Subjective pleasure outweighs potential objective harm

Source: the authors.

It should be noted that equations representing utility are formalised as the sum of the components, assuming 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. 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., according to a class of goods.

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; hence, 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 (Hahn, 1982; Stutzer & Frey, 2006). Furthermore, communicative interaction between people, linguistic exchange instead of commercial exchange, 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: outcome IU, outcome HU, 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, followed by three HU: $U_{h,o}$ from the outcome, $U_{h,pr}$ refers to procedure, and $U_{h,com}$ the communicative.

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

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 $U_{h,com}$.

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 (Kaminitz, 2017). Indeed, people also value the procedures that lead to the outcomes (Frey, 2004). 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 (Hahn, 1982). 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 $U_i = U_i(Q_i(A))$ but also on the utility derived from the action itself, which can be formalised as $U_i = U_i(A, Q_i(A))$: For instance, the classical Greek hero who voluntarily sacrifices himself in battle to defend his polis is a paradigmatic case in which the hedonic utility of the action itself exceeds the disutility, hedonic and otherwise, of the loss of life itself. The same cannot be said of the World War I infantryman sent, by his commanders, to die in futile assaults.

Removing the possibility of choice changes the utility, even if the goods obtained remain unchanged. While not a radical change, the introduction of PU could have significant implications for the analysis of welfare economics and the effectiveness of welfare systems.

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 and also the conditions and processes that lead to them (Frey & Stutzer, 2000). 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 the outcome; PU emphasises the 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, starting from the concept in (Frey & Stutzer, 2000) is depicted in Figure 2.



Figure 2. Hedonic PU and the OU. Source: the authors.

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 (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). This 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.

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, while, in general, it is clear that even thoughts that do not translate into actions are capable of generating hedonic effects, both positive and negative.

Actions that can influence a person's well-being fall into different categories based on who undertakes them: the same beneficiary of the welfare effect, a collective institution, a different person with whom there are affective 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 Figure 3 (U1). Consider the task of lawn mowing: an individual can either perform the task personally or outsource it, e.g., pay for a garden maintenance service. 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.

- IU from the outcome achieved. This corresponds to the IU described in Figure 3 (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 represents the psychological well-being in Figure 3 (U4). For instance, if a new car is a desired sophisticated sports model, its possession provides significant satisfaction while the same does not apply if you can only afford a second-hand economy car that is barely functional.

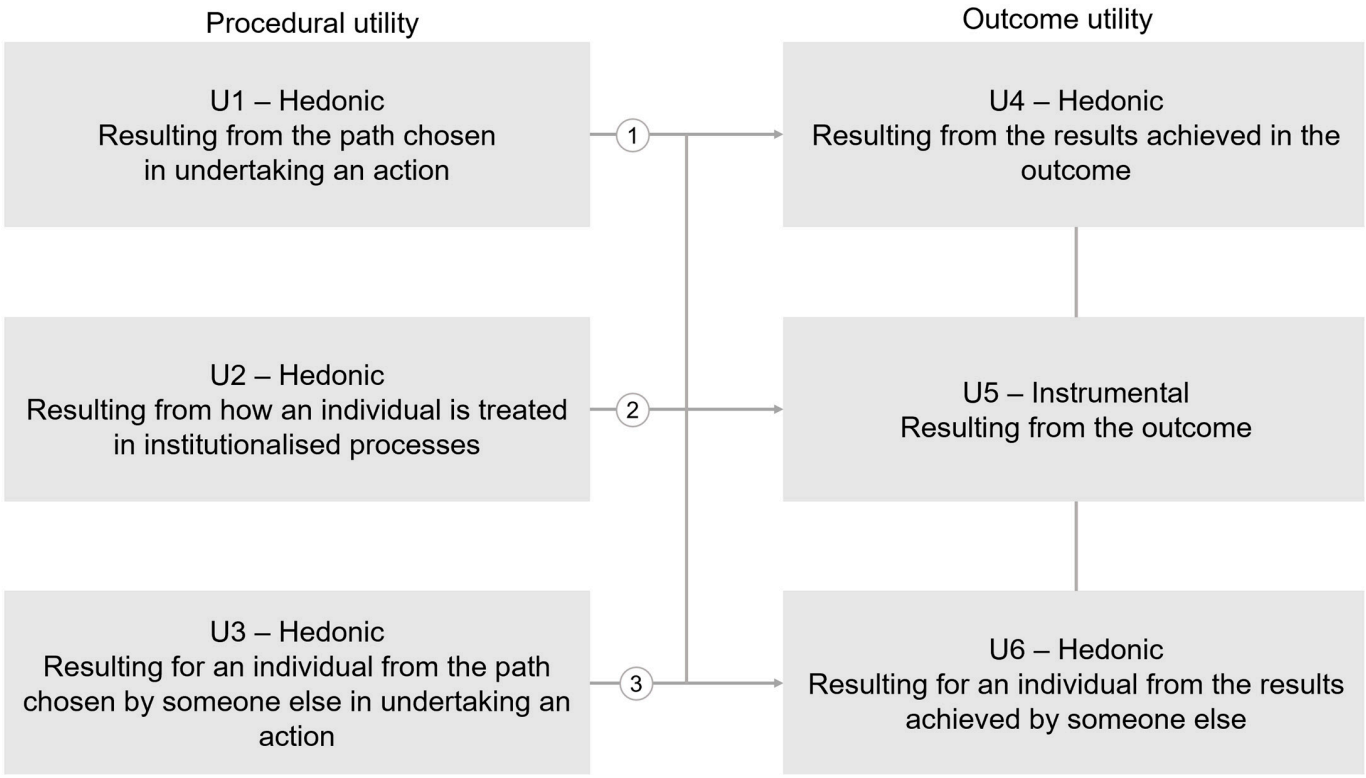


Figure 3. Proposed utilities taxonomy. Source: the authors.

It is important to note that outcome's IU and HU differ and can coexist in varying proportions. The subjective experience is associated with goods and services, as well as value and symbolic and cultural value. In fact, a good can convey identity, status or cultural belonging even without an immediate hedonic experience. For this reason, in our typology, symbolic and cultural value represent a subtype. Also one should note that the hedonic versus instrumental distinction does not precisely correspond to the subjective versus 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 versus instrumental distinction for categorisation purposes without implying a broader equivalence with the subjective versus 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 (Adler et al., 2017; Layard et al., 2008; Steele, 2006). 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 Figure 3 (U2) and the HI and HU utilities of the outcome. Finally, case (c) represents a hypothesis of interdependence in well-being: the individual acting is a different subject from the beneficiary, but the procedural path adopted in the action and/or the outcome produce a HU from externalities. For example, if a person embarks on a career path that is a source of satisfaction, this could bring HU to another person, because of emotional or family ties, even if the latter is not making that choice Figure 3 (U3). If, in addition to embarking on this path, the first person achieved a result that confirms the value of that decision, this will provide additional HU but linked to an outcome Figure 3 (U6). In other examples, the action of an individual may have material effects on the outcome of someone else Figure 3 (U5): A student takes notes in an economics class and makes them available to another student who was unable to attend the lecture.

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. Indeed, preference orderings relate to the behavioural theory in economics, but they also constitute an independent theory of well-being (Angner, 2011). However, our typology emphasises the plurality of utility forms that contribute to well-being, which may or may not align with preferences. The consequences of these considerations are as follows. 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 material good 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 hedonic utility; thus, the total utility U formalised in Equation (1) can be expanded as in Equation (3).

$$U = U_i + U_h = f(x) + g(X, P) \tag{3}$$

Specifically, 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. Utility may depend both on their actions and also on the actions of these interdependencies; we can introduce a representation of others' actions on utility via 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, $U_p = h(P)$. U_i represents the utility derived from the material effect of the outcome X and can be expressed as $U_i = f(X)$ while U_h represents the hedonic utility 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.

Table 2. Procedural utility dimensions.

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, exchanges of goods outside the market mechanism
Institutionalised processes	Individual and institution	Fairness, transparency, participation, procedural justice

Source: the authors.

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: The first is negative freedom (J. Brennan, 2018), in which, as defined by Nozick, the individual derives utility from the fact that they can act without external interference. Second, we have capacity to act, as introduced by Sen, wherein the individual experiences utility from having the resources and abilities necessary to act (Mathias & Rendon Teresa, 2006). The third source is autonomy in choice, as noted by Hahn. Here, the individual feels satisfied by choosing an action freely and autonomously (Katz & Assor, 2006). The fourth and final source is personal action, wherein the individual derives well-being from doing something directly instead of delegating it to others, as noted in Scitovsky thought (Bruton, 1989). These forms of well-being, all hedonic, 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, such action provides pleasure to that person that would not be experienced if they entrusted the service to a gardener, 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 (Kahneman & Krueger, 2006; Neff, 2011). 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 (Gomes, 2024). 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 (Galvin & Todres, 2011) as the indicators that can be used (Sung & Phillips, 2018) 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, 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 a means to obtain advantages. It is a tool for building relationships, agreements, and mutual understanding (Achime, 1990; Bruton, 1989). 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, e.g., producing something, and strategic action, e.g., when a person deals with other people considering them as a mean to reach some goals. 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 (Seigel et al., 1977). Habermas transforms this psychological dualism into an institutional and communicative one suitable for modern capitalism. In this respect, the theory of communicative rationality echoes Smith's idea that the human tendency to persuade is the basis of both intellectual and material exchange (Seigel et al., 1977).

5.4. Language-Based Preferences

Provided that economic preferences vary remarkably depending, for example, on age, gender, and cognitive ability, influencing preferences, and are influenced by factors like bio-geography, culture, and economic outcomes (Falk et al., 2018), the role of language in shaping decisions is gaining momentum. A paradigm shift is taking place in behavioural economics, which is increasingly recognising the influence of language on human decisions, given that people's preferences and choices are affected by the language used (Costa et al., 2017). Describing options can significantly shape preferences, especially when moral or social considerations are involved. Language is an unavoidable contextual factor that influences preferences and evaluations (Vidal et al., 2021) and, in turn, utility. Recent works have also highlighted the role of language-based preferences. According to such studies, communicative interactions produce procedural and hedonic effects and shape

preferences through linguistic framing and discourse. For instance, a recent article describes a paradigm shift from outcome-based to language-based preferences (Capraro et al., 2024b). Similarly, another work proposes quantitative tools to measure these effects (Capraro et al., 2024a). In particular, this study shows how linguistic content can significantly influence strategic decisions, marking a shift from outcome-based to language-based utility. The authors suggest that it can explain human behaviour beyond mere economic outcomes. The above-mentioned studies suggest that while traditional models have often assumed that individuals maximise 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 (Frey, 2004), 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 (Gamal et al., 2023). This is particularly relevant in situations where individual outcomes depend on the behaviour of others, whether individuals or institutions (Nikolova, 2016; Pereira et al., 2023). 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 (Magalhães, 2016; Suzuki & Demircioglu, 2020). 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 (Cappelen et al., 2013; Kahneman et al., 2011; Sonnabend, 2016). Political participation is one area in which PU plays an important role; active citizen involvement in decision-making processes generates both outcome and PU, linked to the perception of self-determination (Frey & Stutzer, 2000). 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 helpful 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 refers 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. 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–well-being always coincide, especially in the presence of procedural effects. Scholars employ many empirical approaches to obtain information on well-being (Bosworth et al., 2024). Consistently, the happiness and economics approach recovers a hedonic conception of utility by directly measuring subjective well-being using surveys widely used in contemporary research (Dziechciarz, 2024).

Our argument is twofold: first, to recover the distinction between CU and HU; second, to extend the notion of PU from institutionalised contexts to individual actions and intersubjective relationships. Both extensions open up interpretative spaces in established economic theories. Existing theoretical cornerstones of economics, such as expected utility theory and game theory, generally define preferences in terms of monetary gains and, in any case, achievable outcomes. The idea that outcomes are the only utility source and the sole driver of behaviour has become rare in economics. Yet individuals also care about how outcomes are generated; these process preferences generate PU. 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 is evidence of preference conformism (Fatas et al., 2018) and the centrality of satisfaction. The procedural dimension reveals how decisions are made, and the resulting recognition can generate utility. 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 CU and HU raises further questions about the legitimacy of collective choices made by coercive institutions. Recognising the priority of CU, 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. On the one hand, the state generates utility through institutional processes; on the other hand, if taxation and welfare systems are adequately defined, it produces redistributive effects that transform the mainly HU of taxpayers into the mainly CU of beneficiaries. Since Bismarck and early 20th-century social liberalism, welfare systems have always aimed to satisfy the essential, and therefore material, needs of the most disadvantaged classes, rather than to generate HU for them as a substitute for

market choices they cannot afford. These perspectives suggest that public policy design benefits from recognising outcomes, processes and symbolic aspects of choices.

7. Conclusions

By addressing the conceptual fragmentation that characterises the debate on utility, we discussed how different theoretical traditions have interpreted utility and well-being, the convergences and divergences in the contemporary literature, and the corresponding public policy implications. 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 clarifies the theoretical foundations of the concept of utility; from a practical point of view, it suggests that policies, beside short term outcomes, should focus on building structural conditions for individual and collective well-being. Recovering the distinction between CU and HU principles while acknowledging the role of PU provides useful interpretative tools and strengthens the justification for public policies. From a public policy perspective, we point out that well-defined institutions, distributive justice, and welfare systems, play a remarkable role in transforming taxpayers' HU into the CU of beneficiaries, enhancing, in turn, the effectiveness and efficiency of public polices.

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