

Article

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The Tragedy of Public Goods: Insights from the Theory of Action

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Abstract: Undoubtedly, all main terms of the theory of public goods are well-grounded in the actions of humans. Therefore, in this paper, an attempt is made to conceptualize public goods from the philosophical theory of action, which can be seen as an advancement of Mises' theory of action. We found that not a single building block of the standard theory of public goods is entirely grounded in the logic of human action. As a consequence, public goods, as defined in the standard theory, cannot exist at all due to reasons of action theory. This does not mean the end of collective consumption. Instead, our results can be used to develop the theory of public goods further, which rests firmly on the analytical basis of human action.

Keywords: human action; subjectivity; group size; free riding; coercion; positive (wertfrei) science

1 Description of the Problem

The theory of public goods is a key component within economic sciences. Although it was developed in the middle of the 20th century, it is applied to analyse important current economic phenomena and problems.

For instance, Buchholz and Sandler (2021: 488–489) focused on the necessity of analysing global public goods, such as the protection of essential ecosystems or curbing climate change that impact much of the world's population. Another urgent issue focuses on the close link between the provision of public goods and their financing through taxing the private sector. Expanding on Holcombe (2019), we

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might ask how long the productive economy can continue to finance the provision of public goods.

The increasing importance of public goods theory should not blind us to the fact that this theory has some significant shortcomings. Those include the inconsistent definition of the main terms (Holcombe 2000), the calculation problem in determining the optimal provision (Hoppe 1989: 52) and that the theoretical prediction does not match the observations (Blankart 2011: 68–71).

It is therefore no wonder that the body of literature on the theory of public goods has evolved enormously over the last decades. From this the question arises: What can a new study add to this immense body of knowledge?

The aim behind this paper is neither to present a review of public goods literature nor to develop a ‘true’ final theory of public goods. Rather, an attempt is made to change the perspective of the analysis. In this paper we return to a foundation of social science: we attempt to trace the analysis of public goods back to the theory of action.

All of the main terms of the theory of public goods, such as goods, individual and collective consumption, group size, false signalling, free riding, coercion, etc., are undoubtedly well-grounded in the actions of humans. Therefore, in this paper it is suggested that the actions of humans should be perceived as the common ground underlying this reasoning.

Economists will inevitably associate the theory of action with Mises (2007). In the meantime, however, a philosophical theory of action has emerged (cp. Oliva Cordoba 2024).

In the publication at hand we attempt to conceptualise the theory of public goods with the help of the philosophical theory of action, because the philosophical theory of action is based on a higher level of abstraction than its counterpart in economics. This enables us to reconstruct the building blocks of the theory of public goods from the ground up without additional economic assumptions or hidden normative judgments. In sub-Section 3.1. we will justify our methodical decision in detail.

With this approach, we try to find out whether, or which components of the theory of public goods can be justified by action theory. Should our analysis show that certain components of the theory of public goods cannot be conceptualized by the theory of action, we would have found precisely those points from which we can improve the theory of public goods.

Our project does not have to start from zero. Fortunately, there have been many individual contributions to economics where the scientists involved also applied components of the theory of action. These contributions will be used here as a solid foundation upon which to take another small step forward.

2 The Standard Theory of Public Goods as Analytical Starting Point

Although the theory of public goods is rooted in the political philosophy of the 18th century, it was Samuelson (1954 and 1955) who reintroduced this theory to modern economics (Dougherty 2003). The standard theory of public goods consists of five building blocks:

- B1) There exist two distinct categories of good. These are individual¹ and collective consumption goods (Samuelson 1954: 387).
- B2) Collective consumption goods are goods, “*which all enjoy in common in the sense that each individual’s consumption of such good leads to no subtraction from any other individual’s consumption of that good so that $X_{n+j} = X_{n+j}^i$ simultaneously for each and every i th individual and each collective consumption good*” (Samuelson 1954: 387).
- B3) Based on the optimal conditions for collective consumption² (Samuelson 1954, 1955), there are strong incentives for each human to give false signals to indicate less interest in collective consumption (Samuelson 1954: 388). This false signalling constitutes the free rider problem.³
- B4) From building block B3 it may be concluded that no voluntary decentralised pricing system can generate an optimal level of collective consumption goods (Samuelson 1954: 388, Downs 1957: 170).
- B5) It may further be concluded that a central organisation with the ability to coerce humans to pay their contribution to the provision of collective consumption goods generates a better position for every human (Downs 1957: 170).

1 Samuelson did not use the term ‘individual’ but referred instead to ‘private’ (cp. Samuelson 1954: 387).

2 According to Samuelson (1954), social optimality is characterised by $\frac{\sum \frac{\partial U^i}{\partial y}}{\frac{\partial U^i}{\partial x^i}} = \frac{1}{g}$, while individual optimality is characterised by $\frac{\frac{\partial U^i}{\partial y}}{\frac{\partial U^i}{\partial x^i}} = \frac{1}{g^i}$; which are clearly different (cp. Laffont 1994: 36–39).

3 Although Samuelson (1954, 1955) did not use the term ‘free rider problem’, many economists interpret these two papers as the canonical statements on the issue. For many political scientists, however, it was Olson (1965) who was primarily responsible for introducing the free rider issue (Brennan 2015: 238). Yet Dougherty (2003: 247) assigned this concept to Downs (1957), who wrote: “[P]rovision of national defence is a boon to every citizen; even if one citizen paid for it solely out of his own pocket, all the others would gain from it. Where citizens are numerous, each man finds it advantageous to refuse to pay for such indivisible benefits. Instead he assumes that other men will bear the cost and he will benefit ... This situation means that voluntary action cannot produce a Paretian optimum in a large society when collective goods exist” (Downs 1957: 170).

This standard theory appears logical because the set of conclusions follows on logically from the set of assumptions (cp. Chiang 1984: 7).

Building blocks B1 and B2 set out the categories of good (individual consumption goods and collective consumption goods) and the group size (all) as the starting point of the theory of public goods. This means that these two variables are determined exogenously. Thus, the determinations of the categories of goods and the group size are outside the scope of the theory (cp. Samuelson 1983: 335).

In principle this is unproblematic because every theory has to start from a point selected sometime after the Big Bang. Samuelson defended his starting point as follows: *“Obviously, I am introducing a strong polar case ... I think most economists will see that this is a natural antipodal case to the admittedly extreme polar case of traditional individualistic general equilibrium. The careful empiricist will recognize that many – though not all – of the realistic cases of government activity can be fruitfully analysed as some kind of a blend of these two extreme polar cases”* (Samuelson 1955: 350).

This explanatory statement is unquestionably correct. To this I would like to add that theoretical understanding is easier when comparing the extreme polar cases.

However, the two variables ‘good category’ and ‘group size’ have fundamental consequences in relation to false signalling and to the application of coercion in the provision of collective consumption goods because false signalling and coercion logically follow directly on from this starting point. The conjecture that arises is that changing the starting points will, as a consequence, have an effect on false signalling and coercion. Therefore, I suggest changing these two variables to endogenous parts of the theory of public goods.

In addition, inherent in the building blocks B1 and B5 is an implicit assumption. They assume that all humans would also welcome collective consumption in those cases where collective consumption does not apply.

This hidden implicit assumption contains normative values that do not necessarily follow on from the applied models of the human actors involved but are possibly values unwittingly imported from the value system of the outside theorist. As a consequence, one might infer that the underlying models of actors are incoherent.

To summarise the findings of this section, for the purposes of the analysis we will first change the exogenous variables ‘good category’ and ‘group size’ to endogenous variables and then we will remove the normative components. We want to achieve both by tracing public goods directly back to the actions of the humans involved.

3 Methodical Foundation

3.1 The Economic and the Philosophical Theories of Action

As we mentioned in Section 1. economists will inevitably associate the theory of action with Mises (2007). Mises developed the economic theory of action in the 1920s. Hülsmann (2007: 719) concluded that from 1933 onwards Mises referred to his theory of action as ‘praxeology’.

In the meantime, a philosophical theory of action has emerged (cp. Oliva Cordoba 2024). Milestones in the development of the philosophical theory of action are Anscombe (1957), Davidson (1963) and Wright (1971), cp. Oliva Cordoba (2024).

The philosophical theory focuses initially mostly on metaphysical and ontological questions. Recently it has beneficially been applied to various social problems such as scarcity (Oliva Cordoba 2024), cooperation (Puster and Winter 2018), domination (Puster 2018), contracts/social contracts (Winter 2018), discrimination (Oliva Cordoba 2020) and competition (Oliva Cordoba 2024: 131–138).

Although Mises laid the foundation “*not only to economics but also to [...] the social sciences in general*” (Smith 1994: 299), and Mises’ (economic) theory of action is older than his philosophical counterpart, there is a lack of reference within the philosophical theory of action to Mises’ work. According to Oliva Cordoba (2017) one reason for this lack is that Mises used own terms which are not part of the philosophical apparatus. For instance while the economic theory of action applies ends and means as main terms of the theory of action (cp. Mises 2007), according to Oliva Cordoba and Puster (2014: 153), the philosophical theory of action traces back the concept of action to the main terms of doing, wanting and believing.

This does not mean that the philosophical and the economic concepts of action are based on two different theories. Instead, the concepts of “ends” and “means” now appear as special cases. (cp. Oliva Cordoba 2024: 124) Thus, the philosophical conceptualisation of action also contains the main terms of Mises’ theory of action (Oliva Cordoba 2017). Taking into account the lower degree of abstraction of praxeology, this theory is entirely compatible with the philosophical theory of action (Puster 2017).

The philosophical concepts result from a purely descriptive analysis of concepts that are central to the field of human action (Puster 2017). Using the variation method, the underlying categories of action that the average person would use to describe their actions are first identified. These basic conceptual categories analytically contain everything necessary for an understanding of our behaviour. No additional knowledge is required. This type of corpus analysis is the standard approach among logicians, semanticists and linguists (Oliva Cordoba 2024: 119–120).

In the next step of the analysis, the relationships between the categories are identified. (Puster 2017). To do this, two examples are used for each category and exchanged with each other. If the relationships between the categories have not been grammatically affected, their correct logical combination has been found. It does not matter whether the examples exchanged are true or false statements. This approach is not about truth, but only about logical form and conceptual structure, and ultimately about understanding (Oliva Cordoba 2024: 121).

This purely descriptive analysis of the philosophical logic of human action is completely independent of any economic or social science presuppositions. It is also independent of all practical questions, such as whether the action is permissible, who ultimately finances it, whether it is cooperative or conflicting, etc. (Oliva Cordoba 2024: 121).

The advantage of such an approach is that it focuses on concepts that are far removed from normative and political differences of opinion and are therefore uncontroversial in their understanding. This means that the particular strength of philosophical concepts of action lies in the fact that they do not rely on normative justifications or pseudo-objective constructions (Puster 2017).

In summary, the philosophical theory of action has a higher degree of abstraction than its economic counterpart. It is independent of economic presuppositions and practical economic concerns. Furthermore, it has been successfully applied to various social problems. Thus, it seems to us that the philosophical theory of action is better suited than the economic theory of action to conceptualise the theory of public goods from the ground up.

Therefore, in this article we attempt to conceptualise the theory of public goods with the help of the philosophical theory of action.

The philosophical theory of action perspective contains the main elements required to understand why humans consume certain goods and services collectively. Humans act because they are unsatisfied with their particular situation. Sometimes humans consume collectively because they want to overcome their unsatisfactory situation and belief that collective consumption offers greater satisfaction than either no or individual consumption. (cp. Oliva Cordoba and Puster 2014: 154).

The outcome of our conceptualisation will be a contribution to the logical foundation based on the elementary concepts of action. Specifically, we would like to identify how the theory of public goods can be derived from the logic of the actions of humans.

Before the theory of public goods is conceptualised, the main concepts of the theory of action will be introduced briefly.

3.2 A Brief Outline of the Philosophical Theory of Action

3.2.1 Uneasiness

A situation in which a human is not completely satisfied is described as uneasiness (Oliva Cordoba 2017: 524).

Exactly this state of uneasiness induces action: any action is always an attempt to obtain relief from a perceived uneasiness (cp. Mises 2007: 92). Uneasiness is always the incentive to act; and action is success-oriented. The human does not act without some expectation of success. Thus, the uneasiness theorem is one cornerstone of the theory of action.

Economists do not usually apply the notion of ‘uneasiness’, resorting mostly to ‘scarcity’ instead. Scarcity represents an important constitutional concept within economic theory. Oliva Cordoba (2017) demonstrated that scarcity can be derived from the uneasiness theorem by logical and conceptual means only. As a consequence, we can first state that scarcity links the foundations of economic theory with the theory of action (Oliva Cordoba 2017: 523). Second, uneasiness is the elementary concept so there is no need to use both uneasiness *and* scarcity as two (independent) concepts.

It is helpful to note that Mises did not favour ‘scarcity’ as an elementary concept of the theory of action. He wrote: “*Means are necessarily always limited, that is, scarce with regard to the services for which man wishes to use them. If this were not the case, there would not be any action with regard to them. Where man is not restrained by the insufficient quantity of things available, there is no need for any action*” (Mises 2007: 93). And again: “*It is, therefore, unnecessary to speak of a special principle of scarcity of means. The concept of means already includes everything that is required to express this principle. If means were not scarce in terms of uneasiness, action would not be taken. There would, therefore, be no reason to distinguish between means and ends*” (Mises 2010: 66).⁴

3.2.2 Doing, wanting and Believing

The concept of action is traced back to the more fundamental concepts of doing, wanting and believing (Oliva Cordoba and Puster 2014: 153). An individual does something because he wants something and believes that his actions will bring his wants to fruition. This exactly characterises an action: doing x as a consequence of wanting y and believing q that x brings y to fruition (Oliva Cordoba 2017: 524).

⁴ Author's translation.

As we can see, in the philosophical theory of action, the two fundamental features of Mises' human action theory – humans use means to attain ends and they make choices (Hülsmann (2003: xliv) – are not parts of the concept.

In this context, choosing is not an elementary term. It is traced directly back to wanting. Wanting is sufficient to explain choosing. But, conversely, wanting cannot be explained on the basis of choosing. To want something does not simultaneously mean to choose. Something a human wants is not the result of choosing. Thus, the concept of choice does not add anything to our knowledge.

In addition, the concept of means and ends is derived from actions such as doing, wanting and believing (Oliva Cordoba 2024: 121–122). 'Means and ends' does not add anything to doing, wanting and believing. In other words, doing, wanting and believing are sufficient for conceptualising action.

However, Oliva Cordoba (2024: 122) remarked that the acceptance of doing, wanting and believing as sufficient conditions is discussed controversially in philosophy. For instance, Donagan (1987) presented a divergent philosophical analysis of action and choice. The very title of his book is programmatic: 'Choice. The essential element in human action'. His working hypothesis was: "... *that actions are events explained by their doers' choices, which are in turn explained by their wishes and beliefs*" (Donagan 1987: 19).

It seems at this juncture that further philosophical investigation is required to clarify the question concerning means, ends and choice as fundamental concepts of the theory of action. This, however, is not an aim pursued within this paper. Here the philosophical conceptualisation of action as doing, wanting and believing will be applied.

3.2.3 Actions, Attitudes and Subjectivity

Although the economic understanding of action usually combines action with subjectivity, action does not automatically include subjectivity. For a better understanding of the statement 'action is subjective', a clear distinction between the two concepts is necessary.

Although almost all modern economists apply subjectivity, they tend to summarise various things under this concept. Using ten questions such as 'What makes goods valuable?', 'Are costs subjective?', 'Can we survey people's subjective preferences?', etc., Stringham (2010) drew a colourful picture of the manifold understandings of subjectivism in economics. Thus, subjectivity is not fully understood, the meaning of 'action is subjective' remains unclear and 'action is subjective' cannot be fully conceptualised.

Austrian economics is an exception. Subjectivity is a central concept of this school of economics, cp. Linsbichler (2022: 26). All main terms of Austrian economics

are based on subjectivity. Kirzner (2015), for example, shows that and how Hayek's concept of competition is based entirely on subjectivity. In the book chapter "The subjectivism of Austrian economics" Kirzner (2000: 41–53) discussed the different conceptions within Austrian economics.

However, as Oliva Cordoba (2024: 112–113) pointed out, the Austrian economic application of subjectivism, treats subjectivism as a given term, the meaning of which is not broken down into its analytical components. Therefore, we return again to philosophy, where the conceptualisation of subjectivity became analytical developed (cp. e.g. Davidson 2001), and apply it as a helpful concept providing a clearer understanding of the notion 'action is subjective'.

In this paper the concept of 'subjective' is outlined using in particular the analyses provided by Oliva Cordoba (2018a and 2024). In the first he presented a fundamental distinction between 'subjective' and 'objective'. In the second he focused on a more general and a more thorough understanding of subjectivism *and* action, and applied this understanding to the economic problem of competition.

Let's address first the distinction between 'subjective' and 'objective'. Oliva Cordoba (2024) focused on the attitudinal pathway as a means of explanation rather than the cognitive pathway: "*What is subjective is subjective because it is dependent on someone's attitudes. What is objective is objective because it is not dependent on anyone's attitudes*" (Oliva Cordoba 2024: 119). Oliva Cordoba (2024: 119) illustrated the difference using the following example: "... *from the fact that Columbus discovered America ... it does not follow ... that he believed that he had discovered America ...*"

It is precisely the attitudes that connect 'action' and 'subjectivity' because doing, wanting and believing are dependent upon the attitudes of an individual (cp. Oliva Cordoba 2018b: 2). Lena does not dispose of her garbage in the park because she wants a clean park and she believes that by not littering the clean park is brought to fruition. This is not the same as the objective statement, 'The park is clean because Lena does not litter in the park' nor the causal connection, 'If Lena does not litter in the park, then the park will be clean'. The action taken by Lena is induced by her attitude, namely the belief that her action brings a clean park to fruition.

However, "*One's attitudes are independent of both of the world at stake and the attitudes of others*" (Oliva Cordoba 2024: 119). Elsewhere Oliva Cordoba (2018a: 10) summarised as follows, "*What makes us special is precisely that we have unique and different attitudes towards the world and each other.*" For instance, unlike Lena, Vera sometimes leaves her garbage in the park. Although she also wants a clean park, she does not believe that her littering affects the cleanliness of the park.

As a consequence, an individual cannot automatically conclude from their own doing, wanting and believing the doing, wanting and believing of another human. Inherent in this realisation is contained a strong conclusion for the analyst: she or he

cannot unthinkingly apply their own attitudes when analysing the actions of other humans (cp. also Puster and Winter 2018: 147). In fact, to understand the actions of other humans, the analyst must explain these actions solely on the basis of the doing, wanting and believing of the individuals being analysed and not on the basis of their own doing, wanting and believing.

3.2.4 Summing Up

Now, we can amalgamate the theory of action:

- (1) A state of uneasiness induces action: an individual does something because he wants something and believes that his actions will bring his wants to fruition.
- (2) Doing, wanting and believing are dependent upon the attitudes of an individual. Thus, an individual cannot automatically conclude from their own doing, wanting and believing the doing, wanting and believing of another human.

The theory of action briefly outlined, we are now prepared to derive from the theory of action all of the terms of the theory of public goods, such as goods, individual and collective consumption, group size, false signalling, free riding and coercion.

4 Individual and Collective Consumption Goods as a Result of Action

Samuelson (1954: 387) distinguished between individual and collective consumption goods, cp. chapter 2., building block B1. In his 1955 paper he reformulated: while individual consumption goods are characterised by $x_1 + x_2 + \dots + x_n = X$, collective consumption goods are characterised by $x_1 = x_2 = \dots = x_n = X$ (Samuelson 1955: 350).

However, neither individual nor collective consumption goods are given. They are the result of action, whereupon consumption is a kind of action (Mises 2007: 13). This means, consumption goods are traced directly back to doing, wanting and believing (cp. sub-Section 3.2.2.). For example, Anne drinks because she wants to reduce her thirst and believes that drinking reduces her thirst.

The crucial point in this example is that no good features as a means of reducing uneasiness. Drinking, as doing, *is* the means. It is the means of reducing uneasiness. The means of reducing uneasiness is doing and not a thing, as is often erroneously assumed. (cp. Puster and Winter 2018: 136–137).

To clarify the misunderstanding, the above sentence should be extended to: Anne drinks a cup of coffee because she wants to reduce her thirst and believes that

drinking a cup of coffee will reduce her thirst. Here, too, the means is drinking and not the cup of coffee.

The cup of coffee is not the means in itself. Only at the moment of drinking does the cup of coffee become a part of means.

Perhaps the connection of an action and a thing (a cup of coffee) might become clearer if we change the sentence above: Anne does not drink a cup of coffee because she wants to reduce her thirst and believes that drinking a cup of coffee will not reduce her thirst. Anne also acts in this case because the opposite of drinking, that is, not drinking, is also doing. However, in this case, the cup of coffee is not a good. It may exist, but it is not related to any action.

In this context, it is useful to distinguish between things and goods. While a thing exists objectively because of its physical characteristics, a good exists only because of the subjective recognition of a human (cp. Hayek 1978: 4). In other words, doing (here drinking) transforms a thing into a good.

But this means that a thing becomes a good when at least one human inserts the thing into his or her doing. A thing is not a consumption good by virtue of its mere existence; it only becomes a consumption good in connection with an action (Puster and Winter 2018: 136–137).

Illustrative examples are presented in Simon (1998: e.g. 581–585), Mises (2007: 645) and Anderson and Hill (1996). Simon (1998: e.g. 581–585) explained in some length that raw materials, natural resources and the environment are useful and valuable only when humans discover that these things of nature are helpful in satisfying wants and reducing uneasiness in relation to living conditions. Mises (2007: 645) Mises showed how the thing “landscape” became a good “recreational landscape” through the appreciation of city dwellers. Anderson and Hill (1996) revealed how the Northern Pacific Railroad recognised the potential amenity rents to be derived from the Yellowstone landscape and found ways to grasp these.

Obviously, Samuelson (1954: 387) recognised the difference between things and goods by inserting the quantity x of a thing into the utility function for an individual. According to Laffont (1994: 36–37) we can summarise:

$$u^1(x^1, y^1)$$

$$u^2(x^2, y^2)$$

$$x^1 + x^2 = X$$

$$y^1 = y^2 = Y,$$

where u is the utility, x is the individual share of the individual consumption good, X is the total amount of the individual consumption good, y is the individual share of

the collective consumption good, Y is the total amount of the collective consumption good, and 1 and 2 are the indices of the two consumers.

Exactly this insertion of quantity x of a thing into the utility function mathematically transforms a physical thing into a good. At this moment, a thing becomes a good, because the individual recognises that a thing is related to its utility.⁵ The Laffont-Samuelson model appears consistent with the theory of action.

However, the mathematical transformation $y \rightarrow u(y)$ abstracts from the process of this transformation. It shows the given variable y and the result $u(y)$. The mathematical model does not make it clear that an action is required to move from y to $u(y)$ in the first place. Instead, attention is focussed on y . But the utility of a collective consumption good y does not exist independent of an action. Without reference to a specific action, we cannot speak of a good being consumed. Without reference to a concrete doing, wanting and believing, we cannot conclude that the mere existence of a thing reduces the uneasiness felt by a human being. This statement applies to both individual and collective consumption.

To clarify the importance of action in the identification of a thing as a collective consumption good, let's change the cup of coffee cited example above to a landscape example.

Let's assume that Caio and Tizio hike together in a mountain landscape. Caio is enjoying (doing) the scenic beauty of a landscape because he wants to reduce his daily stress and believes that enjoying (doing) the scenic beauty of a landscape reduces this stress. Tizio, on the other hand, is enjoying (doing) the conversation with Caio because he wants to reduce his need for conversation and believes that enjoying (doing) the conversation with Caio reduces his need for conversation. Tizio is not aware of the scenic beauty of the landscape. Thus, he does not enjoy (doing) the scenic beauty of the landscape, even though he is walking through the same landscape as Caio. From this follows that the scenic beauty of the landscape is not a good for Tizio, neither individually nor collectively consumed.

As a consequence, we have to note the Laffont-Samuelson model as:

$$\begin{aligned} u^C(x^1, y^1) \\ u^T(x^2) \end{aligned}$$

⁵ Although utility is very commonly applied in economics, it is not a fundamental concept within the theory of action, as we have described at chapter 3. However, we can see utility is a derived concept, because it is directly related to uneasiness: *"Utility means in this context simply: causal relevance for the removal of felt uneasiness. Acting man believes that the services a thing can render are apt to improve his own well-being, and calls this the utility of the thing concerned. In praxeology the term utility is tantamount to the importance attached to a thing on account of the belief that it can remove uneasiness"* (Mises 2007: 120). Thus, we can apply utility to highlight the relationship between the philosophical and the economic theories of action.

$$\begin{aligned}x^1 + x^2 &= X \\ y^1 &= y^2 = Y,\end{aligned}$$

where C is Caio and T is Tizio.

This statement does not imply that the scenic beauty of the landscape does not affect the well-being of Tizio only if Tizio acknowledges this effect on his well-being. However, the actions of Tizio are dependent upon his belief that the scenic beauty of a landscape influences his well-being. From this follows that the scenic beauty of the landscape is, we repeat, not a good for Tizio, neither individually nor collectively consumed.

The common claim, made without knowing more about the actions of humans, that humans are better off for the mere existence of things such as landscape, the atmosphere and security than they would be without them, is almost a bold conclusion.

It transmits a selected individual belief and uses that selected belief as an abstraction. Thus, it does not substitute the concept of subjectivism with the concept of objectivism, as was assumed above. It only proclaims an individual doing, wanting and believing as objectively given. ‘All enjoy in common non-rival consumption’ is merely a pseudo-objective criterion. Thus, with the introduction of a criterion that is external to the humans involved, the theory of public goods has clearly surpassed the framework of a subjective theory and, indeed, exceeded the bounds of economics as a positive, *wertfrei* science (cp. Hoppe 1989: 31).

It is only possible to conclude from one’s own doing, wanting and believing the doing, wanting and believing of other humans. Thus, the characteristic of ‘non-rival consumption’ transfers the doing, wanting and believing of the observer, or of the selected human, onto other humans (cp. also Puster and Winter 2018: 144).

This means that the characteristic of ‘non-rival consumption’ is neither an abstraction⁶ of nor a tentative hypothesis⁷ about action. It transmits an individual belief, either that of an external observer or of some selected humans within the collective. Given the subjectivity⁸ of action, it is impossible to believe this from a neutral perspective.

However, the story is not finished yet. The characteristic that all humans find satisfaction in collective consumption, also in cases where no collective consumption evolves, not only includes an individual belief of the observer, it also documents the uneasiness of the observer with the choices of other humans.

⁶ cp. Oliva Cordoba (2024: 128–129) or Schmidt and Schischkoff (1991: 4).

⁷ cp. Albert (2014: 53).

⁸ Compare Section 3.2.3.: “One’s attitudes are independent of both of the world at stake and the attitudes of others” (Oliva Cordoba 2024: 119).

The way out of this action-logic trap is the assumption that there are strong incentives for each human to give false signals indicating less interest in collective consumption (Samuelson 1954: 388) (cp. building block B3 of the standard theory of public goods, chapter 2). For instance, referring back to our Caio/Tizio example above, like Caio Tizio also enjoys the scenic beauty of the landscape. However, he signals to Caio that he is not interested in hiking in this landscape because he intends to use this feigned disinterest to push Caio to bear the entirety of the travel costs.

It is time, therefore, to analyse false signalling within the theory of action.

5 False Signalling and Free Riding Within the Theory of Action

5.1 The Two Principal Actions for Setting aside Collective Consumption

To analyse false signalling from the perspective of the theory of action, let's first sketch the corresponding situation in a group of three anonymous humans.⁹

All three humans *A*, *B* and *C* in Table 1 give false signals. However, in Table 2 only the humans *A* and *B* give false signals. But human *C* has no interest in collective consumption. Thus, she signals correctly.

Table 1: Individual valuation of collective consumption. The numbers without brackets indicate the true values of the humans *A*, *B* and *C* while the numbers within brackets represent the signalled values.

Human	Benefit value	Fee	Net value
<i>A</i>	4 (1)	2	+2 (−1)
<i>B</i>	4 (1)	2	+2 (−1)
<i>C</i>	4 (0)	2	+2 (−2)

⁹ Buchanan (1999: 81–82) distinguished between the small-number and the large-number case. Whereas in the small-number group the human acts strategically, action within the large-number group is characterised by general interdependence among all humans within the group. For example, if Vera litters the park in the belief that other humans will tidy away her garbage, she acts strategically. By contrast, if she litters the park and believes that her littering does not affect the cleanliness of the park, she acts non-strategically in a large-number group. Although in the example in Table 1 only three humans are part of the group, we assume the action patterns of the large-number case. Thus, humans *A*, *B* and *C* act non-strategically.

Table 2: Individual valuation of collective consumption, where human *C* does not favour collective consumption.

Human	Benefit value	Fee	Net value
<i>A</i>	4 (1)	2	+2 (−1)
<i>B</i>	4 (1)	2	+2 (−1)
<i>C</i>	0 (0)	2	−2 (−2)

Table 3: The evolution of free riding: a sufficient number of humans do not give false signals and pay the necessary expenses. Only a limited number of humans emit false signals and have the possibility to free ride.

Human	Benefit value	Fee	Net value
<i>A</i>	4	3	+1
<i>B</i>	4	3	+1
<i>C</i>	4 (0)	0	+4 (0)

Applying the unanimity rule, both cases, Table 1 and Table 2, represent situations where no collective consumption evolves. In the case of Table 1 all three humans *A*, *B* and *C* are unsatisfied with the overall result. In the case of Table 2 only the humans *A* and *B* will perceive this result to be unsatisfactory, whereas human *C* will be satisfied.

As Wagner (2016: 50) pointed out, there is no empirical way to distinguish the false signalling from the true signalling humans. In our example, there is no empirical way to determine whether human *C* is 4(0), as in Table 1, or 0(0), as in Table 2.

What about free riding? If, as outlined in Tables 1 and 2, collective consumption fails to emerge, free riding is impossible (de Jasay 1998: 233–239). Free riding can only evolve where a sufficient number of humans do not give false signals and pay the necessary expenses, while other humans emit false signals (cp. Table 3).

Free riding undoubtedly serves to either frustrate collective consumption or causing disadvantages to those remaining users of the collective consumption good who do not free ride.

5.2 Arrangements for Preventing and Reducing Free Riding

False signalling and the related free riding are real problems in collective consumption. People have developed various ways to reduce them (e.g., the lighthouse case, Coase 1974).

In a seminal paper, Becker (1983: 377) analysed different precautions (e.g., ostracism, intimidation, fines) adopted to prevent or to reduce free riding. Various forms of coercion can also be applied, as outlined in Section 6 of this paper.

Another intensively discussed technique to prevent or reduce free riding is the possibility to exit from collective consumption. Dowding et al. (2000) reviewed the relevant literature based on the important work by Hirschman (1970).

In simulations of three-person prisoner dilemma games, Congleton and Vanberg (2001: 165) showed that the possibility of exit leads to escape from dysfunctional teams, which increases the benefits of cooperation, and promotes long-term stability.

Thus, Samuelson's (1954: 388) conclusion that no voluntary, decentralised pricing system generates an optimal level of collective consumption goods and only holds if the costs of preventing free riding are infinite. In cases where the costs are finite, optimal (though reduced) provision of collective consumption goods becomes possible.

Thus, Samuelson's (1954: 388) conclusion also contains an additional normative petition to change the situation through the application of coercion by outsiders. At exactly this point the theory of public goods becomes an instrument for the normative justification of coercion.

It is, therefore, time to incorporate coercion into the analysis.

6 The Logic of Coercion and its Consequences

6.1 Does Coercion Solve the Free Rider Problem?

Building block B5 of the theory of public goods states that a central organisation with the ability to coerce humans to pay their contributions for the provision of collective consumption goods generates a better position for every human (Downs 1957: 170). This is true only in the cases outlined in Tables 1 and 3. Collective consumption can occur (Table 1) and free riding (Table 3) can be prevented. However, in the case of the situation depicted in Table 2 coercion does not solve the free rider problem, it only changes the free riders.

To demonstrate this change, let us assume that humans *A* and *B* have the ability to coerce human *C*. Thus, human *C* has to pay an individual contribution to finance collective consumption. This new situation is depicted in Table 4. Here humans *A* and *B* consume at the expense of human *C*. This situation is called free riding.

Thus, coercive financing also generates a free rider problem. This is astonishing because within the standard theory of public goods it is proposed that coercive financing solves the free rider problem. Now we see, however, that it merely changes

Table 4: Individual valuation of collective consumption with the application of a coercive demand for a financial contribution from human C who does not favour collective consumption.

Human	Benefit value	Fee	Net value
A	4	2	+2
B	4	2	+2
C	0	2	−2

the free riders (cp. de Jasay 1998: 240–245).^{10,11} As a consequence, the application of coercion cannot be used as means to solve the problem of no collective consumption and of free riding.

Moreover, if a person becomes aware that others have the ability to coerce, then the valuation of coercion itself could prompt a change with regard to their wants in terms of collective consumption. If human B is generally opposed to the idea of coercion she may well abandon her willingness to engage in collective consumption. Not because she does not want collective consumption, as was the case with human C in Table 2, but because she places a higher value on non-coercion than on collective consumption (Table 5).

Table 5: Valuation of both collective consumption and coercion, where for human B the benefit of collective consumption is outweighed by the negative effect of coercion.

Human	Benefit value	Coercion value	Fee	Net value
A	4	−1	2	+1
B	4	−5	2	−3
C	0	−1	2	−3

10 “The state-oriented group, by extracting a benefit whose cost is borne by the rest of society, is acting out the role of the free rider vis-a-vis society in precisely the same way as the member of a group vis-a-vis the rest of his group” (de Jasay 1998: 243).

11 This result from the model of three individuals becomes more general if we adopt a more general model structure, as in the models of the Lindahl equilibrium, the cost-share equilibrium and the core equivalence. Authors such as Laffont (1994: e.g. 167), Sobel (2004:32), Wellisch (2000: 86) and Wiesmeth (2012: 114, 121–122) concluded that efficient Lindahl pricing, cost-share equilibria and core equivalence are usually not possible. This, however, means that no fee regime solves the free rider problem. Each one serves only to change the free riders.

It should be mentioned again here that, as in the cases of Tables 1 and 2, there is no empirical way to distinguish between humans who do not favour collective consumption (human *C* in Table 4) and humans who simply place a higher value on their freedom to decide for themselves how they realise their wants than they place on the enjoyment of the collectively consumed good (human *B* in Table 5). Both human *B* and human *C* will relinquish collective consumption, but for different reasons.

Next, let us sketch the opposite possibility to that outlined in Table 5. Certain humans do not, as a general principal, favour collective consumption. However, they perceive the disadvantages of collective consumption to be outweighed by the advantages of the application of coercion to others. This new situation is illustrated in Table 6.

Although this case appears a little bizarre, it is widespread in modern democracies. Typical examples of those represented by human *B* in Table 6 are civil servants and members of various pressure groups.

Civil servants have strong incentives for the application of coercion because they see coercion as a means to generate their salaries and other kinds of income. In the selfish society there is now a guarantee that the servants of the state apply coercion in the interests of those who favour collective consumption. There is a strong assumption that the protectors apply their powers of coercion to realise their own individual goals (cp. Brennan and Hamlin 2000: 39).

In their competition for privileges, such as tax advantages, subsidies and exclusive rights (cp. Becker 1983), the humans within pressure groups provide goods to governments and state bureaucracies that are characterised as charitable, welfare-increasing, in the public interest, etc. They mimic public goods.

There are a lot of examples of imitations of public goods, as identified and analysed within public choice theory. For example, on the one side of the politics, pressure groups supply mimicked public goods in exchange for privileges. On the other side of politics, governments and state bureaucracies request such goods, which they can only provide by coercing. They ‘pay’ the pressure groups for the

Table 6: Valuation of both collective consumption and coercion, where human *B* does not favour collective consumption but views coercion positively.

Human	Benefit value	Coercion value	Fee	Net value
<i>A</i>	4	−1	2	+1
<i>B</i>	0	+4	2	+2
<i>C</i>	0	−1	2	−3

supply of these mimicked public goods in the form of privileges (tax advantages, subsidies, exclusive rights, etc.). This is the well-known story of the rent seeking society (Hillman and Long 2019).

In summary, as we have already seen, coercion does not solve the free rider problem, it only changes the free riders. Moreover, coercion generates additional problems in relation to collective action (cp. Tables 5 and 6) by changing the incentives available to the humans involved.

6.2 The Relationship Between Coercion, Collective-Decision Rule and the Entry-Exit Clause

Whether humans prefer collective consumption or not cannot be determined by applying the pseudo-objective criterion of “all enjoy in common”, but by focusing on their actions, as we discussed in Section 4. This means, humans willing to consume collectively can either create an organisation of some kind or participate in an existing organisation of collective consumption such as a club.

As a consequence, the voluntary building of collective consumption groups is the key to optimal collective consumption. Thus, the club goods theory put forward by Buchanan (1965) and reformulated by Sandler (2013), is not a specific case of collective consumption as Buchanan (1965: 13) assumed.¹² Instead, this theory is much more general.

Because collective consumption in clubs requires collective decisions, collective consumption without the use of coercion is only possible if the unanimity rule is used. However, this rule is rarely applied due to the high decision-making costs. Mostly, some kinds of the majority rule are applied. (Buchanan and Tullock 1999) However, this means that coercion returns through the back door: coercion is exerted by the majority on the minority.

As long as entry into and exit from the group of collective consumption is voluntary, the individual benefit-cost evaluation between collective consumption and coercion by the majority on the one hand and non-collective consumption or no consumption in conjunction with no coercion on the other is the underlying fundamental procedure for the occurrence of collective consumption, cp. Section 5.2.

Leventoglu et al. (2025) showed that there is a relationship between the collective decision rule and the entry-exit clause: The further away the collective decision-making rule is from unanimity, the more important the entry-exit clause becomes in

¹² Buchanan (1965: 13) modestly deemed his club goods theory to be of limited relevance. He considered the theory to be applicable only to those organisations where the exclusion of non-paying individuals is possible.

preventing coercion by the majority. This also means that the further the collective decision-making rule moves away from unanimity, the easier it must be the entry and exit in order to prevent coercion. And vice versa.

Frictions arise where the collective consumption club combines decision making rules are far away from unanimity and combined with strong entry-exit clause. In this case, all of the problems sketched in the Tables 4, 5 and 6 grow and the club evolves into a predatory club with all of the attendant problems and struggles. But this is the story of the predatory state which is outside of the analysis at hand (cp. Vahabi 2020).

7 Summing up: Towards an Action-Based Theory of Collective Consumption

When we apply the fundamental concepts of doing, wanting and believing of the theory of action, combine these concepts with the concept of subjectivity, and apply them to the standard theory of public goods, we find that the standard theory of public goods is not entirely grounded on the logic of human action. Let us delve into this in some more detail:

- (1) Building block B1: Neither individual nor collective consumption goods are given by their mere existence. They are the result of action, whereupon consumption is a kind of action. These means consumption goods are traced directly back to doing, wanting and believing. No good exists without action.
- (2) Building block B2: In this building block enjoying is equated with consuming. But this equalizing is incomplete. Because enjoying is a form of doing. However, consumption as a form of action is not the same as doing. As we have shown, consumption includes doing, yes, but also wanting and believing. It follows that the statements “all enjoy in common” and “all consume in common” are not the same thing. The assertion that enjoying (doing) certain things reduces uneasiness is not possible without knowledge of the complete action of the humans concerned, which also includes wanting and believing.
- (3) Building block B3: Not all humans who set aside the collective consumption of certain goods give false signals. Some humans do not favour the collective consumption of certain goods; some other humans do not identify things as goods. There is no empirical way to distinguish the false signalling from the true signalling humans. Thus, the argument of false signalling is a mere assertion.
- (4) Building block B4: False signalling and free riding are important problems of collective consumption. Therefore, over the course of the development of interpersonal exchange, humans have discovered and developed various

precautions to prevent or to reduce free riding. However, the resultant levels of the quantities of collective consumption goods differ from Samuelson's optimum. Voluntary, decentralised collective consumption induces efforts to prevent or to reduce free riding. The resulting costs are not part of Samuelson's optimal condition. It is not unusual for the optimal levels of collective consumption goods with and without consideration of the costs to prevent or reduce free riding to differ.

- (5) Building block B5: Coercion does not solve the free rider problem; it only changes the free riders. Moreover, by changing the incentives of the humans involved, coercion generates additional problems in relation to collective actions and leads to rent seeking.

We are not yet at the end. Although each building block contains elements that originate from outside the theory of action, beyond that there is an ultimate theoretical fallacy within the standard theory of public goods.

Various scientists have focused on voluntarily agreed and non-agreed coercion as the problematic issue. However, before the distinction between voluntarily agreed and non-agreed coercion is possible, the humans relevant to making this agreement must be identified. Whether or not a human belongs to a collective consumption group can be determined only by their actions. Without action no independent distinction is possible whether a human belongs to a group or not.

The ultimate theoretical fallacy within the standard theory of public goods is the assumption of 'all' (collective consumption goods are goods that *all* enjoy in common) independent of the actions of all of these humans. For example, all humans are the beneficiaries of efforts to reduce global warming; all humans are the beneficiaries of biodiversity; all humans are the beneficiaries of a minimum global capital gains tax, etc.

The statement commonly made, without knowing more about humans' actions, that humans are made better off through the consumption of certain goods than if they do not consume them, leads to a logical contradiction. This logical contradiction consists in the fact that humans cannot simultaneously be regarded as autonomous beings (originators of values, of self-objectives, whose ultimate authority arises from the fact that they are freely willed or even not willed) and declared to be the beneficiaries of things without reference to their actions (cp. also Berlin (1979)).

All these arguments not only lead to the conclusion that the standard theory of public goods is not entirely grounded in the logic of human action. We can turn it how we like, public goods, as defined in the standard theory, cannot exist at all for reasons of action theory. That is that.

Perhaps this overall conclusion sounds too harsh. However, on closer reading, it is already implicit in the various criticisms of the public goods theory. It is rather

surprising that this conclusion has not yet been generally drawn and that the theory of public goods lives on in textbooks and reference books.

Of course, there are exceptions. For instance, Holcombe (2000: 285) interpreted the theory of public goods as part of the government-produced propaganda. In an article on public expenditure Faccini (2022: 1) concluded similarly: “... *the theory of free public spending is probably a myth spread by the politicians to justify the electoral instrumentalisation of their public choice.*”

Whatever the case may be, the end of the standard public goods theory does not mean the end of collective consumption. We observe various forms of collective consumption of goods. That is unquestionable. It would appear, therefore, to be time to formulate a theory of collective consumption in terms of human actions, one not dependent on any normative and ideological prejudices.

The renewal of the theory of collective consumption on the basis of the theory of action opens up the possibility of understanding collective consumption from the ground up. This is the case, for example, when we ask why we consume collectively at all. Or when we ask why so much coercion is applied in collective consumption. The action-theoretical retracement provides us with the explanatory element that it is our actions that determine whether we consume individually or collectively, but not externally defined characteristics of goods. In this sense, action theory is also a useful research tool to answer the urgent questions of our time, such as the preservation of peace, the protection of essential ecosystems, curbing climate change, etc.

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