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Sen and Sraffa: Description as Theory

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Abstract

The article engages with Amartya Sen's interpretation of Piero Sraffa's *Production of Commodities by Means of Commodities* (PCMC). Sen has the distinction of highlighting the philosophical and methodological aspects of Sraffa's work. In this regard, Sen has highlighted the role of counterfactuals in economic theory and the role of value theory in political economy as a matter of 'social communication'. On these two issues, there is considerable discussion in recent Sraffian scholarship that is concerned with the significance of Sraffa's critique of marginalist theory and the rehabilitation of classical economics. The article scrutinizes Sen's interpretation of PCMC and highlights several noteworthy contributions and insights. While being sympathetic to the substantive points of criticism entailed by PCMC, Sen misunderstands Sraffa's 'critique of economic theory' and the reasoning involved in such a critique. A critical reading reveals that Sen's interpretation of Sraffa is more reflective of his own work on the 'choice basis of description' than an appreciation of Sraffa's theoretical project. Despite the misunderstandings, the article highlights the similarities in vision between Sen's interpretation of Sraffa and Sraffa's revival of classical economics. By undertaking such a critical reading, the article raises important issues about method and the scope of economic enquiries

1 Introduction

Amartya Sen has the distinction of emphasizing the methodological and philosophical content of Piero Sraffa's classic work *Production of Commodities by Means of Commodities* (PCMC hereafter) (Sraffa, 1960). Sen has periodically written about Sraffa's work and various other themes in classical economics that reflects a sustained engagement. The wide range of insightful contributions that Sen has made to welfare and development economics have claimed antecedents in the works of classical economists. Sraffa's work, on the other hand, has led to

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the revival of classical political economy by clarifying its basic structure and rehabilitating the classical theory of value and distribution. It would seem wholly puzzling that Sen- who draws from classical economists to enrich mainstream economics- should hold widely contrasting views from Sraffa on the fundamental questions in classical political economy despite their personal proximity. A critical scrutiny of Sen's interpretation of Sraffa, articulated intermittently in a series of articles, is warranted to highlight the often-neglected methodological underpinnings of PCMC and to indicate a confluence in vision of classical political economy as an inherently open theoretical system. Such a reading has important implications for the nature and scope of economic inquiries and is relevant to the debate on pluralism in economics.

The remarkable aspect of Sraffa's magnum opus PCMC is that it is simultaneously a rehabilitation of classical economics as well as a critique of the later marginalist or neoclassical theory. By solving long-standing problems in the classical theory of value and distribution, and providing conceptual coherence to the structure of classical theory, Sraffa signals a return to the classical economics of Smith, Ricardo and Marx. This is simultaneously accompanied by an internal critique of marginalist theory of value and distribution, most notably on the terrain of capital theory. Consequently, most of the scholarship following Sraffa's work has exclusively focused on the significance of Sraffa's critique and the reconstruction of economic theory, without paying much attention to the peculiar methodological aspects of PCMC. In this regard, Sen's interpretation of Sraffa stands out for his insistence on interpreting Sraffa's economics in conjunction with his philosophy and for indicating the implications such an interpretation would have for the nature and scope of economics¹. Although these philosophical views are not articulated by Sraffa in his published writings, Sen offers an interpretation of PCMC based on its implicit methodology and personal conversations with Sraffa.

A distinctive feature of Sen's interpretation of PCMC that makes it noteworthy of consideration is Sen's personal proximity to Sraffa at Trinity College, Cambridge, which allowed Sen, in his own words, to learn a great deal about Sraffa (A. Sen, 2004, p.27)². Thus, Sen writes from the vantage point of a student, and later as a young colleague, who not only had the opportunity to interact frequently with Sraffa but was also familiar with the debates ensuing in Cambridge³. At Cambridge, Sen's thesis supervisors were Maurice Dobb

¹(Rosselli & Trabucchi, 2019, p.334-335) point out that Sen is a notable exception to the numerous works that have appeared on the relevance of Sraffa's contribution by paying attention to Sraffa's rejection of the marginal magnitudes in PCMC.

²A personal account of their relationship is found in Sen's memoir (A. Sen, 2021). This is also confirmed by Marcuzzo who writes that as a Fellow of Trinity, Sraffa had "important and significant relations with various Fellows of Trinity including A.S Besicovitch, L. Wittgenstein, M. Dobb, D.H. Robertson, D. Champernowne, A.Sen and R. Nield" (Marcuzzo, 2005, p.441)

³Sraffa was the Director of Studies for Sen throughout his undergraduate days from 1953-55 and acted as a de-facto additional supervisor. In 1957, Sen got elected as a Fellow to Trinity college with Sraffa's support and reports that "between 1958 and 1963, we often had

and Joan Robinson, both of whom had close intellectual ties with Sraffa. More remarkably, Sen had the unique privilege of reading the manuscript of PCMC before its publication and possibly gaining an insight into the intent, nature and significance of the book that has generated significant debate. This is particularly relevant since Sraffa was very protective of his work and carefully guarded its contents during its long gestation period. Thus, for instance, Nicholas Kaldor would recall that “he [Sraffa] was so protective about his own ideas that for years he would not tell me, or for that matter anyone else, what exactly they were about” (Marcuzzo, 2005, p.443).

While Sen does evaluate the economic contributions of Sraffa, the focus is on the latter’s philosophical contributions, or more precisely the “light that Sraffa’s philosophical outlook...throws on the nature on his economic investigations” (A. Sen, 2004, p.24)⁴. Thus, Sen’s objective is to evaluate Sraffa as an intellectual in his cultural context and understand the “distinct link between his [Sraffa] thoughts in different fields” (ibid., p.24). In doing this, considerable attention is devoted to the impact Sraffa had in changing Ludwig Wittgenstein’s philosophical position on questions of meaning and language, and the indirect influence of Antonio Gramsci, the Italian Marxist, in this regard. Sen notes that Sraffa used to do serious philosophy without ever calling it philosophy and the influence that discussions with Sraffa had on his own work on social choice theory, especially the importance of ‘personal liberty’ to social choice, as well as the role of debate and discussion to social communication (A. Sen, 2021).

In characterizing Sraffa’s intellectual attitude, Sen describes it as a form of ‘constructive skepticism’ whose skepticism seemed to apply to all the schools of economic thought and his style of questioning as ‘foundational’ in nature (A. Sen, 2016, 2021). Sen notes that Sraffa’s “basic engagement tended to be on the viability of the *foundations* of an approach” and the “constructive role he [Sraffa] gave to the art of questioning” (A. Sen, 2004, p.28, emphasis in original). Thus, Sraffa’s criticism of Wittgenstein’s early philosophical position in the *Tractatus Logico-Philosophicus* was accompanied by a constructive proposal that was expounded in Wittgenstein’s later work, *Philosophical Investigations*. A similar attitude prevails in Sraffa’s contribution to economics i.e. a foundational critique of marginalist theory, accompanied by the constructive proposal of reviving classical theory. However, Sen is quick to clarify that there is “the need for a clear and discerning interpretation of what Sraffa was questioning and what form an alternative construction could possibly take” (ibid.,p.28).

long walks in the afternoon, discussing an endless variety of subjects” (A. Sen, 2004, p.27)

⁴It is pertinent to note that the initial set of reviews of PCMC did not pay attention to the methodological and philosophical aspects of the book. See (Bellino, 2008) for a summary of reactions to PCMC. After the opening of the Sraffa archives in the early 90’s there have been numerous contributions in this direction. See (Davis, 1988, 2012),(Salanti & Signorino, 2001),(Signorino, 2001),(Kurz & Salvadori, 2005),(Salvadori & Signorino, 2007),(Blankenburg, Arena, & Wilkinson, 2012), (Marcuzzo & Rosselli, 2011) for an illustrative list of articles in this direction

Before critically analyzing Sen's interpretation of Sraffa, a brief summary of the interrelated claims put forward by Sen is helpful. On the basis of Sraffa's suggestion to Wittgenstein of an 'anthropological way' of looking at the philosophical problem of meaning, Sen speculates that the nature of meaning and communication play a direct and critical role in PCMC (A. Sen, 2004, p.43). Two examples are cited for this argument. First, the idea of capital as a 'factor of production' and the associated interpretation of profits as the reward for the marginal productivity of capital is disputed by Sraffa (*ibid.*, 44-45). Second, the nature and meaning of 'determination' of prices in PCMC is elaborated by Sen (*ibid.*, p.46). On the basis of the second example, Sen claims that there is no causal theory of value in PCMC since there are no counterfactual magnitudes (*ibid.* p.47,52-53). A second claim following from the first is that value in PCMC should instead be understood as a form of 'social communication' showing the interrelationship between prices and income distribution seen solely from the production side. Finally, Sen claims that value theory serves the purpose of perspicacious description and social communication in classical economics and that Sraffa's main contribution should be seen as broadening the scope and nature of economic enquiries (A. Sen, 1978, 2004, p.51,54).

The two novel and worthwhile aspects of PCMC that Sen brings forth to the discussion are; the absence of counterfactual magnitudes in PCMC which have a bearing on the 'determination' of prices and the claim that Sraffa was trying to broaden the scope of economic enquiries. It is argued in this article that although the suggestions and conclusions of Sen's interpretation are valid and novel, the reasoning followed to arrive at such conclusions is misleading and betrays the essential character of Sraffa's project. The misreading becomes clear when one considers the differences that emerge regarding Sraffa's economics, particularly on questions of value and capital. Nevertheless, an assessment of the structure of classical theory and the notion of 'change' in it will help clarify some of these suggestions made by Sen that Sraffa's main contribution ought to be seen as broadening the scope of economic enquiries. The article thus contributes to the recent and growing literature on Sraffa's method by (Marcuzzo & Rosselli, 2011),(Blankenburg et al., 2012),(Ginzburg, 2013),(Rosselli & Trabucchi, 2019), (Davis, 2021), on the role of counterfactuals in economic analysis by highlighting Amartya Sen's contributions. This has a direct bearing on the nature and scope of economic analysis and is relevant to the discussion on 'open systems' and 'pluralism' in economics.

The rest of the article is structured as follows. Section two deals with the role of counterfactuals in PCMC and the related notion of 'change'. It will be seen that Sraffa's position on 'change' is absolutely fundamental to his theoretical project and that Sen is correct in emphasizing the absence of counterfactual, or more precisely, marginal magnitudes in PCMC. Section three discusses the notion of value in PCMC and Sen's suggestion of an 'analytical determination of prices' and the importance of value theory as a form of 'social communication'. Section four takes up Sen's constructive proposal of interpreting PCMC

as broadening the scope of economic inquires and evaluates this proposal in the context of the structure of classical economics.

2 Counterfactuals in Economic Theory

One of the primary contributions of Sen is to redirect attention to Sraffa's implicit methodology, especially the avoidance of counterfactual magnitudes in PCMC (A. Sen, 1978, 1989, 2003, p.180-182; p.305; p.1251)⁵. In PCMC, on the basis of 'observed' data - a given size and composition of output, methods of production and an exogenously given distributive variable - Sraffa derives the prices of production, the rate of profit and other fundamental properties of the economic system such as the wage-profit frontier. Sraffa is explicit in emphasizing that such a determination does not involve any change either in the scale of production or in the proportions of factors (Sraffa, 1960, p.v). Thus, Sraffa's methodology is understood by Sen as exploring "how much can be said about the *inter-relations* between prices, distribution and physical quantitative magnitude using only directly observed data, without making any use of *counter-factuals*" (A. Sen, 1978, p.180, emphasis in original)⁶.

This stands in sharp contrast to the method of marginalist economics, which fundamentally involves counterfactual reasoning at the margin or asking questions of the sort: what will the total product be if an additional, infinitesimally small unit of labour or capital is applied. Thus, the marginal method entails allowing for infinitesimally small variations in one variable while holding another variable constant to determine the formers effects and is intrinsically connected to the problem of optimal choice (Marcuzzo & Rosselli, 2011).

The given quantities assumption and the absence of change in the economic system, whether in the scale of production or proportions of factors, rules out marginal magnitudes like marginal product or cost by definition⁷. The reason for avoiding such magnitudes is attributed by Sen to "Sraffa's philosophical suspicion of the invoking of 'counterfactual' magnitudes in factual descriptions" and Sen relates that

⁵The 2004 article titled 'Piero Sraffa: A Students perspective' was presented at 'Piero Sraffa: Convegno Internazionale' at the Italian science academy in Rome, 2003. An earlier and shortened version of the article was published in the Journal of Economic Literature titled 'Sraffa, Wittgenstein and Gramsci' in 2003. The 2004 article delves more deeply into Sraffa's philosophical outlook and the possible meaning of the 'anthropological approach'.

⁶Sen equates counterfactual analysis with the marginal method. Counterfactual analysis or 'if-then' questions are a broader type of analyses, of which marginalist economic theory is one example (Marcuzzo & Rosselli, 2011, p.222). For purposes of consistency and clarity, the article uses marginal magnitudes or marginal method instead of counterfactual magnitudes

⁷In an early and a rather mainstream review of PCMC, (Chakravarty, 1961, p.171) notes this point that "Mr. Sraffa's book...does not permit of the proper use of marginal concepts even by avowed marginalists"

“I do know – from extensive conversations with Sraffa – that he did think that the use of counterfactuals involved additional difficulties which purely observational propositions did not have” (A. Sen, 2003, 2004, p.1251;p.53).

In Sen’s interpretation the use of counterfactuals marks a ‘big methodological divide’ between the cost-based and utility-based theories of value that underlie classical and neoclassical economics respectively (A. Sen, 2003, p.1251)⁸. This is because neoclassical economics with its marginal method inescapably involves counterfactual reasoning such as how much more utility a consumer would have derived if he/she had one more unit of a commodity, unlike the classical approach which relies only on ‘observed’ facts such as a given size and composition of output and a distributive variable. In explaining the decline of classical economics which was “submerged and forgotten since the advent of the ‘marginal’ method” that underlies neoclassical economics, Sraffa draws attention to the implicit notion of change in marginalist theory. As Sraffa (1960, p.v) writes “The marginal approach requires attention to be focused on change, for without change either in the scale of an industry or in the ‘proportions of the factors of production’ there can be neither marginal product nor marginal cost”. As a matter of fact, marginalist theory rests on a very specific and implicit notion of change i.e. potential or hypothetical change, and the following section elaborates this point, and Sraffa’s reasons for rejection of marginal magnitudes.

2.1 The notion of Change

Neoclassical or marginalist economics with its symmetrical demand and supply curves assumes a specific kind of change i.e. potential or hypothetical change. Each (potential) point of equilibrium on the curve is connected to a continuum of other such points defined at the margin through potential or hypothetical changes in the system. This implicit assumption of potential change, along with the assumptions about the well behavedness of functional relationships, is necessary to ensure a position of stable equilibrium. The point about the necessary kind of change required for marginalist theory of value and distribution was first elaborated by Bharadwaj. Thus, (Bharadwaj, 1986, p.38-39, emphasis in original) notes that

“the equilibrium theories describe the properties of the system as observed (or as ideally observable) at that position *in terms* of theoretical stipulations on the ‘marginal magnitudes’, relating to ‘potential’ or hypothetical changes in the system, albeit defined ‘in its neighbourhood’.....It is in this sense that for the equilibrium theories change becomes an essential requisite”.

⁸Apart from the apparent difference that the utility-based theory of value relies on subjective elements and cost-based theory relies on objective magnitudes, (A. Sen, 2003, 2004, p.1251;p.53) argues that “the former has to invoke counterfactuals, whereas the latter - in the Sraffian formulation – has no such need”

The equilibrium position in marginalist theory, with its dependence on potential change stands in sharp contrast to the long-period normal position of classical theory of value which refers to a single 'observed' position of the economic system. While Sen is undoubtedly correct about Sraffa's repudiation of marginal magnitudes in PCMC, it is not the absence of 'counterfactual concepts' per se that constitutes the 'big methodological divide' between classical and neoclassical theories of value, but rather the absence of potential change in the classical theory of value, apart from the fact that value is determined through exogenous income distribution (Bharadwaj, 1986, p.39). The methodological divide bears resemblance to Ricardo's distinction between extensive and intensive rent. The former describes an *observable* situation with different fertilities of land - cultivated side by side - so that their products can be observed and measured at a single instant, whereas the latter describes a situation which requires *change* or *movement* in time, to ascertain the marginal product as the same unit of land with a given quality is cultivated more intensively with successive doses of capital. To use an analogy to illustrate this distinction; the case of extensive rent is similar to propositions in geometry which concern given positions in space *at a moment* of time whereas intensive rent is similar to propositions in mechanics which postulates actual or potential *movement in time* (ibid., p.42), (Marcuzzo & Rosselli, 2011, p.227-229), (Marcuzzo, 2014, 52-53) (Rosselli & Trabucchi, 2019, p.335-336).

Since the opening of the Sraffa archive, several scholars have studied Sraffa's unpublished writings and have reconstructed the reasons for his rejection of marginal magnitudes. The obvious reason for rejecting marginal magnitudes, also noted by Sen, is that they are not directly observable or measurable⁹. But more importantly, Sraffa rejected marginal magnitudes because they do not exist in reality and *can only* be brought into existence by the performance of a controlled hypothetical experiment, which itself cannot be conducted due to the insuperable difficulties in holding the *ceteris paribus* condition (Marcuzzo & Rosselli, 2011, p.223). Thus, marginal magnitudes emerge from a comparison between two mutually exclusive situations that *cannot* exist at the *same time*. For instance, we cannot observe the same piece of land simultaneously cultivated by n and $n+1$ units of a factor at the *same instant*, as in the case of intensive rent (ibid., p.221) (Rosselli & Trabucchi, 2019, p.335). Thus, marginal magnitudes or hypothetical variations cannot be considered as part of the existing situation and to assume that they do entails a determinism regarding the *direction of change* of the variable under consideration. The point is made clear in Sraffa's criticism of Philip Wicksteed's justification for the existence of the labour supply curve that would exist under varying circumstances, Sraffa writes

"This is nothing less than a declaration of faith in universal determinism, for nothing else can support the belief in the actual existence of a prescribed path

⁹See (Kurz & Salvadori, 2005), (Salvadori & Signorino, 2007), for a discussion on the 'objective point of view' underlying Sraffa's methodology

which must inevitably be followed, whether by the consumer or by the producer, such as is described by the demand-and-supply curves” (Sraffa, D3/12/46:52, as quoted in Rosselli and Trabucchi, 2019, p.337)¹⁰.

By attributing a ‘philosophical suspicion’ of counterfactuals to Sraffa, Sen ascribes an unwarranted *a priori*, methodological presumption which is not borne out by evidence (Rosselli & Trabucchi, 2019, p.337). The reader is led to believe that Sraffa refrains from all kinds of counterfactual concepts and reasoning and for Sen this is an ‘overkill’ and there is “little merit in trying to exclude counterfactuals in trying to understand the world” and that the “reach of economics as a discipline would be incredibly limited had all counterfactual reasoning been disallowed” (A. Sen, 2004, p.27, 52, fn.39). However, this is not the case since Sraffa was not opposed to counterfactual reasoning in toto (there is a clear use of counterfactual reasoning in varying the distribution parameter and analyzing its effects on the system), but was opposed to the marginal method in economic theory, particularly to the concept of marginal productivity of capital. Such an opposition was based on a rigorous understanding of actual economies that precluded experiments and of capital as a produced means of production. Thus Sraffa “abhorred the kind of counterfactual reasoning employed by the marginalist authors, because he was convinced that it led us onto treacherous ground” (Kurz, 2012, p.1554).

To conclude this section, Sen is certainly right in highlighting the absence of counterfactual or more precisely, marginal magnitudes in the determination of prices in PCMC. However, it is not just the absence of marginal magnitudes per se but the absence of potential change, and the determination of value through exogenous distribution that distinguishes classical from neoclassical theory. The reason attributed by Sen for the absence of counterfactuals by Sraffa, i.e. a vague ‘philosophical suspicion’, is not borne out by recent scholarship and textual evidence. On the basis of the claim that Sraffa avoids all kinds of counterfactual reasoning and concepts, Sen goes on to make a related claim that there is no *causal* theory of value in Sraffa since any cause-effect relationship necessarily involves the use of counterfactual reasoning.

3 A Non-Causal Theory of Value?

Sen contends that there is no causal theory of value in PCMC, and instead there is an analytical or mathematical determination of relative prices. For Sen, causal determination is distinct from analytical determination wherein, by looking at one part of the system i.e. production, it is possible to derive certain analytical propositions about the rest of the system i.e. prices. Analytical determination thus reflects the overall coherence of the system as for instance, propositions in geometry. Thus, in PCMC as soon as a distributive variable is

¹⁰The unpublished writings of Sraffa are housed at the Wren library, Trinity College and the reference is to the catalogued papers as filed

given from outside the production system, the other distributive variable along with the relative prices can be immediately determined (A. Sen, 1978, 2004, p.180;p.46). Since there is no change in the observed system of production, and thus no marginal magnitudes in PCMC, Sen argues that there is no causal theory of value since causation requires change in time, which is frozen in the snapshot of the production system. Therefore, Sen claims that

“the concept of ‘*determination*’ used in this approach [PCMC] is a broader one than that of causal relations, which would necessitate counterfactual analysis” (A. Sen, 1989, p.305 emphasis in original)¹¹. And that,

“it would be... a mistake to see (as has been sometimes suggested) in Sraffa’s analysis a causal system rival to the standard neoclassical model of the determination of prices, quantities and the distribution of incomes” (A. Sen, 1989, p.306, emphasis in original)¹².

For Sen, any causal theory of value must involve both demand and supply conditions and since PCMC does not deal with any change in the economic system, let alone changes in demand, there can be no causal theory of value. Thus, Sen writes that on “the subject of causal determination of prices *both* demand and supply sides would tend to be simultaneously involved” (A. Sen, 2004, p.54, emphasis in original). Sen is careful to delineate the role of demand in PCMC noting that since the ‘determination’ of prices is done for an observed production system, the question of what would have happened if demand conditions were different does not even arise (ibid., p.46-47). Despite correctly assessing the role of demand, Sen reasserts the belief that “the temptation to see Sraffa’s contribution as a causal theory of price determination (managing, mysteriously, without giving any role to demand conditions) must be resisted” (A. Sen, 2003, p.1253)¹³.

It is important to note in this context that Sraffa rejected any ‘ultimate’ cause of value such as labour or utility in favour of the physical real cost approach as part of his ‘objectivist’ point of view (Garegnani, 2005),(Kurz & Salvadori, 2010). Moreover, in an interdependent system of commodity production it is impossible to point out the direction of causation as to what determines the value of a commodity. To this limited extent, Sen is clearly right in sug-

¹¹Here again, by drawing on Sraffa’s philosophical contributions vis-à-vis Wittgenstein on the issues of language and meaning, Sen comments that it is important to understand the precise meaning of ‘determination’ in the mathematical sense, which should not be confused with causal determination (A. Sen, 2003, p.1247)

¹²This claim has been further developed by (Sinha, 2016) who argues that prices in PCMC are non-equilibrium, market prices and their only role is to consistently account for income distribution

¹³In this aspect, Sen echoes the bewilderment of neoclassical authors on the absence of the demand side in PCMC, who have interpreted it as a special case of neoclassical theory. Cf.(Harrod, 1961),(Samuelson, 1991), (Hahn, 1982) for a representative sample. For a careful textual discussion on the role of demand in PCMC see (Salvadori, 2000)

gesting that there is no causal determination of prices in PCMC. But to assert that there is no causal theory of value because demand and supply sides are not simultaneously involved in the determination of prices, and that Sraffa manages ‘mysteriously’ to do so without the demand side is inaccurate and reflects Sen’s implicit reasoning in terms of marginalist demand and supply schedules¹⁴. Demand does play a role in the determination of prices in PCMC, but not in the way marginalist theory conceptualizes it. The production equations that underlie the determination of relative prices reflect the ‘requirements for use’ and ‘disposal’ of the given output as much as they reflect the cost of production (Kurz, 2012, p.1566).

3.1 Value as Social Communication

After rejecting a causal theory of value in PCMC, Sen goes on to make a second claim that the significance of value theory in PCMC is that it allows for ‘perspicacious description’ or ‘social communication’ and contributes towards the communicational role of economic theory. The determination of prices in PCMC is of general *analytical* and *descriptive* interest since it explicates the production relations or the inter-relationship between technical conditions of production, distribution and prices. Through a rigorous *description* of an observed production system in use one can derive important *analytical* properties of the economic system such as the wage-profit frontier. It is in this sense that description is a theoretical endeavor for Sen that selects the aspects of the economic system to focus on (A. Sen, 1978)¹⁵.

Sen understands the question of value in political economy as a social statement and a matter of rich description¹⁶. Sen approaches the question of value from the perspective of ‘choice basis of description’, which involves selection among the various criteria that are *informationally* relevant to the objective of description, as well as choosing from a plurality of motivations that stimulate economic inquiry that are non-prescriptive and/or non-predictive in nature (A. Sen, 1982, p.432-449). Thus, in the history of economic thought both the cost of production and the utility-based answers to the value question are “alternative ways of explicating what we observe, by invoking ideas like costs of production and marginal usefulness, which can serve as means of social communication and public comprehension” (A. Sen, 2004, p.51)¹⁷.

¹⁴In this context, Andreas Ginzburg insightfully identifies Sen’s implicit reasoning when the latter bemoans the absence of counterfactuals in Sraffa’s scheme. The implicit assumption that Sen makes is that any scientific explanation should necessarily involve the use of counterfactuals to study ‘causation’ or ‘prediction’, just like any causal theory of value must necessarily involve demand conditions to predict what would have happened to quantities produced, for instance, if there was a change in demand (Ginzburg, 2013, p.115)

¹⁵Cf. The essay ‘Description as Choice’ in (A. Sen, 1982)

¹⁶The notion of rich description is not novel in Sen and goes back to the work of the ordinary language philosopher (Ryle, 1968), who emphasized ‘thick description’. Cf. also (Geertz, 1973) for using the concept in social anthropology

¹⁷The distinction between utility and cost-based measures of social income is repeatedly

In other words, to make a statement about value is to make a social statement about the economic world, the usefulness of commodities, the labour that is required to make them, the satisfaction they can generate and the cost that is incurred in their production.

According to Sen, value not only serves an *instrumental* and *predictive* purpose in determining prices in classical economics, but is also a means of making a qualitative, social statement. The answer of Smith, Ricardo and Marx to the value question was not only to highlight the costs involved in production, but also to make a social statement about the role of labour as they developed different variants of the labour theory of value. As a result, Sen argues that the concept of value is imbued with political content in classical economics and Sraffa's work ought to be understood in this light since it throws light on the importance of value theory for perspicacious description (A. Sen, 1978)(A. Sen, 2003, 2004, p.1248; p.54). In support of this argument, Sen approvingly cites (Dobb, 1937) who was concerned with the relevance of value theory to political economy and emphasized the importance of human labour in the description of the production process. Sen draws from Dobb who viewed

“the significance of the labour theory of value, as developed by Smith, Ricardo and Marx, not mainly in terms of prediction, nor primarily in terms of its direct ethical implications, but in the richness of the description of the world of work, production and exchange that it provides” (A. Sen, 2005, p.108).

Thus, quite apart from the predictive and normative functions that the labour theory of value has been put to, for instance in the discussions on the ‘transformation problem’ and the ‘exploitation of labour’ respectively, it also has an important descriptive role in explicating the world of work. Thus, perspicacious description and social communication are part and parcel of the classical approach (A. Sen, 2004, p.51).

Consequently, Sen argues that social communication comes to play a direct and critical role in Sraffa's analytical determination of prices from the mere description of a production system, as interpretational issues are at stake. Sraffa's critique of the concept of capital as a factor of production in PCMC effectively demolished the meaning of interest or profit as the reward for the productivity of capital¹⁸. The social relevance of this technical critique is that it takes issue

found in Sen's writing on development, where the former is a measure of economic welfare and the latter is a measure of ‘opulence’ or a ‘bundle of commodities’ (A. Sen, 1984; A. K. Sen, 1987, p.32-33;p.4). It should be noted that for Sen these are alternative descriptions that are different from a causal theory of value which must simultaneously involve both demand and supply side

¹⁸While acknowledging that Sraffa's critique irreparably damages aggregative neoclassical models, Sen suggests that it is possible to conceive of capital as a set of distinct commodities, which can still have practical policy relevance (A. Sen, 1974)(A. Sen, 2003, p.1246). Such a conception of capital raises its own problems in terms of the instability and impermanence of equilibrium C.f.(Garegnani, 1976)

with a certain interpretative account of capitalism which justifies the earnings of capitalists as their productivity. Thus, it is not hard to see the social and political context of Sraffa's critique once its subject matter is recognized (A. Sen, 2004, p.45)¹⁹.

It is hard to see how Sraffa's critique of capital as a factor of production is an interpretational matter, since it is a *logical* and *structural* critique of marginalist demand and supply theory of value and distribution, which is what makes it foundational in nature. While Sen is certainly right in pointing out that Sraffa's critique demolished the *interpretation* of profits as the reward of the productivity of capital, this is due to the logical inconsistencies of neoclassical theory at its core, demonstrated by the paradoxes in capital theory. The inability to define 'quantity of capital' independently of the rate of profit is as much about the *meaning and measurement* of capital, an issue raised by (Robinson, 1953), as it is about the *structure* of neoclassical theory of value and distribution which is "a one way avenue running from Factors of Production to consumption goods" (Sraffa, 1960, p.93). It is in this sense that Sraffa provides a foundational and structural critique of neoclassical theory that is based on the marginal method. Moreover, exchange values or relative prices in PCMC are not imbued with any communicational role or political content whatsoever contrary to Sen's claim. Prices in PCMC simply represent the viability conditions of an economic system or the conditions of logical consistency between the technical conditions of production and the social distribution of income. Thus, it would seem that the interpretation advanced by Sen of value theory as a form of perspicacious description is more of a reflection of his own work on the 'choice basis of description' than a careful examination of Sraffa's project of reviving classical theory.

4 Broadening the Scope of Economics

The final aspect of Sen's interpretation is the claim that "Sraffa was ... trying to broaden the reach and scope of economic inquiries, not just trying to find different answers to the questions standardly asked in mainstream economic theory" (A. Sen, 2004, p.54; fn.40). The standard questions asked in economic theory refer to the questions of value theory i.e. what determines relative prices. Sen's fundamental argument is that Sraffa's contributions ought to be interpreted in terms of social communication in matters of general descriptive interest, instead of providing an alternative causal theory of value and distribution, and in this sense broadening the scope of economics (A. Sen, 2003, p.1252). Sraffa's 'non counter-factual economics' therefore is an attempt to move away from the positivist methodology of economics and its narrow range of scientific

¹⁹In assessing the 'political context' of Sraffa's critique, Sen writes "I find it altogether difficult to be convinced that one's skepticism of unrestrained capitalism must turn on such matters as the usefulness of aggregate capital as a factor of production and the productivity attributed to it" (A. Sen, 2003, p.1247)

interests to include descriptive exercises that are not concerned with evaluative or predictive inquiries (A. Sen, 1989)(A. Sen, 1978, p.187).

The concern with broadening the scope of economics has always been on the forefront of Sen's vision of incorporating politics and ethics in neoclassical economics. In this regard, Sen has drawn heavily from classical economists, especially Adam Smith. In fact, Sen has consistently taken issue with the narrow scope of neoclassical economics for its failure to consider the plurality of motivations that underlie rational choice, a point forcibly made in his characterization of economic agents in neoclassical theory as 'rational fools', who fail to distinguish between their 'happiness', 'desires', 'well-being' and 'motivations' in their choice (A. K. Sen, 1977). This has the effect of "taking a very narrow view of human beings (and their feelings, ideas and actions), thereby significantly impoverishing the scope and reach of economic theory" (ibid.,p.3).

In pursuing the argument that Sraffa was trying to broaden the scope of economics and the belief that Sraffa's economics cannot be divorced from his philosophy, Sen cites the 'anthropological approach' of looking at philosophical problems that Wittgenstein got from Sraffa²⁰. The 'anthropological approach' emphasizes the community's conventions and regularities that gives language social meaning as opposed to looking at language in isolation. Sen speculates what the 'anthropological approach' of Sraffa could mean and primarily understands it as skepticism regarding the reach of rationality beyond the bounds of convention or the idea that "people are creatures of habit rather than reflective choosers" (A. Sen, 2004, p.26,40). In this regard, Sen cites the joint introduction written by Sraffa and Keynes to David Hume's abstract of the *Treatise on Human Nature* where Sraffa is sympathetic to Hume's dictum that it is not reason which is the guide to life, but custom (Hume, Keynes, & Sraffa, 1938, p.xxx).

While Sraffa is silent on the scope of economics in his published work, the subtitle of PCMC: 'Prelude to a Critique of Economic Theory' suggests that it is foundational in nature and presents a critique of the marginalist theory of value and distribution. By solving the long-standing problem of the 'invariable measure of value' of Ricardo, Sraffa simultaneously rehabilitates the classical approach by strictly delineating the limited scope of price theory as being concerned merely with the reproduction of an economic system. As mentioned before, prices in PCMC simply represent the necessary viability conditions of an economy and ensure consistency between exogenous distribution of the social surplus and the technical conditions of production²¹. However, the exogeneity

²⁰In this context, Sen highlights the indirect role of Gramsci's ideas of 'linguistic convention' and 'spontaneous philosophy' in relation to the 'anthropological approach' of Sraffa. For a more detailed discussion on the influences see (Davis, 1988, 2002), (Sinha, 2009), (Naldi, 2012), (McGuinness, 2008), (Arena, 2013)

²¹On the basis of Sraffa's unpublished work, (Blankenburg et al., 2012) argue that the true object of economics is the 'study of the surplus product' and how it is distributed according to various norms and rules

of income distribution in the classical approach, formally equivalent to the degree of freedom in the Sraffa system of price equations, broadens the scope of the theory by allowing for a variety of non-economic forces to affect income distribution and hence prices. It is in this sense, and not due to ‘value theory as perspicacious description’, that Sen is inadvertently insightful in suggesting that Sraffa’s work broadens the scope of economic analysis. The concept of a freely disposable surplus product allows for historical, political and institutional explanations of distribution, and the analysis of the circumstances that determine the size of the social product becomes the true object of economic analysis (ibid., p.1272),(Aspromourgos, 2013, p.23).

4.1 The Return to Classical Theory

The foregoing discussion suggests a similarity between Sen’s vision of broadening the scope of economics and the inherent openness of classical theory that can admit a variety of influences. Sen’s abiding concern with a morally and descriptively rich economic theory led him to the works of classical economists. This is explained by Sen as the “need to return to the traditional concern of economics with human welfare and social evaluation” which “was also supplemented by my [Sen’s] interest in classical economics and the roots of value theory” (Klamer, 1989, p.139-140). The revival and return to classical economics is also the motivation underlying Sraffa’s PCMC. Although there are similarities in their respective visions, there are significant differences at the level of theory. This is most clearly seen in Sraffa’s critique of neoclassical theory of value and distribution and Sen’s insistence on holding on to the demand and supply apparatus (with capital in its disaggregated form) as a consistent causal theory of value and distribution (A. Sen, 1974).

The methodological implications of Sraffa’s revival of classical theory and critique of marginalist theory, especially with respect to the openness of classical theory, are clearly articulated by Bharadwaj²². Bharadwaj argued that “the classical system, is, in fact, more general in *scope* and versatile in dealing with historico-specific factors” since “it does not commit itself through its theoretical structure to any rigid form and *direction of change*” (Bharadwaj, 1986, p.63, emphasis added). Sraffa’s reconstruction of classical theory as an economic system that is inherently open to outside forces is based on a close understanding of the interrelationship between production and distribution, and the determination of the surplus product cf. (Davis, 2021), (Blankenburg et al., 2012). This stands in stark contrast to the marginalist demand and supply theory which pre-determines the direction and extent of economic change by implicitly assuming the notion of potential change in equilibrium. The signif-

²²(Scheffold, 1998, p.20) notes that “Krishna Bharadwaj was one of the few followers of Sraffa who took the implication of the openness of theory seriously”. In exploring the methodological implications of Sraffa’s work especially its openness, Krishna Bharadwaj takes priority, as a scholar who was emphasizing the radical conclusions entailed by PCMC as early as 1976. cf.(Marcuzzo, 2014) and (Omkarnath, 2018)

icance of this for our present discussion is that marginalist theory is severely constrained in its scope of analysis of actual historical change. In this context it is pertinent to quote Dobb - who Sen cites approvingly in his argument for the descriptive role of value theory - on the scope of economics entailed by the Sraffa system to illustrate Sen's misreading. Dobb writes that by taking a distributive variable as given, "the boundaries of economics as a subject are ipso facto drawn differently and more widely: they are drawn so as to include social, and moreover institutional and historically-relative, changing and changeable, conditions that were excluded from Economics as viewed in the post-Jevonian tradition" (Dobb, 1973, p.261).

The vast and diverse work that Sen has done in welfare and development economics, suitably interpreted within the structure of classical theory, can give an indication of the fruitfulness of the openness of the classical system. To give but two examples from Sen's work. First, in the introduction to *The Idea of Justice*, Sen poses a thought experiment about the nature of distribution²³. This is intended to highlight "the principles that should govern the allocation of resources in general" (A. K. Sen, 2009, p.15). Here, Sen is arguing that the distribution of resources or surplus is not simply a technical matter, as in marginal productivity theory, and instead depends on values and ethical concerns, a point consistent with the openness of income distribution in the classical approach. Second, Sen's theory of capabilities as economic development is compatible with Smith's idea of 'necessities, conveniences and luxuries' and the idea of development in classical economics as qualitative change. A fruitful synthesis of Sen's work and classical economics would thus entail the integration of the analyses of the generation, accumulation and use of economic surplus with the analysis of rights and freedoms, as has been suggested by (Walsh, 2000), (Omkarnath, 2007) and (Martins, 2012) in recent years.

5 Conclusion

Amartya Sen has consistently drawn attention to the fact that Sraffa's work is preeminently methodological and philosophical in nature and has advanced a unique and insightful interpretation in this direction. The core of his argument is that Sraffa was trying to broaden the scope of economic analysis instead of providing an alternative causal theory of value and that value in PCMC should be understood as a matter of social communication. Sen brings to fore numerous prescient insights in his interpretation of Sraffa, aspects which continue to be debated today and are pertinent to the growing literature on Sraffa's method and its relevance for modern economics with increasing calls for pluralism and inter-disciplinarity. A close and critical reading of Sen's engagement with Sraffa's work however reveals that despite grasping the broad character of Sraffa's intel-

²³The hypothetical experiment is posed in the form of who should get a toy flute among three children who are quarreling over it; between the child who knows how to play the flute, the child who has made the flute or the child who has never played with a toy before

lectual thought, Sen fails to correctly apprehend Sraffa's comprehensive critique of neoclassical theory and not just of aggregate capital in neoclassical theory. Thus, while insightfully pointing to the rejection of marginal magnitudes in PCMC, Sen does not follow through the full implications it has for neoclassical economics by attributing such a rejection to simply a 'philosophical suspicion'. Sen is thus led to the inaccurate conclusion that value in PCMC is a matter of social communication, and that Sraffa's critique turns on these interpretational matters. The insistence on demand conditions for a causal theory of value and the dismissal of the capital theory critique indicates that Sen fails to see the structural and logical nature of Sraffa's critique. Moreover, despite making the insightful claim that Sraffa was trying to broaden the scope of economic inquiries, Sen does not consider the fact that it is the inherently open structure of the classical system that allows for a wider scope of analysis. Nevertheless, Sen's own work suggests a way forward for a descriptively richer and inter-disciplinary analyses, bolstered by the analytical openness of classical economics which can incorporate ethics, conventions and history.

References

- Arena, R. (2013). Sraffa's and wittgenstein's reciprocal influences: forms of life and snapshots. In *Sraffa and the reconstruction of economic theory: Volume three* (pp. 84–105). Springer.
- Aspromourgos, T. (2013). Sraffa's system in relation to some main currents in unorthodox economics. In *Sraffa and the reconstruction of economic theory: Volume three* (pp. 15–33). Springer.
- Bellino, E. (2008). Book reviews of production of commodities by means of commodities. In *Sraffa or an alternative economics* (pp. 187–198). Springer.
- Bharadwaj, K. (1986). *Classical political economy and rise to dominance of supply and demand theories*. Universities Press.
- Blankenburg, S., Arena, R., & Wilkinson, F. (2012). Piero sraffa and 'the true object of economics': the role of the unpublished manuscripts. *Cambridge journal of economics*, 36(6), 1267–1290.
- Chakravarty, S. (1961). Production of commodities by means of commodities, a review article. *Arthaniti*, July, 4, 161–71.
- Davis, J. B. (1988). Sraffa, wittgenstein and neoclassical economics. *Cambridge Journal of Economics*, 12(1), 29–36.
- Davis, J. B. (2002). Gramsci, sraffa, wittgenstein: philosophical linkages. *European Journal of the History of Economic Thought*, 9(3), 384–401.
- Davis, J. B. (2012). The change in sraffa's philosophical thinking. *Cambridge Journal of Economics*, 36(6), 1341–1356.
- Davis, J. B. (2021). 'openness' as a methodological principle of sraffa's economic thinking. In *A reflection on sraffa's revolution in economic theory* (pp. 135–158). Springer.
- Dobb, M. (1937). *Political economy and capitalism: Some essays in economic tradition*. Routledge.

- Dobb, M. (1973). *Theories of value and distribution since adam smith: Ideology and economic theory*. Cambridge University Press.
- Garegnani, P. (1976). On a change in the notion of equilibrium in recent work on value and distribution. *Essays in modern capital theory*, 25–45.
- Garegnani, P. (2005). On a turning point in sraffa’s theoretical and interpretative position in the late 1920s. *European Journal of the History of Economic Thought*, 12(3), 453–492.
- Geertz, C. (1973). *The interpretation of cultures* (Vol. 5019). Basic books.
- Ginzburg, A. (2013). Sraffa, sen and non-causal representations in social analysis. In *Sraffa and the reconstruction of economic theory: Volume three* (pp. 106–128). Springer.
- Hahn, F. (1982). The neo-ricardians. *Cambridge Journal of Economics*, 6(4), 353–374.
- Harrod, R. (1961). *Review of production of commodities by means of commodities. prelude to a critique of economic theory*. JSTOR.
- Hume, D., Keynes, J. M., & Sraffa, P. (1938). *An abstract of a treatise of human nature 1740. a pamphlet hitherto unknown by david hume. reprinted with an introduction by jm keynes and p. sraffa*. Cambridge.
- Klamer, A. (1989). A conversation with amartya sen. *Journal of Economic Perspectives*, 3(1), 135–150.
- Kurz, H. D. (2012). Don’t treat too ill my piero! interpreting sraffa’s papers. *Cambridge Journal of Economics*, 36(6), 1535–1569.
- Kurz, H. D., & Salvadori, N. (2005). Representing the production and circulation of commodities in material terms: on sraffa’s objectivism. *Review of Political Economy*, 17(3), 413–441.
- Kurz, H. D., & Salvadori, N. (2010). Sraffa and the labour theory of value: a few observations. In *Economic theory and economic thought* (pp. 207–233). Routledge.
- Marcuzzo, M. C. (2005). Piero sraffa at the university of cambridge. *European journal of the history of economic thought*, 12(3), 425–452.
- Marcuzzo, M. C. (2014). On alternative notions of change and choice: Krishna bharadwaj’s legacy. *Cambridge journal of economics*, 38(1), 49–62.
- Marcuzzo, M. C., & Rosselli, A. (2011). Sraffa and his arguments against ‘marginism’. *Cambridge Journal of Economics*, 35(1), 219–231.
- Martins, N. O. (2012). Sen, sraffa and the revival of classical political economy. *Journal of Economic Methodology*, 19(2), 143–157.
- McGuinness, B. (2008). What wittgenstein owed to sraffa. In *Sraffa or an alternative economics* (pp. 227–235). Springer.
- Naldi, N. (2012). Two notes on piero sraffa and antonio gramsci. *Cambridge Journal of Economics*, 36(6), 1401–1415.
- Omkarnath, G. (2007). The formation of capabilities. *Indian Journal of Human Development*, 1(2), 389–399.
- Omkarnath, G. (2018). The chosen one: Krishna bharadwaj (1935-1992). *Artha Vijnana: Journal of The Gokhale Institute of Politics and Economics*, 60(1), 34–43.

- Robinson, J. (1953). The production function and the theory of capital. *The Review of Economic Studies*, 21(2), 81–106.
- Rosselli, A., & Trabucchi, P. (2019). Sraffa, the ‘marginal’ method and change. *Structural Change and Economic Dynamics*, 51, 334–340.
- Ryle, G. (1968). *The thinking of thoughts* (No. 18). [Saskatoon]: University of Saskatchewan.
- Salanti, A., & Signorino, R. (2001). From 1925–1926 articles to 1960 book: some notes on sraffa’s not so implicit methodology. In *Piero sraffa’s political economy: A centenary estimate*. Routledge.
- Salvadori, N. (2000). Sraffa on demand: a textual analysis. In *Critical essays on piero sraffa’s legacy*. Cambridge University Press.
- Salvadori, N., & Signorino, R. (2007). Piero sraffa: economic reality, the economist and economic theory: an interpretation. *Journal of Economic Methodology*, 13, 187–209.
- Samuelson, P. A. (1991). Sraffa’s other leg. *The Economic Journal*, 101(406), 570–574.
- Schefold, B. (1998). The creation of economic theories and the history of economic thought: reflections on the work of krishna bharadwaj. *History of Economic Ideas*, 7–25.
- Sen, A. (1974). On some debates in capital theory. *Economica*, 328–335.
- Sen, A. (1978). On the labour theory of value: some methodological issues. *Cambridge Journal of Economics*, 2(2), 175–190.
- Sen, A. (1982). *Choice, welfare and measurement*. Harvard University Press.
- Sen, A. (1984). *Values, resources and development*. Harvard University Press, Cambridge.
- Sen, A. (1989). Economic methodology: heterogeneity and relevance. *Social research*, 299–329.
- Sen, A. (2003). Sraffa, wittgenstein, and gramsci. *Journal of economic literature*, 41(4), 1240–1255.
- Sen, A. (2004). Piero sraffa: A student’s perspective. *ATTI DEI CONVEGNI LINCEI-ACCADEMIA NAZIONALE DEI LINCEI*, 200, 23.
- Sen, A. (2005). Walsh on sen after putnam. *Review of Political Economy*, 17(1), 107–113.
- Sen, A. (2016). Sraffa’s constructive scepticism. *The Economic and Labour Relations Review*, 27(1), 3–10.
- Sen, A. (2021). *Home in the world: A memoir*. Penguin Books.
- Sen, A. K. (1977). Rational fools: A critique of the behavioral foundations of economic theory. *Philosophy & Public Affairs*, 317–344.
- Sen, A. K. (1987). *Commodities and capabilities: Professor dr. p. hennipman lectures in economics, 1982 delivered at the university of amsterdam*. Oxford University Press.
- Sen, A. K. (2009). *The idea of justice*. Harvard University Press.
- Signorino, R. (2001). Piero sraffa on utility and the ‘subjective method’ in the 1920s: a tentative appraisal of sraffa’s unpublished manuscripts. *Cambridge Journal of Economics*, 25(6), 749–763.

- Sinha, A. (2009). Sraffa and the later wittgenstein. *Contributions to Political Economy*, 28(1), 47–69.
- Sinha, A. (2016). *A revolution in economic theory: The economics of piero sraffa*. Springer.
- Sraffa, P. (1960). *Production of commodities by means of commodities: Prelude to a critique of economic theory*. Cambridge University Press.
- Walsh, V. (2000). Smith after sen. *Review of political economy*, 12(1), 5–25.