On alternative notions of change and choice: Krishna Bharadwaj’s legacy

Maria Cristina Marcuzzo*

Krishna Bharadwaj, following upon the work and insights of Sraffa, made substantial contributions to our understanding of what is implied in the neoclassical notion of change and its related notion of choice; in this respect she appears closer to the spirit of Sraffa’s critique of neoclassical theory than many others. She also supplemented important elements in building an alternative approach, based on classical political economy, which is free from the need to employ marginal magnitudes and does not require hypothetical or potential changes to determine the resting positions of economic variables. Moreover, the notion of choice is rescued from the parable of ‘preferences’ and given more meaningful contents, allowing for consideration of habits, customs and power relationships.

Key words: Bharadwaj, Sraffa, Choice, Change
JEL classifications: B2, B31

1. Premise

The consumption and production of goods is the kind of human activity to which the term ‘economic’ is applied; in most societies these activities are mediated through exchange and in capitalist societies exchange is performed in organised markets. In the history of economic thought, a range of different conceptions have been put forward to explain how individuals interact in markets and various accounts have been advanced of ways to understand which are the incentives and the constraints affecting their behaviour and decision making.

In neoclassical theories, choices in consumption and production are conceptualised through reasoning at the margin. Under the ceteris paribus assumption, i.e. that everything else remains unchanged, this method provides the means to measure the effects of a small (technically, infinitesimal) variation in quantities of selected variables, such as utility and cost, which are compared with the relevant prices to determine the optimum choice by individuals. The optimal choice framework is in fact the basis upon which price and quantities are simultaneously determined in the neoclassical world.
The marginal method requires that a particular type of change be enacted, i.e. that an experiment be carried out varying the quantity of the selected variable, keeping all the others constant. Individuals are said to equate marginal quantities, found through a hypothetical change brought about by the agent or the observer, to the given prices of goods and factors.

On the other hand, the observed changes in economic variables are said to be the outcome of the behavioural response to changes in prices and are brought about through individuals’ quantity adjustments in response to these price changes. It is precisely the conception of absence of price incentives for a change in quantities that characterises the neoclassical notion of equilibrium.

Krishna Bharadwaj, following upon the work and insights of Sraffa, made substantial contributions to our understanding of what is implied in the neoclassical notion of change and its related notion of choice; in this respect she appears closer to the spirit of Sraffa’s critique of neoclassical theory than many others. Unlike Keynes, Kahn, Kaldor and Joan Robinson—the protagonists of the so-called Cambridge school with whom Sraffa was personally close, while remaining secretive on his own work—Bharadwaj fully rejected the marginal approach and the theory hinging upon it. She also supplemented important elements in building an alternative approach, based on classical political economy, which is free from the need to employ marginal magnitudes and does not require hypothetical or potential changes to determine the resting positions of economic variable; by this means she endeavoured to rescue the notion of choice from the parable of ‘preferences’ by giving it more meaningful contents, allowing for consideration of habits, customs and power relationships.

In order to substantiate these claims in Sections 2 and 3, I summarise Sraffa’s main arguments against the marginalist theory, turning to the contribution of Bharadwaj in Section 4. In Section 5 I review the controversy on some methodological points regarding the critique of neoclassical economics that saw Joan Robinson on one side and Garegnani with Bharadwaj on the opposite side. In the final section I draw some conclusions on Bharadwaj’s legacy, on the occasion of the 20th anniversary of her death.

2. ‘Change’ and ‘difference’ in Sraffa’s published work

In his published writings Sraffa made few references to the reasons behind his objections to the marginal method, but he did make several references to the notion of change in neoclassical economics (Marcuzzo and Rosselli, 2011). In the Preface to Production of Commodities by Means of Commodities, the reader is warned that the book ‘is concerned exclusively with such properties of an economic system as do not depend on changes in the scale of production or in the proportions of “factors”’. In this respect the work is presented as an alternative to the ‘marginal approach’ which ‘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 productions” there can be neither marginal product nor marginal cost’ (Sraffa, 1960, p. v, emphasis added).

The second warning given in the Preface is ‘to avoid mistaking spurious “margins for the genuine article”’, adding that the ‘sure sign of their spuriousness’ is ‘the absence of the requisite kind of change’ (Sraffa, 1960, p. ivi, emphasis added).

Finally, the interpretative key to the book is to be sought in the critique of the theory which has its foundation in the marginal method:
It is … a peculiar feature of the set of propositions now published that, although they do not enter into any discussion of the marginal theory of value and distribution, they have nevertheless been designed to serve as the basis for a critique of that theory. (Sraffa, 1960, p. vi)

The nature of marginal analysis in classical political economy and neoclassical theory and the distinction between spurious and pure margins had been discussed by Sraffa in his 1925 article, although the article did not include the argument that a particular kind of change was required in one type of margin, i.e. the case of intensive cultivation of land when successive doses of capital and labour are applied to the fixed factor, but not in the other case, i.e. that of extensive cultivation when lands of different degrees of fertility are cultivated side by side. Sraffa simply mentioned the ‘truth and generality’ (1925, p. 19; 1998, p. 15) of the extensive margin case upon which the Ricardian theory of rent is based, unlike the case of the intensive margin upon which the neoclassical theory of distribution rests.¹

The 1925 article was unavailable in English until after Sraffa’s death, although an unofficial translation, prepared by J. Eatwell and A. Roncaglia in the mid-1970s, circulated privately and was made available only in 1998 (Sraffa, 1998).² The issue of the two types of margins was not discussed in the 1926 article. Thus with the exception of a passing reference to the ‘two points of view of change and difference’ in the Introduction to Ricardo’s Principles (Sraffa, 1951), to which I will return below, the discussion of the type of change required in neoclassical theory remained undisclosed and appeared in print only in 1960. On the other hand, Sraffa’s unpublished papers contain a wealth of material relating to the claims made in the Preface and it is to these we have to turn to have a better understanding of the claims. Before we do so, however, we need to consider how and when these papers became available to us.

Soon after Sraffa’s death in September 1983, Bharadwaj and Garegnani undertook ‘the initial work of scouring and inventorying the manuscript material … more detailed scrutiny followed with systematic listing of the manuscripts … which served as a basis to microfilm them at the University Library in 1987. This work took practically all the time that Prof Bharadwaj and [Garegnani] were able to dedicate to the manuscripts up to the summer of 1987’ (Garegnani, 1998, pp. 151–2).

The plan for publishing the papers, as conceived in 1987, contemplated that the first volume comprising the manuscripts of 1927–31 (which saw a turning point in Sraffa’s thinking; see Garegnani, 2005) was to be edited by Bharadwaj, ‘whose work on the writings of Piero Sraffa, together with her personal friendship and informal theoretical discussion with him is well known, and who had for some time collaborated extensively with [Garegnani]’ (ibid., p. 152).

Bharadwaj’s health conditions subsequent to 1987, which led to her premature death in 1992, prevented her from playing a regular part in the publication project.³ The Sraffa papers were made available for scholarly access in late 1993,⁴ but

¹ ‘Thus the truth and generality of the law of diminishing returns is much greater if it is based on the variety of the prices of land than if it is based on the variety of the doses of capital and labour, or on the variety of purposes for which equal doses can be used.’

² The story of Sraffa’s refusal to have an (Sraffa, 1925, p. 19; 1998, p. 15). English translation published during his lifetime is told by Pasinetti (2001); an account of Sraffa’s reasons is given by Garegnani (2005).

³ It has been suggested that Bharadwaj was in fact denied the editorship at an early stage of their collaboration (Omkarnath et al., 2011, p. 29). Harcourt described the ordering of Sraffa’s papers a ‘mammoth’ task that put an enormous strain on her, to the extent that it was ‘a significant factor leading to her final illness’ (1993–94, p. 308).

⁴ ‘In all they number 115 archival entities consisting of notebooks, folders of notes, typescripts and proofs’ (Smith, 2012, p. 1292).
their publication is still awaited. From 1983 to 1993, access to the manuscripts was restricted and few were able to appreciate their importance.

3. ‘Change’ and ‘difference’ in Sraffa’s unpublished writings

What the unpublished writings revealed at the outset and was immediately clear to Bharadwaj and Garegnani (Garegnani, 1998) on inventorying them was that in autumn/winter 1927–28, while preparing for the lectures he was to give at Cambridge, Sraffa made the path-breaking discovery that classical political economy and neoclassical economics rested on alternative theories of value and distribution; only the latter explains distribution and relative prices by means of the equilibrium of the two opposing sets of forces, demand and supply for factors of production; the former determines shares of product other than wages (which are exogenously given) as a residuum or surplus simultaneously with the determination of the relative prices of commodities. On the basis of this discovery he started working on his ‘equations’, which form the backbone of what was to become his Production of Commodities many years later.

The question of how change and choice are conceptualised in neoclassical economics appeared quite early in the context of this discovery. In one of the manuscripts of the period 1927–28, possibly where there is the first mention of the ‘Difference (simultaneous) versus Change (succession in time)’, Sraffa wrote:

The general confusion in all theories of value … must be explained by the failure to distinguish between two entirely distinct types of questions and the universal attempt of solving them both by one single … theory.

The two questions are:

1) what determines the (difference in the) values at which various commodities are exchanged in a given market on a given instant?
2) what determines the changes in the values of commodities at different times? (e.g. of one commodity). (Sraffa Papers, D3/12/7, quoted in Garegnani, 2005, pp. 471–2, emphasis added)

And he continues:

The first problem gives rise to a geometrical theory, the second to a mechanical one … Marshall’s theory of value, with its increasing and diminishing costs and marginal utility, scissors, pillars and forces, can only be understood as an attempt to solve the first question in terms of the second. (Sraffa Papers, D3/12/7, quoted in Garegnani, 2005, p. 472)

The same point, but related to the theory of distribution, is reiterated more than 30 years later in one of the many extant drafts of the Preface to Production of Commodities:

The fundamental difference is that the extensive (different qualities of land) is truly a purely timeless, or geometrical representation: all the different lands exist simultaneously, at one instant, they and their products can be ascertained, distinguished and measured at one instant, without changing anything in the present arrangements.

On the contrary, the intensive (successive doses of capital and labour on a piece of land) diminishing returns do not exist at any one instant. We can only find these diminishing returns by change, or movement: that is to say, we require time. (Sraffa Papers, D3/12/13/23(2), quoted in Marcuzzo and Rosselli, 2011, pp. 227–8)
In a contemporaneous manuscript dated 1–3 January 1958 and inscribed as ‘Margins and margins’, which he might have considered including in his book, Sraffa made the same point, returning to his earlier distinction between the point of view of difference and change:

The names usually given to the two types [of rent], ‘extensive’ and ‘intensive’, conceal rather than describe the essence of the distinction. This is that the first is based on the difference between situations which are mutually compatible and can coexist at the same time, since they involve the payment of different rents on different qualities of land; while the second is based on changes in the situation on a single quality of land which represent a transition from one to another state, the two states being incompatible and mutually exclusive, since they determine two different rents on the same quality of land. The former compares two or more ‘returns’ existing side by side within a given set of circumstances: the latter compares successive returns obtained in different circumstances—it implies a comparison between the actual return and a potential alternative return. (Sraffa Papers, D3/12/46/50, quoted in Marcuzzo and Rosselli, 2011, p. 228)

Finally, Sraffa reiterated the same point as late as 17 August 1965, when he was still trying to carry out his project for a comprehensive critique of marginal theory:

Another aspect … is that in the first case [intensive rent] there is only a decrease of product in time with the increase of the doses: at any instant of time no difference can be seen. Whereas in the second case [extensive rent] the difference in productivity is noticeable at any instant. The first is a case of change, which takes time to happen: the second is a difference between simultaneous product. (Sraffa Papers, D3/12/42/5, quoted in Marcuzzo and Rosselli, 2011, p. 228)

As argued more in detail elsewhere (Marcuzzo and Rosselli, 2011), objections to the reasoning at the margin in the neoclassical theory of value and distribution were raised by Sraffa over his entire working life. They fall into three categories:

(i) In order to observe the marginal product one has to perform an experiment, i.e. to bring about a change in the existing situation and to give rise to a new situation. The assumption is then made that the two situations do not differ but for the change in the variable considered. This is unwarranted since comparing the effects of an induced change in a given situation does not have the same degree of certainty as the case of comparing observable differences in two existing situations.

(ii) Since differences in two products can be compared only when the same circumstances occur, we cannot infer that the effect of an increase/decrease in the variable factor is the measure of a marginal product; more certainly it is the measure of the effect of a new combination of all the factors involved, namely an increase or decrease in the average product.

(iii) Only observable differences in situations existing at the same time, which do not require any change to be brought about, can constitute a legitimate basis for deriving functions relating prices and quantity. It is the hypothetical nature of such relations that is questioned, incorporating as it does the assumption that such relations remain constant under any circumstances, as the law of demand and supply implies.

In conclusion, Sraffa’s objections were raised against the claim of generality and universality of the relationship between prices and quantities, or of the functional forms of demand and supply equations required for the existence and stability of equilibrium in neoclassical theory. These objections do not apply to reasoning based on observed magnitudes and measurable entities involved in exchange and production processes,
where the resting positions of the variables involved can be ascertained without invoking alternative (non-observable and non-measurable) configurations.

Bharadwaj readily grasped the implication of these arguments for alternative notions of change and choice in her theoretical and applied work. To her contribution I now turn.

4. Bharadwaj’s intellectual closeness to Sraffa

Bharadwaj’s intellectual and personal closeness to Sraffa and the Cambridge group is well known among scholars and is best recalled with her own words:

a fellowship to work at Cambridge in 1967 ... gave me the unique opportunity to communicate with Piero Sraffa and with other scholars including Joan Robinson, Maurice Dobb, Richard Kahn, Nicky Kaldor, Luigi Pasinetti, Pierangelo Garegnani and with a group of young economists from England and Europe interested in the revival of classical and Marxian theory. My association with Piero Sraffa until his death in 1983 radically altered my theoretical perspective in economics. (Bharadwaj, 2000, p. 59)

In fact her intellectual encounter with Sraffa took place four years earlier, in 1963, when she was asked to review Production of Commodities, a review that was so very positively received by the author that it marked the beginning of a close association and developed into friendship.

It is indeed surprising that a young economist, miles away from Cambridge and Sraffa’s own milieu, could have ‘correctly grasped the main lines of the argument, and also guessed some of the directions in which ... the criticism of marginalism should be developed’ as Sraffa wrote back on receiving the review (Piero Sraffa to Krishna Bharadwaj, 8 September 1963 in Sraffa Papers vi, 3, (i) 391, D3/12/111/42 quoted in Omkarnath, 2005, p. 463). The ‘guess’ of the directions in which the criticism of marginalism should be developed became Bharadwaj’s lifetime research endeavour and guided her applied work; the privilege of having discussions with Sraffa and access to his unpublished writings made it all the more unique and valuable.

Bharadwaj expanded upon Sraffa’s 1960 brief reference to the requisite kind of change implied in the marginal method already in her R. C. Dutt lectures (1978, 1986). There are two editions of this little book which were published at an interval of several years; they are almost identical, although the second version contains some additions and alterations, which I consider somewhat interesting. It is mainly in the second of the three lectures, entitled ‘The Shift to Supply and Demand Theories: Some Methodological Implications’, that the thrust of her arguments emerges.
The role of change in supply-and-demand theories is to allow convergence towards equilibrium and to provide the optimum solution for the individual choice; it must therefore be conceived as following a predetermined path. Thus the direction of change required (i.e. the assumption that demand and supply are well-behaved functions) imposes 'constraints which operate against an effective handling of problems of change' (Bharadwaj, 1986, p. 3). Historical changes, i.e. those observed in the real world, are descriptions of 'events ex post facto' that may occur outside the strictures of the predictive relation between price and quantity described by supply-and-demand functions, which are necessary for the stability of equilibrium. She writes:

Thus, a statement about one position (at equilibrium) is tied up with a theory specifying in exact terms the behaviour of the system under 'change' away from that position, even though these variations may be considered 'hypothetical' or theoretically confined to the infinitesimally small (or to points 'in the neighbourhood') ... The prices of production in the classical theory, in contrast, do not posit and therefore do not depend for their stipulation upon the postulate of actual or 'potential' change. (Bharadwaj, 1986, p. 39)

And again:

The classical system [is] more general in scope and versatile in dealing with historic-specific factors [because] 'it does not commit itself through its theoretical structure to any rigid form and direction of change ...[on the contrary, neoclassical theory] sought to explain a single observed situation in terms of potential changes—and as brought about by the balancing of marginal quantities operating through the principle of substitution. In order to be consistent with these explanations, the changes had to be in a direction and of the type postulated by theory' (ibid., pp. 63–4).

On the contrary, neoclassical theory 'sought to explain a single observed situation in terms of potential changes—and as brought about by the balancing of marginal quantities operating through the principle of substitution. In order to be consistent with these explanations, the changes had to be in a direction and of the type postulated by theory' (ibid., pp. 63–4).

To illustrate the distinction between economic propositions depending upon change and those which do not Bharadwaj referred to the analogy with propositions in geometry and mechanics, considering the two cases of the 'extensive' and 'intensive' margins. Here is where I believe the discussions with Sraffa and access to his unpublished papers helped her towards a firmer grasp on the matter. The distinction between geometry and mechanics was drawn by Sraffa in his early manuscripts, as we have seen, and it is an analogy that he must often have made reference to in his subsequent work and conversations.

She interpreted Sraffa’s message as a rejection of the neoclassical theory of choice based on reasoning at the margin, as requiring a particular type of change, which is hypothetical rather than observed. So the direction of change is assumed under the ceteris paribus clause rather than discovered through factual evidence or historical reconstruction. The framework of supply and demand constrains the analysis within a given relationship between prices and quantities required for the well-behaved functions, while the price mechanism is endowed with all the explanatory power of choices, leaving little or no room for customs, habits and social conventions.

On the contrary, freedom from the marginal approach and supply-and-demand apparatus allows consideration of other factors besides price incentive, exogenous preferences and given endowments.

10 She quotes from the 1925 article (Sraffa, 1998), but not in connection with this argument.
Four points marked Bharadwaj’s endorsement of alternative notions of ‘change’ and ‘choice’:

(i) changes in wages, methods of production and social demand are not explained as ‘arising solely due to relative price fluctuations’ (Bharadwaj, 1991, p. 86);

(ii) there are multiple constraints operating on the individuals, as demanders and suppliers: ‘these include the physical and material resources at the individual’s command as well as those systemic constraints that circumscribe his or her feasible options’ (ibid., p. 87);

(iii) ‘not all individuals are equally or uniformly placed in terms of the power to make decision or in terms of the influence their decision can exert’ (ivi) (ibid., p. 87); and

(iv) inequalities cannot be reduced to a matter of resource endowment, but must be understood in terms of the ‘systematic discrimination which occurs in the exchange systems originating from social distinctions such as class, caste or sex’ (Bharadwaj, 1990, p. 22).

This methodology guided her analysis of the Indian economy, as several scholars in the field have recognised. In her study on the condition of production in Indian agriculture (Bharadwaj, 1974), she made substantial advance over the mainstream interpretations, because:

She classified the peasantry according to their access to land, as well as to the nature of exchange involvement in the agrarian situation where competitive capitalist markets have not yet emerged. She also attempted to stratify peasants according to their status in production and their corresponding involvement in exchange under conditions of uneven commercialization. (Knell and Ramaswamy, 1995, p. 110)

Of similar recognised importance is her notion of ‘interlinked markets’, so called ‘because the terms of contracts in two or more agrarian markets are interlocked such that the feasible choices of the weaker party to the transaction are ex ante severely constrained’ (Omkarnath, 2007, p. 396).

In conclusion, her methodology was firmly based on observation and the discovery of regularities in the particular social formation she aimed to identify. Not all changes in quantities are the outcome of the principle of substitution nor do they involve mainly allocative variations in response to changes in relative prices by optimising agents. The notions of change and choice can be rescued from the neoclassical strictures and, thanks to the classical approach reconstructed by Sraffa, given new meaning and applications.

5. Alternative interpretations

The nature of the criticism of the marginal approach, and its implications for supply-and-demand analysis and the notions of change and choice, was not easy to detect in Sraffa’s sparse remarks in his published writings well after the publication of Production of Commodities, whose meaning and significance baffled many interpreters.

In fact, Sraffa’s distinction between ‘difference’ and ‘change’ surfaced in 1951 in his Introduction to Ricardo’s Principles. There, Sraffa referred to ‘the two points of view of difference and of change’ (Sraffa, 1951, p. xlix) to clarify two different effects on the relative value of two commodities of different proportions or durabilities of capital employed in their production. He wrote:
First, that of occasioning a *difference* in the relative values of two commodities which are produced by equal quantities of labour. Second, that of the effect which a rise of wages has in producing a *change* in their relative value. (Sraffa, 1951, p. xlvii)

This change, which is said to be ‘apparent’ as ‘due solely to change in measurement’ (ibid., p. xlviii), in relative values can be ascertained at different moments in time, while the difference in the values of commodities due to the different proportions of capital and labour employed in their production can be ascertained at the same moment in time. Time is thus implied in the notion of change, but not in the notion of difference and the same tool of investigation—as Ricardo tried to do with his invariable measure of value—cannot be employed to trace the implications of these two types of comparisons. The same applies to neoclassical theory, where variations at the margin are used as a means to ascertain changes as well as differences in goods and factors price. *Changes* as opposed to *differences* in values or prices require different procedures for comparisons.

The full implication of the arguments contained in the Introduction remained clouded until their full exposure with the publication of *Production of Commodities*, with only exception of Joan Robinson who on two occasions made reference to it. In the second essay *On Re-Reading Marx*, written shortly after reading Sraffa’s Introduction to Ricardo’s *Principles*, there is a cryptic remark in which Joan Robinson described the nature of supply-and-demand curves in determining equilibrium, as ‘a metaphor based on space’ of ‘a process which takes place in time’ (Robinson, 1973, p. 138). Her reading of Sraffa’s distinction between the point of view of change and difference was made more explicit in her celebrated 1953 article on the production function, which opened the capital controversy.

In the 1953 article Joan Robinson pointed up the neoclassical failure to distinguish between changes in the conditions of producing a given output, when the quantity of capital is altered, from changes in the value of that capital due to variations in wages and profits. The implication she drew is that ‘different factor ratios cannot be used to analyse changes in the factor ratio taking place through time’, because in time the *value* of the quantity of capital may change as a consequence of a change in distribution and the same quantities were not being comparing. She concluded that ‘it is impossible to discuss changes (as opposed to differences) in neo-classical terms’ (Robinson, [1978], p. 89).

Robinson interpreted the ‘points of view of difference and of change’ as a distinction between legitimate as opposed to illegitimate comparisons between two equilibria, with different amounts of capital; since changes in the value of capital may occur simply because of a change in the rate of profit, it is impossible to know whether the quantity of capital has changed in the transition from one position to another. Thus she drew the conclusion that equilibrium positions could only be compared as differences and never described as changes from one position to another.12

However, in the Introduction Sraffa takes the question of measurement of the quantity of capital to pertain only to the question of measuring ‘the magnitude of aggregate

---

11 ‘If you read Mr. Sraffa’s Introduction to the Principles you will see how right I am’ (Robinson, 1973, p. 145).

12 It should be noted that at the time of the 1953 article, Joan Robinson still considered comparisons between two equilibrium positions as opposed to movement from one position to another a legitimate exercise, which she later repudiated in her attack on the equilibrium method *tout court.*
of commodities’, i.e. to the apparent change in the quantity of output to be distributed whenever there is a change in its value due to a change either in wages or in profits. Sraffa does not take it to pertain to the question of the impossibility of comparing two different aggregates of commodities at two different points in time because of the impossibility of singling out the effects of a change in distribution, as Joan Robinson seemed to take it. It is not the time element that makes the analysis of change impossible in neoclassical terms, but the circularity in the measurement of capital unless the rate of profit is determined simultaneously.

After the publication of Production of Commodities, Joan Robinson became aware of the misunderstanding of her reading of the Introduction, but still defended her distinction between the ‘two point of views of difference and of change’ as resting on the distinction between logical and historical time, claiming that reasoning in logical time is common to both general equilibrium theory and Sraffa’s system, while the language of Keynes is in historical time.

Joan Robinson’s main line of attack on the neoclassical theory was levelled against the notion of equilibrium and the impossibility of dealing with historical time, rather than against the inconsistencies in the theory of supply and demand (Robinson, 1979, p. xiv). She remained unconvinced by the theory of prices of production and objected to the method of Production of Commodities, because ‘there is no causation and no change’ and ‘the argument is conducted strictly in terms of comparisons of logically possible positions’ (Robinson, 1980A, p. 132). She felt it to be more promising to rely on Keynes, who, ‘at the opposite extreme to Sraffa, discusses only events’ (Robinson, 1980B, p. 139) and discusses them ‘in terms of processes taking place in actual history’ (Robinson, 1979, p. xiv).

This issue gave rise to the controversy with Garegnani on the question as to where the dividing line of the alternative to neoclassical economics lay. Garegnani rebutted Robinson’s critique of Sraffa’s approach; he argued that the assumption of irreversibility in time that Robinson points out is implicit only in the method of supply-and-demand analysis, in which the tendency towards equilibrium is described as movements along those curves. But Garegnani explains that the same assumption is not made when comparing two long-term equilibrium positions determined by a ‘classical’ theory of prices and distribution (Garegnani, 1979).14

Bharadwaj sided with Garegnani in the controversy with Joan Robinson and, while sharing some of his arguments, her distancing from Robinson had characteristics of its own. She agreed with Robinson that history, namely the process involving actual and irreversible as opposed to potential and reversible changes, has to be rescued

---

13 See the letter from Joan Robinson to Piero Sraffa, 18 June 1960: ‘Dear Piero: I thought that the idea that I had seen in a blinding flash was yours, because it came to me in terms of Ricardo’s corn economy; but it was connected with TIME and it now appears is very much alien to your point of view (though to me it seems to fit perfectly well’ (Sraffa Papers, D3/12/111/ 340–41, quoted in Marcuzzo, 2005A, p. 40).

14 Another appropriate response to the idea that Sraffa’s system is timeless can be found in Roncaglia (1978, p. 119): ‘Sraffa’s analysis is not static, but rather … it represents a “photograph” of a particular moment of a system’s development. This is something rather different [from neoclassical static theories] for it does not abstract from time. Instead, time is taken into account by the fact that any particular moment of time is determined by its past history, and serves as the determining factor of the next moment in time.’ However, in her last paper, published posthumously, Joan Robinson adopted a different perspective on Sraffa’s system, arguing that it does not ‘represent a stationary state of an equilibrium position. It is simply the position that has been reached, “today”, as a result of accumulation of stocks and of technical knowledge over the past history’ (Robinson, 1985, p. 164). On this point see Martins (2013).
Krishna Bharadwaj and notions of change and choice

from neoclassical theory and brought back into economic analysis, but how is this best done?

She commented that ‘The success of the notion of “instantaneous or hypothetical change” in mechanics does not validate its use in economic theory as a general representation of change’ (Bharadwaj, 1980, p. 50) and defended the method of comparison between long-term positions as legitimate method of analysis of change.

On the contrary, Robinson objected to the method of comparisons of classical political economy and to Sraffa’s method as showing no substantial difference from the neoclassical equilibrium method in their neglect of disregard of uncertainty and disregard of expectations, which are the guiding forces of economic behaviour. With her typical terse prose (which is a good match for Robinson’s), Bharadwaj summarises Robinson’s ‘theorem of non-existence’ in the following passage:

with uncertainty present, no system not already in equilibrium can achieve equilibrium; while a system already in equilibrium could not but have ‘perfect foresight’ by virtue of its being in such a state. Thus, since uncertainty of expectations is ever present, a state of equilibrium cannot exist. (Bharadwaj, 1991, pp. 94–5)

Bharadwaj made two objections to Robinson’s criticism of the equilibrium (in the sense of the long-term position) method. First, a meaning conceptualisation of the equilibrium concept does not entail that the corresponding prices and the uniform rate of profit actually rule at any particular moment in time. It is rather the tendency towards it, driven by the forces believed to be ‘persistent’, that is argued for. Second, it is not denied that uncertainty of expectations has a role to play, but rather that:

We need to discover [the] objective basis of different states of expectations and we need to know what systematic objective outcomes arise from these different states of expectations. (ibid., pp. 95–6)

The point being made is that since expectations work in patterns, because imitation and mutuality play an important role, ‘broadly uniform behaviour’ (ibid.) can be detected and should be made part of the analysis. Thus her emphasis on the ‘objective basis’ is to be interpreted as refusal to appeal to non-observable entities, such as individual utility functions, and instead to look to custom, social norms and the like. Investigation into decision making under uncertainty, opinion formation and subjective evaluation of future events is not banned from the theory; rather, it is claimed that the theoretical framework of neoclassical theory is not endowed to address the issue.

6. The legacy of Krishna Bharadwaj

Bharadwaj was intellectually closer to Sraffa than the group of economists considered part of the so-called Cambridge school.

The critique that Keynes, Kahn, Kaldor and Joan Robinson raised against the neoclassical paradigm went together with their apparently unquestioning acceptance—at least at a disaggregate level—of marginal analysis. True, Kaldor and Robinson in later years rejected the notion of equilibrium, but without severing the connection with

15 Bharadwaj’s argument is reminiscent of a point made by Sraffa in an unpublished note dating from summer 1929, where he recognised the importance of expectations when based on objective elements, such as ‘an average which eliminates individual differences’. I am indebted to a referee to drawing my attention to the existence of such a note and to Jonathan Smith for locating it.
supply-and-demand theories. Kahn championed the ‘marginal principle’ for the determination of price and output for the single firm and was instrumental in persuading Keynes to adopt the marginal approach in the General Theory (Marcuzzo, 2002).

Keynes never rejected increasing marginal costs in the General Theory and this led him to adopt assumptions, such as the inverse relationship between employment and real wages, which brought conclusions that he later admitted were at variance with facts.

I have argued elsewhere that Sraffa’s estrangement from Cambridge economics and his refusal to engage in discussion of his own work with those who were among his closest friends can be accounted for by a political, social and cultural gulf (Marcuzzo, 2005B).

On the other hand, both Keynes and Kahn dropped the ‘maximising rule’ when analysing entrepreneurs’ behaviour in financial markets and regarding investment decisions. Given the element of uncertainty and the various degrees of conviction with which opinions are formed and held by individuals, they viewed the decision process as leading not so much to an optimum solution as, rather, to a condition reached when sufficiently strong motives to do otherwise are lacking. No appeal to the marginal principle was deemed necessary here. Moreover, Keynes’s principle of effective demand explicitly rejects the idea that flexibility in prices and wages may restore full employment equilibrium. The related concept of the multiplier is based precisely on the presumption that quantity adjustments follow an exogenous increase in aggregate demand in the presence of underutilised resources.

This is the basis upon which the two strands of Cambridge economics, one stemming from Sraffa and the other from Keynes, find common ground in the post-Keynesian world. To this enlarged family, Bharadwaj—who pointed up many important insights from Sraffa and the other from Keynes, find common ground in the post-Keynesian world. To this enlarged family, Bharadwaj—who pointed up many important insights by Keynes, Kalecki and Robinson—never refused to belong, while remaining firmly on the Sraffian side.

In looking back to her own work, with typical understatement and economy of words, she wrote:

I have ... attempted to combine my critique of economic theory and the reconstruction of the classical (including Marxian) approach with the analysis of historical change in the course of development. (Bharadwaj, 2000, pp. 62–3)

She claimed for herself only to have ‘tried to lend accuracy and sharpness to earlier critiques directed against the utilitarian and subjective basis’ of supply-and-demand theories (ibid., p. 61). In fact she did much more than that; she offered concrete

16 His endorsement of the principle was mainly the outcome of his investigation into the Economics of the Short Period (Kahn, 1989) and the result of his collaboration with Joan Robinson between 1930 and 1933, during the writing of her Economics of Imperfect Competition.

17 The increasing marginal cost assumption led Keynes to conclude that real and money wages varied in the opposite direction in the cycle, implying the existence of an inverse relation between employment and real wage.

18 There have been several attempts to bridge the two Cambridge strands. The most recent and authoritative example is Pasinetti (2007).

19 See her article ‘On Effective Demand: Certain Recent Critiques’ (Bharadwaj, 1989, pp. 275–97).

20 ‘Kalecki sought to develop an integrated view of the processes of pricing, investment, production and income–employment generation, as operating under monopoly capitalism’ (Bharadwaj, 1977, p. 983).

21 ‘[Joan Robinson’s] trenchant criticisms exposed the logical hurdles that the neoclassical theory faced in its notion of the aggregate production function, the marginal productivity explanations of distribution, the conceptualization of the choice of the techniques, etc’ (Bharadwaj, 1991, p. 81).

22 Roncaglia notes in an obituary that “Krishna very much enjoyed talking with her friends: about economics, politics, India, about her daughter and friendships in common—but very rarely did she speak about herself” (1993, p. 187).
examples of the fruitfulness of the alternative approach in her applied work. As Schefold remarked in the 1995 Memorial Lecture, she ‘was one of the few followers of Sraffa who took the implication of the openness of the theory seriously in that she actually tried to relate her applied work to the historical perspective of the theory which she helped to elaborate’ (Schefold, 1998, p. 20).

This methodology also fuelled her ‘unswerving radicalism’, as it was aptly described by a close friend:

She was deeply conscious of the reality of social exploitation in this [India] country, and extremely sensitive to and disturbed by what she saw as the rise of authoritarian tendencies and of communal and caste sentiments in recent years. Activists of the women’s movement, the trade-union movement and the broader political movement on the left found in her a staunch and consistent ally. They never had to explain anything to her when they went with letters and petitions on issues as diverse as the Muslim women’s bill, the amendment to the dowry act, or the Mandal question. She had already anticipated their arguments and reached further than they had on the basis of a more subtle and complex understanding of social issues. (Patnaik, 1992, p. 67)

Amit Bhaduri’s closing words in the obituary understandably express a feeling of irremediable loss:

Her intellectual excellence … combined with rare human qualities … shone quietly to illuminate many dark patches of our lives—for her circle of friends, for her professional colleagues and for her students. That light has gone out. (Bhaduri, 1992, p. 14)

Twenty years after her death, that light is still shining and will continue to shine for many generations to come.

Bibliography