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A comment on 'The Sraffian *Methodenstreit* and the revolution in economic theory'

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This is a comment on Nuno Martins' review article of my book: *A Revolution in Economic Theory: The Economics of Piero Sraffa*. It clarifies the confusion with respect to Sraffa's prices and the classical notion of 'long-term natural prices' based on the idea of gravitation of 'market prices' to 'natural prices'.

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JEL classifications B2, B3, B4

I thank Nuno Martins (2019) for writing a thought-provoking review article of my book, *A Revolution in Economic Theory: The Economics of Piero Sraffa*. Instead of nit-picking on minor issues of disagreements, I would like to briefly comment on a major issue raised by the review in the hope that it would contribute to a positive discussion on this important conceptual area. The issue relates to the notion of gravitation of 'market prices' to 'natural prices' in classical economics and Garegnani-led interpretation of the condition of 'uniform industrial rate of profits' in Sraffa's system of equations. Martins maintains that both in the classical economics as well as Garegnani-led interpretation of Sraffa, the idea of 'gravitation' is deliberately 'vague' because it is not connected to the mathematical solution of the so-called 'natural prices', which is related to the idea of 'logical time', whereas 'gravitation' only refers to the dynamics of the system in 'historical time': 'Gravitation, for the classical authors, meant a vaguely understood process taking place through time, rather than an equilibrium that can be mathematically modelled' (Martins, 2019, p. 9).

One theoretical problem that my book is concerned with is: on what grounds Sraffa contends that the industrial rate of profits in his system of equations *must be uniform*? I try to refute the Garegnani-led Sraffian position that Sraffa is assuming his system to be in the classical equilibrium or what Adam Smith had characterised as a position of 'rest' or 'repose'. This has not been denied or contested by any Sraffian. Though Martins seems to agree with me that it would be incorrect to think that Sraffa's equations are in any sort of equilibrium, he argues that neither the classicists nor Garegnani

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thought of gravitation to be a mechanism that leads to an equilibrium. According to Martins, this is a neoclassical or Samuelsonian interpretation of classical economics that I am following and therefore my criticism of Garegnani is misplaced:

> In general, if outputs are regarded as an exogenous variable just as inputs are, as Sraffa (1960) assumes (within an approach aimed at capturing the standpoint of the old classical economists), there is no functional relation from inputs to outputs where the latter would be a dependent variable as it is the case in neoclassical equilibrium, and so the question of returns to scale is not even raised. Sinha seems to interpret this aspect of the classical theory in the same way as Samuelson, who always interpreted the classical standpoint in terms of a functional relationship from inputs to outputs that presupposes constant returns to scale… (Martins, 2019, p. 10).

As I understand it, what Sraffa's position happens to be is that *post factum*, that is, after the 'harvest', we have data for all the inputs used and outputs produced for each industry. We, however, have no information about how *changes* in quantities of outputs would result if we applied *changes* in the quantities of inputs. But this does not mean an assumption of *independence* of outputs from inputs. Now the relevant question to be asked here is: what is the status of 'long-term natural prices' as an interpretation of Sraffa's prices in his system of equations? Adam Smith and also Garegnani quite clearly maintained that an empirical economy at any given point of time would most likely be not in the classical centre of gravitation and thus the empirical prices that are associated with the empirical economy will be 'market prices', which are associated with unequal industrial rate of profits and are distinct from 'natural prices' (see Smith, 1981, p. 75; *WN*, I.vii, 15; and Garegnani, 2012, pp. 1429–30). Thus, given the empirical position of 'disequilibrium' or 'unrest', there will be a tendency for supplies to adjust to their effectual demands under the pressure of capital seeking higher rate of profits, which creates a tendency for the industrial rate of profits to equalise and their 'market prices' to converge to their 'natural prices' (see Smith, 1981, p. 74; *WN*, I.vii, 11).

Now, even if this movement is supposed to take place in logical time and not historical time, one needs to have some sense of how the outputs must be related to changes in inputs to work out this mental exercise. Since classical economists did not think that such movements would have any effect on the labour-values of commodities, it is fair to conclude from it that they implicitly assumed a linear or constant returns to scale technique. Sraffa, on the other hand, makes it a point to emphatically state that he is not making any such assumption (see Sraffa, 1960, p. v). He further goes on to claim that his equations represent empirical data: 'Such a relation is of interest only if it can be shown that its application is not limited to the imaginary Standard system but is capable of being extended to the actual economic system of observation' (Sraffa, 1960, p. 22).

So, we clearly have a problem at hand. It is accepted by all concerned that it is a fair assumption to make that an empirical economy is not at the centre of gravitation. Thus, according to the classical doctrine as well as Garegnani's interpretation, these empirical data must be associated with 'market prices' and unequal industrial rate of profits. Sraffa, however, associates his prices with equal industrial rate of profits. So how to reconcile this incongruity between Garegnani's position on one hand and Sraffa's on the other? Apparently, Garegnani and his associates maintain that Sraffa has some means of adjusting empirical data to what they must turn out to be if the system was allowed to get to the centre of gravitation and that his equations represent

such transformed data: 'it is pure fiction to contend, as Sinha does, that the system from which Sraffa begins his investigation into its mathematical properties is not characterised by a balancing of effectual demands and levels of outputs' (Kurz, 2012, p. 1566). But the fact of the matter remains that any such 'balancing' of the empirical data requires the knowledge of returns to scale. Thus, it is Garegnani and his associates who read Sraffa in the Samuelsonian vein rather than I. I maintain that Garegnani-led position contradicts Sraffa's crucial claim that he makes no assumption regarding returns to scale.

My solution to the problem is that Sraffa's theory is a geometrical one rather than a mechanical one. Sraffa simply rejects the widespread belief that 'market prices' are determined by the conditions of demand and supply of individual commodities prevailing in the market. His system of equations is an interconnected whole, which has certain holistic properties—the central properties of it are that it has a finite maximum rate of profit and, given positive wages from outside, it has an average rate of profit, both of which are independent of prices. These properties can be discovered by observing the unique Standard system associated with any given empirical system. It is a consequence of the averages being determined independently of prices that prices must be such that industrial rate of profits must turn out to be uniform. The idea of the 'market prices' being determined by the conditions of demand and supply prevailing in the market makes the average rate of profit dependent on prices, which contradicts Sraffa's point that both the rate of profits and wage rate are independent of prices. To highlight this point Sraffa, in a note written around 1956, wrote: 'This relation is obscured by the ingrained notion of economists that prices of commodities are handed down from somewhere, so that they are independent of the way in which the proceeds are distributed' (Sraffa, N.D. D3/12/54:8; see Sinha, 2016, p. 149ff for more discussion). Thus, the condition of the uniform rate of profits in Sraffa's system of equations has nothing to do with the notion of equilibrium or the centre of gravitation or changes in any of the empirical variables.

Martins, however, makes a positive contribution by strongly arguing for a role of conventions in Sraffa's theory. Martins also argues that one can think of the dynamics of the Sraffian system that are built on conventional behaviour, which in turn are built on empirical historical averages. These ideas deserve to be further discussed and debated.

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