PSL Quarterly Review

vol. 75 n. 303 (December 2022)

Perspectives

A discussion with Vernon Smith on the Classics, Marx, and Sraffa

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Abstract:

This paper is a revised version of a discussion with Nobel laureate Vernon Smith on the limits of neoclassical theory and on the opportunity to recover the alternative approach of classical economists and Marx. Vernon Smith is certainly right to insist on the heuristic force of the classical concept of "price discovery". However, his interpretation of the classical theory of prices remains in many respects undetermined, unless it is clearly anchored to Sraffa.

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How to cite this article:
Brancaccio E. (2022), "A discussion with Vernon Smith on the Classics, Marx, and Sraffa", *PSL Quarterly Review*, 75 (303): 425-431.

DOI: https://doi.org/10.13133/2037-3643/17973

JEL codes:
B12, B21, B24, B51

Keywords:
Vernon Smith, Neoclassical approach, Classical approach, Sraffa, price discovery, theory of prices

Journal homepage:
http: //www.pslquarterlyreview.info

Vernon Smith's long research path is characterized by his profound dissatisfaction with the representation of competition in neoclassical theory, with its unrealistic assumptions of price-taking agents, the auctioneer, and no trade at disequilibrium prices.[1] According to

* This paper is a revised version of my speech, in the role of discussant, at Vernon Smith's lecture "Propriety, property, and price discovery in Adam Smith and classical economics" (*DySES conference 2022* at NEOMA Business School, Rouen, France, plenary session, 5 October 2022; a synthesis of the discussion is available here: https://www.youtube.com/watch?v=Kxs1RXAxu5s). I am grateful to Massimo Squillante, Alessio Ishizaka, Michael Campbell and the other conference organizers for the invitation. Furthermore, I thank Paolo Trabucchi for our conversations and his precious suggestions on the subject, which helped me in preparation for my discussion with Vernon Smith. I also thank Enrico Bellino and the editor Carlo D'Ippoliti for their useful comments. The usual disclaimers apply.

[1] Vernon Smith refers to neoclassical theory as a whole but, on closer inspection, only the neo-Walrasian version of this theory requires – in addition to price-takers – the auctioneer and the exclusion of exchanges in disequilibrium (Arrow and Debreu, 1954). In this respect, Professor Smith acknowledges that the old version of neoclassical theory, by Marshall (1890), Böhm-Bawerk (1889) and others, bears similarities to the price discovery process that was typical of the Classics. However, he does not seem to consider that this similarity relates to the fact that the old neoclassicals and the Classics shared a method of determining the equilibrium corresponding to a position of uniformity of profit rates among sectors. The problem with the old neoclassicals, however, was that their theory of

Vernon Smith, this unrealistic neoclassical notion of perfect competition "is a negation of any real competition" (Inoua and Smith, 2020a, p. 80). Because of this, Professor Smith defines the neoclassical approach as an "ecclesiastical theory", which has been accepted for a long time based on authority and traditional assumptions, without any empirical verification of those same assumptions (Smith, 2010, p. 121).

With respect to this 'ecclesiastical' tradition, Vernon Smith's 'heretical' laboratory experiments consisted in trying to simulate the market's supply and demand mechanisms, showing that the neoclassical assumptions of price-taking, the auctioneer, and no trade in disequilibrium are not necessary to reach equilibrium (see, among others, Smith, 1962, 1965; Smith and Williams, 1992). This is Vernon Smith's fundamental pars destruens of neoclassical theory. We now come to his pars construens.

In his experiments, Smith found that an equilibrium can be reached without resorting to the unrealistic hypotheses of neoclassical theory. This recently led Smith and one of his co-authors to suggest that this result is somewhat in line with the old approach of classical economists, in particular with the much more realistic process of "price discovery" evoked by Adam Smith and others (Inoua and Smith, 2020a, 2020b, 2022).

That such an authoritative member of the global academic community finds a precise alternative to neoclassical theory in a relaunch of the Classics is an epistemological and theoretical breakthrough. In some respects, this break from neoclassical tradition is novel among the Nobel laureates in economics (Brancaccio and Bracci, 2019). Granted, I am among those who have always insisted on the need for a comparative approach between alternative paradigms of economic theory. I insisted on the relevance of this approach in my debates with Olivier Blanchard, Daron Acemoglu, and others (Blanchard and Brancaccio, 2019; Acemoglu and Brancaccio, 2021; Brancaccio and Califano, 2022; Brancaccio and De Cristofaro, 2022). Therefore, I can only welcome Vernon Smith's new line of research. However, precisely because of the relevance of Vernon Smith's breakthrough, I need to highlight that there might be some problems in the suggested link between his experiments and the classical approach.

The first problem is epistemological. Between the neoclassicals and the Classics there is a pre-analytical difference in the general visions of the market, which the former considered it to be a mere "marketplace" while the latter considered it as a general "social system" (D'Ippoliti, 2018). To this point, the position of Vernon Smith's experiments and subsequent theoretical interpretations may not be univocally associated with either field and, in any case, remain to be determined.

The second problem is theoretical, and concerns Vernon Smith's view on the so called "reservation prices". In his experiments, Professor Smith considers reservation prices as exogenous variables and defines them as "the primitive concept in the theory of value" (Inoua and Smith, 2020a, p. 81). This setting seems to have some drawbacks, both on the demand side and on the supply side. I shall focus here on just one of them.

Let us consider one of the basic versions of Vernon Smith's experiments, which is based on a rising supply curve (Smith, 1962). The foundation of this curve lies in the reservation prices of individual firms. Different reservation prices for different firms that produce the same good can be justified by the hypothesis that they have different techniques and, therefore, different costs of production. It is clear, however, that this can only be temporary. Through the failure of the less efficient firms and the expansion or entry of firms using more efficient

capital was inconsistent. Because of this inconsistency, they may have decided to abandon the method of uniform profit rates and followed the neo-Walrasian way (Garegnani, 1976; see also Petri, 2004).

techniques, competition tends to reduce the differences between techniques and the related costs of production. Then, as Professor Smith himself notes (Inoua and Smith, 2022), the result of competition is that firms' reservation price is ultimately determined by the same cost of production. The problem is that this cost of production, in turn, depends on the prices of the means of production. That is, it depends on variables that should be endogenously determined by price discovery. In other words, it seems that we are on the verge of circular reasoning, with prices being determined by prices themselves.

The only consistent theoretical interpretation of this sequence seems to be that the equilibrium towards which Vernon Smith's experiments converge should be considered as a sort of temporary equilibrium, not in the 'general' sense of Hicks (1939) but in a very peculiar 'partial' sense of Vernon Smith.[2] This is a rather unusual view of equilibrium, which will require further investigation. In any case, whatever the theoretical meaning we want to give to this equilibrium, it is clear that we are in front of a single fleeting clip of the entire movie of competition.

But if Vernon Smith's intention is to be connected back to the classical economists, then it must be taken into account that, for the Classics, "price discovery" corresponds to the scrolling not of a single frame but of the whole movie of competition, up to its "ending".

The question can be addressed by closely examining chapter VII of Adam Smith's *Wealth of Nations*, which Professor Vernon Smith considers to be a cornerstone of the Classical approach. The problem with chapter VII is that it contains no actual determination of prices. What can be found in that chapter is, firstly, why what Adam Smith calls "market prices" will generally be found above or below the so called "natural prices". Where "natural prices" correspond to a position in which profit rates are uniform among sectors and there is no reason to move capital from one sector to another. It is indeed precisely in this connection that individuals' different "willingness to pay", which Professor Vernon Smith justly refers to, has an important role in Adam Smith's analysis. But this is only half of the story, as Adam Smith further shows how competition will tend to lead "market prices" towards "natural prices". Chapter VII is not so much about the determination of prices as it is about the study of the so called "gravitation" of "market prices" around "natural prices".

Now, the big issue is that Vernon Smith's attitude towards "natural prices" seems to be ambivalent. On the one hand, Smith seems to precisely analyse a problem of gravitation towards "natural prices" in the sense of Leontief (Inoua and Smith, 2020b). On the other hand, Professor Smith seems to believe that natural prices are still linked to the old view of David Ricardo, who determined them in terms of quantity of labour. According to Vernon Smith, this Ricardian view has some flaws: it ignores "the demand side of price formation" (ibid., p. 4) and attempts to address a "metaphysical question" (ibid., p. 11). This may explain why he states that "insistence on long-run, natural values" represents a "shortcoming" of the classical approach (ibid., pp. 3-4).

There might be some misunderstandings on this subject. In fact, the labour theory of value is not necessary to determine prices that are independent of demand. To reach that particular

[2] According to a preliminary investigation, Vernon Smith's main experiments do not refer to the foundations of neoclassical theory, neither explicit nor implicit. Suffice it to note that the prices he examines have no connection with the typical neoclassical prices intended as relative scarcity indices. From this point of view, Vernon Smith's critique of the prevailing theory and the content of his laboratory research are aligned—which is not necessarily obvious. Other self-styled alternative contributions to the prevailing neoclassical approach have maintained theoretical links with it, in more or less conscious terms (e.g., for a criticism of this contributions in the field of agent-based models, see Brancaccio et al., 2021; see also Dal Pont Legrand et al., 2022).

result any modern "non-substitution" theorem is sufficient, which obviously does not make use of labour value (see Arrow, 1951; Koopmans, 1951; Samuelson, 1951). But the misunderstanding might be more general. If we look at contemporary research, Vernon Smith's critique of "natural prices" seems to be outdated in some respects. In fact, since Ricardo's time, the classical approach has been revisited many times. Subsequent contributions by John von Neumann (1937), Wassily Leontief (1951) and – in more explicit and general terms, by Piero Sraffa (1960) and his followers – have all provided a theory of "natural prices" or – as they are currently referred to – "prices of production". These contributions are fully consistent they do not need a labour theory of value and even allow for a non-neoclassical influence of demand on prices.

There are various modern versions of this recovery of the Classical approach through Sraffa, with some differences between them (Pasinetti, 2007; Roncaglia, 2009, ch. 8) but all are antagonistic to the neoclassical theory (on the impossibility of reducing all these versions of the classical approach to a neoclassical "special case", see Brancaccio, 2010). One of the most established Classical revivals has three essential features (see, among others, Eatwell and Milgate, 1983; Garegnani, 1990; and Kurz and Salvadori, 1995, 2019). The first is a possible "gravitation" of market prices towards "natural prices" – or "prices of production" – in terms of "price discovery". The second is a non-simultaneous determination of the distributive variables, with one of them determined before the other (which brings to mind the problem of "class struggle", addressed by the Classics and emphasized by Marx). The third is a determination of prices that does not necessarily correspond to a full employment of labour (which evokes the problem of "effective demand" raised by Keynes and others).[3]

It is widely believed that, because of these characteristics, the modern versions of the Classical approach propose not only a consistent theory but also a more realistic representation of a capitalist economy with respect to the neoclassical one.

Now, I can assume that Vernon Smith considers the first feature quite familiar while he may feel distant from the other Marxian and Keynesian features of this renewed classical approach. After all, Prof. Vernon Smith has remarked that he came to Adam Smith and the Classics by reading Hayek (Smith, 2008). Instead, we propose a link that passes through Sraffa, who was an admirer of Marx and was the author of a famous and effective critique of Hayek's theory of prices (Hayek, 1931; Sraffa, 1932). There are, however, two reasons why we hope that Professor Vernon Smith will consider the modern versions of the classical approach not in separate pieces but as a whole, which makes them logically consistent.

The first reason is theoretical. The concept of price discovery is very relevant but taken on its own it does not allow for much comment on crucial issues – such as the determinants of employment or the distribution between wages and profits. To address these questions, economists must employ a precise theory. In this respect, we all agree that neoclassical theory must be discarded.[4] But we should also add that not even Hayek's call to "spontaneous order"

[3] It should be remembered that the debate on the theoretical meaning of "gravitation" remains open. Some interpret Sraffa's analysis scheme as a "photograph"of the functioning of capitalism by "a man from the moon" (Roncaglia, 1978; Kurz and Salvadori, 2018). However, it must be clarified that in all cases these peculiar views accept the Sraffian hypothesis of uniformity of profit rates, which immediately clarifies that these are "photographs" that we could define as "conceptualized" and therefore completely different from the "clip" used in Vernon Smith's experiments. A further interpretation suggests admitting deviations between market prices and production prices, but preserves the role of capitalist benchmark of the latter (Brancaccio and Suppa, 2018; Brancaccio, 2021).

[4] Other experimental economists, in different ways, became aware of the problem and tried to solve it by considering the neoclassical equilibrium as a sort of ideal equilibrium (among others, see Thaler and Sunstein, 2009; see also Congiu and Moscati, 2022). But this idealistic solution seems equally indefensible when the critique of neoclassical

or his distinction between "explanation of the principle" and "of the detail" help much for this scope (Hayek, 1944). Therefore, there seems to be only one possible solution: a step forward towards Sraffa and the modern versions of the classical approach.

The second reason is empirical. It is safe to say that laboratory experiments could be readjusted in order to test Vernon Smith's "temporary equilibrium" determined on the basis of exogenous reservation prices, as well as to investigate a possible gravitation towards prices of production. There has been extensive research on gravitation, but only in a purely theoretical context rather than a practical one (see the essays in Caminati and Petri, 1990; see also Bellino and Serrano, 2018; on the relations between market prices and prices of production, see Brancaccio and Suppa, 2018; and Brancaccio, 2021). Given this, it might be interesting to develop new laboratory tools that are able to incorporate at least some of the essential characteristics of the classical approach and that can therefore simulate attempts to test some elements of gravitation.

At the end of my discussion with him, Vernon Smith declared that he "particularly appreciated" my comments on "an important Italian like Piero Sraffa" and anticipated that in his next book he will pay particular attention to him and to the other followers of the Classical approach (Smith, 2022). That a Nobel laureate in economics recognizes the importance of the Sraffian view and appreciates some of its critical implications is far from irrelevant news. My hope is that he will take into account that in order to give full consistency to his approach to the Classics, "Vernon Smith needs Sraffa".

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theory turns not only to the rationality of individuals but more generally to the determination of capitalist prices as indexes of relative scarcity.

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