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4 June 2011

Online at <https://mpra.ub.uni-muenchen.de/39212/>
MPRA Paper No. 39212, posted 04 Jun 2012 15:13 UTC

David Ricardo on Natural and Market Prices

Rodolfo Signorino

The distinction between the natural and market prices of commodities is one of the hallmarks of Classical economic theory. As is well-known, the distinction refers to the sharply different nature of the forces involved: unlike their market counterparts, natural prices were taken by Classical authors to reflect the permanent and systematic forces at work whenever competition operates without restraint.¹ As a consequence, natural and market prices have a quite different analytical status and relevance within Classical economics: Classical economists devoted their best analytical energies to the study of the former, leaving the analysis of the latter somewhat in the background (Ciccone 1999, Salvadori and Signorino 2012).

In an oft-quoted passage of Chapter 4, ‘On Natural and Market Price’, of his *Principles of Political Economy and Taxation* Ricardo plainly acknowledged Adam Smith’s authority on the subject:

In the 7th Chapter of the *Wealth of Nations*, all that concerns this question is most ably treated. Having fully acknowledged the temporary effects which, in particular employments of capital, may be produced on the prices of commodities, as well as on the wages of labour, and the profits of stock, by accidental causes, without influencing the general price of commodities, wages, or profits, since these effects are equally operative in all stages of society, we will leave them entirely out of our consideration, whilst we are treating of the laws which regulate natural prices, natural wages and natural profits, effects totally independent of these accidental causes. (*Works* I.iv.10)

Yet, in the mature stage of his thought in economics, Ricardo was no strict follower of Smith on the subject of price theory and in several places in the *Principles* he put emphasis on what he considered to be Smith’s theoretical blunders. While a thorough comparison of Smith’s and Ricardo’s price theories is obviously beyond the scope of this entry, a few differences will be hinted at in what follows.

As far as natural price determination is concerned, Smith endorsed what may be called an adding-up theory of natural prices since he claimed that the natural prices of the various commodities derive from the summation of the natural rates of wages, profits *and* rents:

¹ In modern rational reconstructions of Classical economics natural prices are those prices that obtain in a cost-minimizing system of production, given *a*) the technical conditions of production of the various commodities, *b*) the size and composition of the social product, *c*) one of the distributive variables (either the real rate of wages as in Classical authors or the rate of profits as in Sraffa 1960 § 44) and *d*) the quantities of the different qualities of land available and the known stocks of depletable resources: see Kurz and Salvadori (1995, pp. 14 ff) and Steedman (1998).

When the price of any commodity is neither more nor less than what is sufficient to pay the rent of the land, the wages of the labour, and the profits of the stock employed in raising, preparing, and bringing it to market, according to their natural rates, the commodity is then sold for what may be called its natural price. (*WN* I.vii.4)

the latter three magnitudes to be understood as the average rates “at the time and place in which they commonly prevail” (*WN* I.vii.3). By contrast, for Ricardo rent, due to its differential nature, does not enter into the cost of production of the various commodities. Rent is price-determined and not price-determining:²

The value of corn is regulated by the quantity of labour bestowed on its production on that quality of land, or with that portion of capital, which pays no rent. Corn is not high because a rent is paid, but a rent is paid because corn is high. (*Works* I.ii.15)

Moreover, Ricardo strongly criticized the Smithian view according to which a rise in wages, due to a rise in the price of corn, causes a *proportional* rise of all commodity prices, regardless of existing differences in the fixed to working capital ratio of each commodity:

Adam Smith, and all the writers who have followed him, have, without one exception that I know of, maintained that a rise in the price of labour would be uniformly followed by a rise in the price of all commodities. I hope I have succeeded in showing, that there are no grounds for such an opinion, and that only those commodities would rise which had less fixed capital employed upon them than the medium in which price was estimated, and that all those which had more, would positively fall in price when wages rose. (*Works* I.i.79)

As noted by Sraffa (1951), Ricardo had initially subscribed to this view which he eventually rejected as soon as he realized that it was inconsistent with his own theory of distribution based on the inverse relationship between wages and profits.³ Finally, in Chapter I, ‘On Value’, of his *Principles* Ricardo criticized Smith for limiting the labour theory of value to a primitive a-capitalistic economy since

Even in that early state to which Adam Smith refers, some capital, though possibly made and accumulated by the hunter himself, would be necessary to enable him to kill his game. Without some weapon, neither the beaver nor the deer could be destroyed, and therefore the value of these animals would be regulated, not solely by the time and labour necessary

² As emerges from an oft-quoted letter to McCulloch (*Works* VIII, p. 194), Ricardo was eager to “get rid of rent” so to simplify the problem of income distribution between capitalists and workers. As is well-known, in the Preface of his *Principles* Ricardo plainly pointed out that many of the theoretical deficiencies he detected in *The Wealth of Nations* derive just from Smith’s imperfect comprehension of the “true doctrine of rent”.

³ As concerns the relationship between wages and profits Smith was not as crystal-clear as Ricardo. In Chapter IX of Book I, ‘Of the Profits of Stock’, of *The Wealth of Nations* he wrote that “The increase of stock, which raises wages, tends to lower profit.” (*WN* I.ix.2). Ricardo, in Chapter 21, ‘Effects of Accumulation on Profits and Interest’, of his *Principles* harshly criticized the ‘competition of capitals doctrine’ which lies at the heart of the Smithian explanation of the falling rate of profits in a growing economy.

to their destruction, but also by the time and labour necessary for providing the hunter's capital, the weapon, by the aid of which their destruction was effected. (*Works* I.i.30)

As is well-known, Ricardo struggled with the problem of value till the end of his life. Yet, his final view on the subject was that, *pace* Smith, in an advanced economy as well as in a primitive one, the ratio between the direct and indirect labour requirements of two commodities determines their relative value, the only significant exception being due to the different time-structures of the capital goods involved in their production.

As far as market price determination is concerned, in several places in the *Principles* Ricardo clarified that the interplay of supply and demand determines:

- i) the market price of commodities whose available quantity is given (such as rare statues and pictures, scarce books and coins) or which are produced by means of a non-human factor of production whose quantity is given (such as wines of a peculiar quality, which can be made only from grapes grown on a particular soil),
- ii) the market price of commodities produced under a regime of monopoly or where competition is somehow restrained and
- iii) the market prices of those commodities which “can be increased in quantity by the exertion of human industry, and on the production of which competition operates without restraint.” (*Works* I.i.7)

By contrast, for Ricardo cost of production determines the natural price of commodities *sub* iii). Supply and demand have no role to play in the circumstances:⁴

⁴ See also Ricardo's letters to Malthus dated 9 October and 24 November 1820 (*Works* VIII, pp. 279 and 302). A few historians of economic analysis, following the lead of the famous Appendix I of Alfred Marshall's *Principles of Economics*, have elaborated rational reconstructions of Ricardo's long-run competitive price theory in which supply and demand do play a significant role: see Hollander (1979) and Rankin (1980). Peach (1993, Chapter 6) and Caravale (1998) provide a brief discussion of the literature on the subject. Whether or not Ricardo implicitly assumed constant returns in value theory is the *vexata questio* in the long-lasting controversies on what 'Ricardo really meant'. Ricardo was perfectly aware that, in the course of time, relative natural prices (typically, the relative price of agricultural to manufactured commodities) do change. Nonetheless, he insisted that “It is the cost of production which must ultimately regulate the price of commodities, and not, as has been often said, the proportion between the supply and demand” (*Works* I.xxx.1), a statement which, translated into a Marshallian framework, would naturally amount to an implicit and generalized assumption of constant returns. A possible explanation to this theoretical puzzle is provided by the young Sraffa in his 1925 Italian contribution on Marshallian value theory. Sraffa (1925 [1998], pp. 324 – 325) stressed that Classical authors treated the phenomena of decreasing and increasing productivity in relation to the theory of rent, a chapter of distribution theory, and in relation to the process of division of labour, a chapter of production theory,

When a commodity is at a monopoly price, it is at the very highest price at which the consumers are willing to purchase it. Commodities are only at a monopoly price, when by no possible device their quantity can be augmented; and when therefore, the competition is wholly on one side—amongst the buyers. [...] Those peculiar wines, which are produced in very limited quantity, and those works of art, which from their excellence or rarity, have acquired a fanciful value, will be exchanged for a very different quantity of the produce of ordinary labour, according as the society is rich or poor, as it possesses an abundance or scarcity of such produce, or as it may be in a rude or polished state. The exchangeable value therefore of a commodity which is at a monopoly price, is nowhere regulated by the cost of production. (*Works* I.xvii.8)

the proportion between supply and demand may, indeed, for a time, affect the market value of a commodity, until it is supplied in greater or less abundance, according as the demand may have increased or diminished; but this effect will be only of temporary duration. [...] Commodities which are monopolized, either by an individual, or by a company, vary according to the law which Lord Lauderdale has laid down: they fall in proportion as the sellers augment their quantity, and rise in proportion to the eagerness of the buyers to purchase them; their price has no necessary connexion with their natural value: but the prices of commodities, which are subject to competition, and whose quantity may be increased in any moderate degree, will ultimately depend, not on the state of demand and supply, but on the increased or diminished cost of their production. (*Works* I.xxx.1 and 11)

Ricardo's treatment of the subject has an unmistakable Smithian flavour.⁵ Perhaps the single important element of novelty is Ricardo's analysis of the role of financial capital in the gravitation process of market prices towards their natural levels (Kurz and Salvadori 1995, pp. 7 – 8 and Steedman 1998, p. 148). Ricardo pointed out as a fact beyond dispute that real world markets are seldom if ever in a situation of (what may be called) natural, or long-run, equilibrium, that is, in a situation in which *a*) the quantities produced of the various commodities match their respective Smithian effectual demands and *b*) an uniform rate of profits and an uniform rate of wages obtain. As a consequence, actually observable magnitudes (market prices) seldom if ever coincide with their theoretical counterparts (natural prices):

In the ordinary course of events, there is no commodity which continues for any length of time to be supplied precisely in that degree of abundance, which the wants and wishes of mankind require, and therefore there is none which is not subject to accidental and temporary variations of price. (*Works* I.iv.2)

respectively. To put it briefly, for Sraffa, no Classical economist ever thought to co-ordinate the two phenomena in one single law of non-constant productivity and to make such a law the cornerstone of the explanation of the equilibrium price of a given commodity produced under competitive conditions. This point of view was further elaborated upon by Sraffa, once moved to Cambridge, in his 1928 – 1931 *Lectures on the Advanced Theory of Value*: see Signorino (2005, pp. 363 ff)

⁵ E.g. compare Ricardo's statements quoted in the text with what Smith wrote in Chapter 7 of the *Wealth of Nations* about the price of commodities whose production requires specific soils and situations, and the price of commodities produced under a regime of monopoly or otherwise restricted competition.

How to justify then the privileged role accorded by Ricardo to natural values within his own economic analysis? The answer is that market prices may be safely assumed as gravitating towards their natural levels.⁶ Obviously, such an assumption is warranted provided that in all markets where competition operates without restraint a very powerful mechanism is at work to adjust the quantities produced of the various commodities to their respective Smithian effectual demands. And this was just Ricardo's opinion:

When we look to the markets of a large town, and observe how regularly they are supplied both with home and foreign commodities, in the quantity in which they are required, under all the circumstances of varying demand, arising from the caprice of taste, or a change in the amount of population, without often producing either the effects of a glut from a too abundant supply, or an enormously high price from the supply being unequal to the demand, we must confess that the principle which apportions capital to each trade in the precise amount that it is required, is more active than is generally supposed. (*Works* I.iv.4)

To put it in a nutshell, for Ricardo unrestrained competition is very effective to dampen the variance of market prices around their average, or natural, levels. In Ricardo's view the main actors behind such adjustment mechanism were the rich manufacturers and the financial capitalists, "the monied class" as Ricardo called them, that is, those who "live on the interest of their money, which is employed in discounting bills, or in loans to the more industrious part of the community". Ricardo depicted entrepreneurs as economic agents endowed with a peculiar alertness towards the profits differentials which continually emerge out from the ebb and flow of supply and demand in the various markets. At the aggregate level, the individual choices prompted by the search of the highest available rate of return for one's own capital are supposed to enforce (a tendency to) an uniform rate of profits:⁷

Whilst every man is free to employ his capital where he pleases, he will naturally seek for it that employment which is most advantageous; he will naturally be dissatisfied with a profit of 10 per cent, if by removing his capital he can obtain a profit of 15 per cent. This restless desire on the part of all the employers of stock, to quit a less profitable for a more advantageous business, has a strong tendency to equalize the rate of profits of all. (*ibidem*)

As clarified by Ricardo's example from the textile sector, in his view the specific role of financial capitalists is to assist entrepreneurs in the process of reorganization of the material conditions of production to keep pace with ever-changing market opportunities:

⁶ Smith and Ricardo took for granted, and thus did not bother to demonstrate formally, that market and natural prices coincide on average. For a critical discussion of the literature on gravitation in Classical economics see Bellino (2011).

⁷ The alleged long-run tendency to an uniform rate of profits and an uniform rate of wages does not imply that Classical economists ignored persistent inequalities in the rate of profits or wages due to the existence of non-pecuniary differences among sectors: see Kurz and Salvadori (1995, Chapter 11).

When the demand for silks increases, and that for cloth diminishes, the clothier does not remove with his capital to the silk trade, but he dismisses some of his workmen, he discontinues his demand for the loan from bankers and monied men; while the case of the silk manufacturer is the reverse: he wishes to employ more workmen, and thus his motive for borrowing is increased: he borrows more, and thus capital is transferred from one employment to another, without the necessity of a manufacturer discontinuing his usual occupation. (*ibidem*)

The stockbroker Ricardo knew quite well that financial capital is endowed with a much higher intersectoral mobility than physical capital, particularly the fixed part of it, and thus the former, unlike the latter, may be assumed as not being tied to a given productive sector. As a consequence, fixed capital ends up to play the role of the slackening element in the adjustment process sketched above: the higher the share of fixed capital on total capital, the higher the share of sunk costs on total costs of production and thus the stronger the unwillingness of entrepreneurs to quit their sector whenever market conditions are altered by a technological breakthrough, a change of fashion, the introduction of a new tax or the repeal of an old one, the start or the end of wartime etc. That is particularly evident in Chapter 19 of the *Principles* where Ricardo compared the different effects of “sudden changes in the channels of trade” in rich and poor countries:

The commencement of war after a long peace, or of peace after a long war, generally produces considerable distress in trade. It changes in a great degree the nature of the employments to which the respective capitals of countries were before devoted; and during the interval while they are settling in the situations which new circumstances have made the most beneficial, much fixed capital is unemployed, perhaps wholly lost, and labourers are without full employment. The duration of this distress will be longer or shorter according to the strength of that disinclination which most men feel to abandon that employment of their capital to which they have long been accustomed. (*Works* I.xix.3)

Though the high price of agricultural products is, in Ricardo’s view, the main culprit of high wages and thus low profits and low rate of capital accumulation, Ricardo was aware that an abrupt removal of the obstacles to the free importation of cheap foreign corn in England, in the aftermath of Napoleonic wars, would have destroyed much of the value of the capital invested in domestic agriculture. In the circumstances, he invoked an active government policy to compensate for the negative effects of free-trade:

The best policy of the State would be, to lay a tax, decreasing in amount from time to time, on the importation of foreign corn, for a limited number of years, in order to afford to the home-grower an opportunity to withdraw his capital gradually from the land. (*Works* I.xix.7)

Hence, at least on this occasion, Ricardo cannot be found guilty of what Schumpeter (1954) famously christened as the Ricardian Vice, that is, the (bad) habit to apply crudely the conclusions derived from a highly simplified model to real-world problems, turning a blind eye to short-term frictions and maladjustments!

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