Values, prices of production and market prices: some more evidence from the Greek economy

Lefteris Tsoulfidis and Thanasis Maniatis*

This paper extends the empirical investigation of the relation between labour values and different price forms in the case of the Greek economy. Subjecting the labour theory of value to empirical tests with data from various countries helps in the derivation of general conclusions regarding its empirical validity and practical usefulness. Our results on the closeness of values and prices as measured by their absolute deviation and correlation, the shape of the wage–profit curves, the predictive power of labour values over market prices compared with other 'value bases', and the comparison of fundamental Marxian categories when estimated in value and price terms provide further support for the empirical strength of the labour theory of value.

Key words: Greek economy, Labour theory of value
JEL classifications: JEL B12, B14, C67, D57

1. Introduction

It is now widely recognised that the theoretical debate around the relation between values and prices and its implications for the labour theory of value needs to be supplemented by some kind of empirical research. Thus, in recent years, there have been a growing number of empirical studies[1] into the relation between labour values, prices of production of different sorts calculated from input–output tables, and actual prices. Inevitably, a number of statistical and methodological issues have emerged in this literature, and some of them can only be further illustrated and evaluated by bringing forth more empirical evidence, preferably from different economies.

The main purpose of this paper is to extend in the case of the Greek economy the empirical investigation of the relation (specifically, their 'closeness' as measured by their deviation and correlation) among labour values, prices of production as derived by Marx in Volume III of *Capital*, fully transformed prices of production and market prices. In addition, we compare the explanatory power of labour values with that of 'values' based on different commodities with regard to market prices. Also, we construct the wage–profit

[1] See Shaikh (1984, 1998), Petrovic (1987), Ochoa (1984, 1989), Cockshott *et al.* (1995), Cockshott and Cottrell (1997, 1998), Valle Baeza (1994), Steedman and Tomkins (1998).

curve in order to assess the practical significance of the reswitching of techniques and its implications for the relevance of value analysis. Finally, we calculate and compare some fundamental Marxian categories (rate of profit, rate of surplus value, direct and integrated organic compositions of capital) evaluated in different kinds of price forms.

In the next two sections, we present our empirical results, commenting on their similarities and differences with results from other economies, and we discuss the conclusions drawn from those comparisons.

2. The empirical investigation of price–value deviations and the wage–profit curve in the Greek economy

The differences in the sectoral integrated capital–labour ratios[1] is the crucial factor that determines the extent of the deviation between labour values and prices of production. The deviation of each of these two types of prices from market prices is also of interest. The empirical evidence obtained so far indicates that integrated organic compositions of capital in real economies do not differ by much. Labour values or direct prices (that are not affected in their structure by differences in the sectoral organic composition of capitals), Marx's prices of production and fully transformed prices of production have been found to be very close to each other. The same is true regarding the deviation of each of these theoretical prices with market prices.

In order to investigate these issues in the context of the Greek economy, we have calculated from the 35-sector input–output table for 1970 (Skountzos and Matthaios, 1980) labour values/direct prices, fully transformed prices of production and Marx's prices of production.[2] We should note in advance that our results are quite similar to those reported for other countries, providing further support for the empirical strength of the labour theory of value.

2.1 Direct prices and prices of production as predictors of market prices

We observe in Table 1 that labour values or direct prices and market prices are located the furthest apart from all combinations of prices examined when distance is measured by the percentage absolute deviation. Of course, neither Marx nor Ricardo argued that those two categories should necessarily be close to each other at any point in time; that was Marx's simplifying assumption in Volume I and Smith's simple labour theory of value for the 'early and rude state of society'. The law of value in Marx can be thought of as the argument that values regulate prices of production, and these in turn regulate market prices. This indirect relation between values and market prices could be taken to imply that they are very far away from each other. But empirical evidence has shown (somewhat unexpectedly) that prices of production are not clearly closer to market prices than direct prices are, and generally direct prices are always quite close to market prices in absolute terms.

This last remark is true in the Greek case also. The distance between direct prices and market prices is by no means large and certainly falls within the range of the results reported for other economies. The mean absolute deviation (MAD) between them is

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[1] See Shaikh (1984) and Petrovic (1987).

[2] The exact definitions and the data sources and method used in the calculations of the different price systems are contained in an Appendix available to any interested reader. We have followed as much as possible the empirical methodology used by Ochoa (1984, 1989), in order to facilitate the comparison of our results with those from the US economy.

Table 1. *Values and prices: Greece, 1970*

	Direct prices/ market prices	Marx's prices of production/ market prices	Prices of production/ market prices	Prices of production/ direct prices	Prices of production/ Marx's prices of production
MAD (%)	23·1	21·2	14·3	18·7	9·30
MAWD (%)	21·6	21·8	15·4	18·1	7·60
NVD (%)	25·1	24·3	20·4	23·0	8·0
Adjusted R^2	0·942	0·914	0·939	0·950	0·990
Intercept	−2032 (1·92)	−318·9 (0·27)	267·0 (0·27)	−0·18 (1·93)	−688·0 (1·05)
Slope	1·15 (22·5)	1·024 (18·1)	0·979 (20·7)	1·14 (24·0)	1·052 (65·5)

23·1%, whereas, as normally expected (under the assumption that sectoral rates of profit tend towards equality owing to the workings of capitalist competition), prices of production are closer to market prices showing a MAD from them of 14·3%. However, when the mean absolute weighted deviation (MAWD)[1] is used as a measure of distance, this difference diminishes. Direct prices are now located closer to market prices, the MAWD is 21·6%. Direct prices can be considered as a centre of gravity for market prices quite similar to that provided by prices of production, since the latter display a MAWD of 15·4% from market prices. As has been noted, 'deviation of the order of ±20% implies non-deviation of ±80%', namely those findings imply that 'labour values constitute a significant component of market prices, it can be reasonably argued that the structure of market prices is dominated by the structure of labour values' (Shaikh, 1984, p. 78; 1992, p.85).

Moreover, as shown in Table 1, direct prices and market prices are highly correlated ($R^2 = 0·942$), slightly exceeding the degree of correlation between prices of production and market prices. Table 1 contains the results of all the regressions we ran between the different kinds of prices, where both dependent and independent variables are multiplied by the sectoral gross output (x_i). In all cases, the adjusted coefficient of determination (R^2) was extremely high, consistently over 0·90, mirroring the strong cross-sectional correlation results among all sets of prices obtained from the US, Italian and the UK economies.

2.2 Direct prices and prices of production

The deviation between direct prices and prices of production refers directly to the practical significance of the 'transformation problem'. The MAWD of direct prices from prices of production is close to 18%; as expected, the deviation between direct prices and prices of production is smaller than that between direct prices and market prices. Ochoa's comment for the US economy 'average price–value deviations—whether weighted or unweighted—are quite small: around 17%. The "transformation problem", therefore, appears to be of limited empirical significance' seems to apply equally well in the context of the Greek economy. This happens because, despite the relatively large variation in direct capital–labour ratios, the variation in integrated capital–labour ratios is only half that of the former, exactly as in the cases of the US and the Yugoslavian economies. The coefficient of variation in direct capital–labour ratios is 1·417, whereas the coefficient of

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[1] Weighted by the share of each sector in total product.

variation in integrated capital–labour ratios is 0·744. Labour values emerge as the dominant element in the formation of prices of production, as evidenced by the small deviation and the high correlation ($R^2 = 0.950$) between the two prices.

On the issue of the redundancy of labour values for the formation of prices of production and the prediction of the behaviour of actual prices, we note that values are almost as close to market prices as prices of production are. Values certainly differ from prices of production, but prices of production differ from market prices to almost the same extent. If values are considered redundant for the prediction of prices of production (MAWD = 18·1%), then it could be argued that the latter are redundant for the prediction of market prices (MAWD = 15·4%). This argument is further enhanced if we consider relative degrees of correlation, since direct prices appear more covariant with market prices than prices of production with market prices.

2.3 Marx's prices of production, fully transformed prices of production and market prices
In order to evaluate the empirical significance of Marx's semi-finished transformation of values to prices of production in Volume III of *Capital* (see Shaikh, 1977), we also estimate prices of production leaving the constant and variable parts of capital evaluated in value terms, while the profit of each sector is estimated as the product of capital advanced in value terms times the average value rate of profit.[1] Marx's prices of production show a somewhat larger deviation from market prices (a MAWD of 21·8%) relative to other prices, but they are very close to the fully transformed prices of production, their MAWD is 7·6%, while they appear almost perfectly correlated with them. If the deviation between values and prices of production (=18%) refers to the practical need for the leap from Volume I prices to Volume III prices, the deviation between Marx's prices of production and full prices of production (=7·6%) refers to the practical significance of the whole literature on the correction of Marx's procedure and seems to have very little empirical content as well.

2.4 Comparison of the results for the US and the Greek economies
Table 2 shows that results are similar for both economies (especially when considering the MAWD and R^2 measures of deviation and correlation).

Specifically, except for the deviation between direct prices and market prices, which is almost twice as large in the Greek case,[2] prices of production in the latter are almost as close to market prices as in the US. The same is true for the deviation between direct prices and prices of production (despite the considerably lower wage share of the Greek economy) and Marx's prices of production with full prices of production.

We noted above that values (direct prices) are usually expected to be more distanced from market prices than prices of production are from market prices. We have seen, though, that this is not true in the US economy (see Table 2) and in the Yugoslavian economy:

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[1] Ochoa (1984) does the same thing for the US economy.

[2] Valle Baeza (1994) has suggested that the observed differences in the magnitude of value-(market) price deviation between industrialised and non-industrialised countries may be due to the greater dispersion of the organic compositions of capital and the existence of extensive spheres of petty-commodity production in non-industrialised countries. Since we have taken into account the labour of self-employed people in the calculation of labour values, the difference in the level of development between Greece (in 1970) and the post-World War II US could be used to explain the greater deviation between values and market prices in the former. However, the relative dispersion of integrated capital–labour ratios is not very different in the two economies (60% in US, 74% in Greece) and also the same difference should be found for the deviation between values and prices of production, which is not the case.

Table 2. *Measures of deviation and correlation for values and prices: Greece and USA*[a]

	Direct prices/ market prices		Prices of production/ market prices		Direct prices/ prices of production		Marx's prices of production/ prices of production	
	(1)		(2)		(3)		(4)	
	GR	USA	GR	USA	GR	USA	GR	USA
MAD (%)	23·1	12·2	14·3	13·6	18·7	16·9	9·3	5·5
MAWD (%)	21·6	12·5	15·4	14·6	18·1	17·4	7·6	6·7
NVD (%)	25·1	13·7	20·4	16·8	23·0	16·8	8·0	8·8
R^2	0·942	0·974	0·939	0·982	0·950	0·971	0·990	0·995

[a]*Source*: Ochoa (1984, 1989).

where values and prices of production are very close to each other (RMS%E≅6%) the distance of both from market prices is almost the same (RMS%E≅11%) (Petrovic, 1987, p. 203). Results from the UK economy are also inconclusive on this matter. For the UK economy, the mean absolute error between prices of production (estimated though only on circulating and not fixed capital) and market prices is 10% compared with 11·8% between values and market prices (Cockshott *et al.*, 1995, p. 107). However, in a different study using the same data but different methodology, values are found to be slightly closer to market prices than prices of production are.[1] This study tries to address explicitly the relative empirical strengths of the 'simple' labour theory of value and the theory of prices of production. The relative dispersion of certain empirical probability distributions such as those of the rate of profit (r), the organic composition of capital (o) and price ratios such as market prices to prices of production, $\varphi = m/p$, and market prices to labour values, $\psi = m/\lambda$, are examined for this purpose. Since r exhibits a relatively wide distribution and the distribution of ψ is slightly tighter than that of φ (see Table 3), the authors argue that the simple labour theory of value performs at least as well as the theory of prices of production in predicting market prices.

For the Greek economy, we find in a similar way that the (direct) organic composition of capital has the widest distribution of all the variables examined (even though, as mentioned above, the variability of the integrated composition of capital is only half that of the direct composition) followed by that of r. But in this case, as the relative magnitudes of MAWD measures suggest, the ratio of prices of production to market prices is more tightly distributed than the ratio of values to market prices, with the relative dispersion of values to prices of production falling in the middle.

Our results indicate that the economy of Greece represents a 'normal' case in the traditional sense of the 'transformation problem', in that prices of production are closer to market prices than direct prices are. There seems to be some improvement in the closeness of theoretical prices to actual prices gained by the transformation procedure and the scheme value→price of production→market price can be detected empirically. However, the proximity of labour values to market prices in all cases examined, including the Greek one, implies that even Marx's simplifying assumption in Volume I is not very unrealistic,

[1] See Cockshott and Cottrell (1998. p. 77).

Table 3. *Coefficients of variation*

	o	*r*	$\psi = m/\lambda$	$z = \lambda/p$	$\varphi = m/p$
UK[a]	0·752	0·608	0·104	n.a.	0·114
GR	1·417	1·262	0·291	0·244	0·211

[a]*Source*: Cockshott and Cottrell (1998).

given the structure of most current economies. It is not strange therefore to find that the correction in Marx's transformation procedure in Volume III also seems to be empirically insignificant with 'first step' prices of production and fully transformed prices of production being almost indistinguishable in terms of absolute deviation and correlation. It should be noted that, in both economies, it is this pair of prices that exhibit the closest relationship with each other by far.

In light of the discussion regarding the appropriateness of using measures of cross-sectional correlation in exercises like this,[1] it is interesting to note that, in all four cases, greater proportional deviations (as measured by MAD and MAWD) between the different prices for the Greek economy compared with those for the US are accompanied by smaller cross-sectional measures of correlation (R^2s). However, in a symmetrical way with the US case (where the opposite holds, see Ochoa, 1989, p. 421), the higher MAD and MAWD measures between direct prices and market prices than between prices of production and market prices are accompanied by a higher R^2.

2.5 Alternative 'value bases' and correlation analysis

It has long been suggested that, at least formally, a 'corn' or 'energy' theory of value is equally plausible with the labour theory of value (Hodgson, 1982, p. 97). Namely, it is argued that labour has no special status as a 'value base', and any other arbitrarily chosen input could be used in the place of labour values when deriving the prices of production using either a system of simultaneous equations *à la* Bortkiewicz or applying the 'iterative procedure'. Recently, Cockshott and Cottrell (1997) have indirectly addressed this issue by providing empirical evidence on the usefulness of the adjusted coefficient of determination in order to assess the closeness of values and market prices. In each sector of the economy, the total (direct and indirect) content of certain commodities (acting as a value base) is calculated and then the explanatory power of those 'values' regarding market prices is compared with that of labour values. No other commodity tried as a value base generates the extremely high R^2s with market prices that labour values do, and the authors conclude that these cannot be a 'statistical artifact'.

We repeated Cockshott and Cottrell's exercise, and we calculated the total direct and indirect content of three alternative 'value bases' for all the sectors of the input–output table for the Greek economy. Then, we compared their performance in terms of their degree of correlation with market prices to that of labour values. The procedure used in order to calculate 'values' in terms of commodities other than labour is described below: First, we deleted the row and column of sector *j* (agricultural products, electricity, oil products, chemicals) from the input–output and depreciation coefficient matrices *A* and *D*. Second, from the matrix *A*, we extracted the row of intermediate demand (j_{id}) of sector

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[1] See Petrovic (1987) and Ochoa (1989).

Table 4. *Regressions of market prices on labour values and other 'value-bases'*

Value bases	Intercept	Slope	R^2 Greece	R^2 UK
Agricultural	−266·7 (0·31)	1·233 (2·51)	0·174	0·332[a]
Electricity	3178·6 (1·56)	0·759 (7·77)	0·668	0·682
Oil	−625·2 (0·26)	1·047 (7·87)	0·674	0·639
Chemicals	396·3 (0·16)	0·969 (8·4)	0·702	n.a.
Labour	−2032 (1·92)	1·15 (22·51)	0·942	0·955

[a]In the UK case this is for iron and steel.
Source: Cockshott and Cottrell (1997).

j without the input requirement for the sector that produces the commodity *j*. Finally, we estimated the commodity *j* content (='value') of each sector by forming the product (j_{id}) $(I–A–D)^{-1}$, where matrices A and D are taken as defined in the first step above. For each set of 'values', we used the same normalisation condition as for labour values, namely we set the sum of values equal to the sum of market prices.

Finally, we regressed market prices on those alternative value bases. As Table 4 shows, our results are surprisingly similar to those derived from the UK economy. Electricity, oil and chemical content provide R^2s in the area of 60–70%, whereas agricultural products perform very poorly as a potential value base, with a very low R^2 similar to that obtained for iron and steel in the UK case. In summary, no other commodity acting as a value base comes close in covariance with market prices as the results obtained when labour is used as the substance of value and regulator of price. If the extremely high R^2s (consistently well over 90% for the economies of Italy, Yugoslavia, USA, UK and Greece) observed in the case of labour values are produced by some statistical misspecification, this does not seem to hold true for the other randomly chosen value bases.

In a recent paper, Steedman and Tomkins (1998) note that the value of measures such as MA(W)D depends on the choice of the numéraire used in order to normalise prices,[1] and they suggest that the measures used to evaluate the closeness of prices and values should be invariant to the choice of the numéraire used. They develop such a numéraire-free measure of price–value deviation which is basically the angle θ (also tan θ, and the related distance measure, d, are used by the authors) between the vector with elements the ratios of non-normalised values and prices and the unit vector. In Table 5, we present the empirical calculations of the measures proposed by Steedman and Tomkins along with the conventional measures of deviation and correlation.

It can be reasonably argued that our previous results are not altered in any significant way. The distance between values and market prices and between values and prices of production is somewhat larger now, whereas the deviations between prices of production and market prices and Marx's prices of production with market prices are marginally affected by the change in the method of measurement. Marx's prices of production appear

[1] Petrovic (1987, p. 204) also examines empirically the range of values assumed by his measure of deviation (RMS) as the numéraire changes. Even though the ratio of the largest to the smallest value for RMS is around 3, even the largest value obtained does not show that large of a deviation (approximately 18%) between values and prices of production. Petrovic's main results are based on the use of total output as a numéraire. We have also used gross output in order to normalise prices, as in Ochoa (1989).

again as a very close approximation to the full prices of production. It is also interesting to note that, in general, the ranking of the different pairs of prices according to the distance between them (in terms of the unweighted MAD) is maintained when the new measures of deviation are employed.

Finally, in Table 6 we present some of the most important Marxian variables estimated on the basis of different price forms. Although these variables differ from each other, their differences have very little practical significance.

2.6 The empirical wage–profit curve

The Sraffian critique of neoclassical capital theory implicitly included an attack on Marxian theory based on the possibility of the reswitching of techniques, according to which the w–r curve will exhibit as many curvatures as the number of sectors reduced by one. The existence of many curvatures in a multi-commodity world makes possible the intersection of the w–r curves (each representing a particular technique of production) at more than one point. Thus, it is possible as the distribution of income changes that the price system changes so much (with values and the structure of production remaining unchanged) that a certain technique of production is chosen at very high and very low rates of profit, but not at the intermediate range. In this way, capitalist choices become entirely dependent on income distribution and prices and independent of the structure of production and labour values.

However, these possibilities regarding the shape of the w–r curve and the reswitching of techniques depend on the distance between labour values and prices of production. In the extreme case, where prices of production do not differ at all from values, the w–r curve would be linear, and reswitching becomes impossible. We have already seen that import-

Table 5. *Alternative measures of price–value deviations*

	Values/market prices	Marx's prices of production/ market prices	Prices of production/ market prices	Values/prices of production	Marx's prices of production/ prices of production
Adjusted R^2	0·942	0·914	0·939	0·950	0·990
MAWD	0·216	0·218	0·154	0·181	0·076
MAD	0·231	0·212	0·143	0·187	0·093
d	0·279	0·214	0·1577	0·235	0·113
θ (rad)	0·280	0·215	0·1579	0·236	0·1131
$\tan \theta$	0·286	0·218	0·1592	0·240	0·114

Table 6. *Fundamental variables estimated in different price forms*

	Market prices (1)	Direct prices (2)	Prices of production (3)	(2)/(3) (4)
Rate of profit	12·9%	16·1%	13·4%	1·201
Rate of surplus-value	71·4%	73·8%	69·7%	1·059
Simple composition of capital	3·22	3·10	2·99	1·036
Integrated composition of capital	3·33	3·16	3·09	1·032

ant categories such as the rate of profit, the organic composition of capital and the rate of surplus value in value terms do not change in any significant way when evaluated in price of production terms. Consequently, choices that are being made in terms of values should not differ drastically from those made in terms of prices of production. Moreover, while it is true that mathematically there is a possibility for many curvatures in the w–r curve, from a practical viewpoint, such a possibility (and therefore the possibility for reswitching) could be minimal or non-existent.

To assess these possibilities, we estimate the w–r curve with data from the Greek economy using the formula for prices of production:

$$p = pA + pD + pba_o + p{<}t{>} + rpK$$

where p is the price of production, r is the general rate of profit, b is the column vector of the real wage per unit of labour, a_o is a row vector of adjusted direct labour coefficients, K is a square matrix of the fixed capital stock coefficients, and t is the diagonal matrix of indirect tax coefficients.

After some manipulation and by taking into account that the money wage, $w = pb$, we get

$$p[I - A - D - {<}t{>} - rk] = wa_o \text{ or } p = wa_o[I - A - D - {<}t{>} - rk]^{-1}$$

We post-multiply by x (the column vector of the gross output of each sector) and, since $px = mx$, where m the row vector of market prices, we arrive at the w–r relation:

$$w = \frac{mx}{a_o(I - A - D - {<}t{>} - rK)^{-1}\, x}$$

If we consider the rate of profit as the independent variable, and we assign to it different hypothetical prices starting from zero (which corresponds to the maximum wage, or the ratio of gross output per worker) up to the maximum rate of profit that corresponds to zero wage, we can generate the w–r curve. Such a curve of course refers to a multi-commodity world and, potentially, it has as many curvatures as the number of sectors reduced by one. The estimated w–r curve is portrayed in Figure 1.

As Ochoa (1989, p. 424) has commented on empirical wage–profit curves, '[t]he most striking feature of all of them is how nearly linear they are [. . .]. This is due to the remarkable closeness of labour values to prices of production for the US economy'. Since values and prices of production for the Greek economy exhibit almost the same degree of
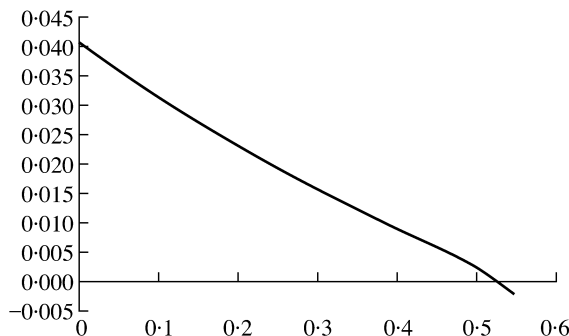

Fig. 1. *The w–r frontier in Greece, 1970.*

deviation as that found in the US economy, the wage–profit curve is also nearly linear. Of course, the fact that the *w–r* curve is quasi-linear means that alternative techniques either must be in the interior of the *w–r* curve or they can cross the *w–r* curve at most at one point. Thus, our results resemble closely those reported in Ochoa (1989), Leontief (1986), Shaikh (1998) for the US economy, and Krelle (1979) for the West German economy. The structure of the Greek economy is another case where we do not observe the required curvature of the *w–r* curve for reswitching of techniques to occur independently of changes in values and the structure of production.

3. Concluding remarks

The labour theory of value has been a subject of intense debate especially regarding its claim to explain actual prices. Often, a distinction is drawn between the qualitative (with emphasis on the explanation of social relations of production) and the quantitative (with emphasis on the determination of prices) aspects[1] of the theory. Marxists that insist on the importance of the 'quantitative' aspect of the Marxian labour theory of value share the opinion that it is indeed richer in content than that of classical political economy, especially with respect to the definition of value as simple socially necessary abstract labour. But this does not imply that Marxian theory is not able to interpret adequately exchange relations in the sphere of circulation on the basis of labour values. Market prices fluctuate around prices of production as a result of inter-industry competition, and they are regulated by prices of production. In a similar fashion, labour values regulate prices in general[2] and prices of production in particular, constituting their basic component. Moreover, if we adopt the notion that value is a measurable magnitude not only in the sphere of circulation, as some Marxists (for example 'the Rubin school') contend, but also in the sphere of production, we can conduct some useful empirical tests regarding the ability of the labour theory of value to account for prices of production and actual prices.

Our empirical investigation of the Greek economy gave results similar to those reported for other countries: Values and prices are quite close showing small to moderate absolute deviation and extremely high correlation, the structure of the economy generates almost linear aggregate wage–profit curves, there is evidence of superior predictive power of market prices by labour values compared with 'values' based on other inputs, and very small differences exist between fundamental Marxian variables estimated in value and price terms.

It is also interesting to note that the countries examined empirically so far constitute a very representative sample. The Yugoslavian economy in the 1970s, post-World War II US, UK, Italy, Mexico and Greece in 1970 cover a broad spectrum of economies in terms of institutional structure and level of development.

Future research efforts should use input–output data of more recent benchmark years, such as those of 1980 and 1988, so that inter-temporal regressions of values and prices can be tried as well. An extension of the research in this direction would, first, require detailed data on employment, crucial for a theory that relies so heavily on labour time. Second, matrices of fixed capital stock and depreciation are needed. Since such matrices

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[1] See Howard and King (1992, ch. 14) and Sweezy (1942, ch. 1).

[2] 'If prices actually differ from values, we must first reduce the former to the latter [. . .]. We know, moreover, that this reduction is not limited to the field of science. The continual oscillations in prices, their rise and fall, compensate each other, cancel each other out, and carry out their own reduction to an average price which is their *internal regulator*' Marx (1976, p. 269).

are not available, they must be constructed from the beginning. Other problems of lesser importance are data on turnover time, not only for the estimation of the stock of constant circulating capital, but also a separate set of turnover time data for the estimation of the stock of variable capital advanced. In the list, we can also include data on the degree of capacity utilisation by sector, which helps improve the accuracy of the estimation of various kinds of prices in the case where potential supply does not equal demand. This, by the way, is the case where the second sense of socially necessary labour time is in discrepancy with the first sense, thus increasing the distance between values and market prices. However, the relatively small distance between values and market prices found so far in all economies examined indicates that this difference may not be a serious problem.

In summary, the results of the studies we cited above, in combination with the results on the structure of prices in the Greek economy, provide substantial evidence for the empirical strength of the labour theory of value. The latter appears to be a very useful analytical tool for the study of the behaviour of a typical capitalist economy.

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