Marginalist controversy and Post Keynesian price theory

FREDERIC S. LEE

Professor Langlois’ attempt to decide the marginalist controversy in favor of the marginalists is of interest to Post Keynesians for two reasons (Langlois, 1989c). The first is that she needed to extend the neoclassical vision of the firm to accomplish her goal, thus implicitly suggesting that the traditional model of the neoclassical firm found in the literature and populating all the neoclassical microeconomic textbooks has utterly failed to account for the full cost principle and the normal cost prices doctrine and their implications for the firm and for a theory of prices. As interesting as this claim is, I am not going to deal with it in this article, but leave it those who wish to further bloody the nose of neoclassical economists.

My interest in Langlois’ article lies in her attempt to check quantitatively the validity of the monopoly pricing model used by neoclassical economists to domesticate qualitatively the full cost pricing equation and with it the full cost principle, the normal cost prices doctrine, and, most recently, Post Keynesian price theory. If she is successful in her attempt, the old neoclassical adage that full cost pricing is simply the businessman’s way of implementing marginal analysis would be strengthened, while at the same time Post Keynesian attempts to create an alternative to neoclassical price theory based in part on such pricing equations would be discredited. Moreover, she also would have provided an anti–Post Keynesian explanation of the markup.

In dealing with these aspects of Langlois’ article, I shall be concerned with the pricing model on which her quantitative results are based. The

The author is an Associate Professor at Roosevelt University, Chicago, IL. He is grateful to Peter Earl for comments on an earlier draft of the paper.

first part of the paper will deal with her variant of the monopoly pricing model and its relationship to the full cost pricing equation, while the second part of the paper will delineate those features of Post Keynesian price theory that give the equation its anti-marginalist content and meaning.

I.

In her article, Langlois utilized two variants of the monopoly pricing model and three different elasticity concepts as the theoretical foundation for her quantitative assessment of the elasticity argument. Although she did not explicitly do so, it is quite easy to establish formal relationships, such as expressed in equation (1), between the full cost pricing equation and her pricing models and elasticity concepts. Assuming that production is always taking place at a specific or normal level of output, that production and sales to consumers are carried out by the same firm, and that all output goes into inventory and all goods are sold from inventory, then the firm's average direct costs (which also include the direct costs associated with selling the output) equal Langlois' average unit costs of goods in inventory (AC). Let us also assume that the markup for all indirect costs and profits is only included in the price to consumers. Thus the relationship between the full cost pricing equation and Langlois' marginal cost monopoly pricing model can be written as

\[(adc)(1+k) = p = \frac{mc}{1-1/e_d}\]  

where

\[e_d = \frac{adc(1+k)}{(adc-mc) + adc(k)} > 1\]  

since \(adc > mc > 0\).

The relationship between the full cost pricing equation and Langlois' average cost monopoly pricing model can also be written as

\[(adc)(1+k) = p = \frac{AC}{1-1/es}\]  

where \(es\) is the price elasticity of the sales time of a given level of inventory and
Given equations (5) and (7), it is now possible to write Langlois' third elasticity concept, cumulative sales elasticity of sales time of a given price ($et$), which measures the percentage change in cumulative quantity demanded and sold for a one percentage change in the time span allowed for demand to be realized, in terms of the full cost pricing equation:

\[
(8) \quad et = \frac{e_d}{es} = \frac{adc (k + k^2)}{adc (1 + k)^2 - mc (1 + k)} < 1
\]

Equations (4)–(8) represent both the core of Langlois' monopoly pricing model and elasticity argument and their relationship to the full cost pricing equation. In her quantitative assessment, Langlois obtained independent estimates of $es$ and $et$, from which she calculated values for the price elasticity of demand. Since these independently calculated values of the price elasticity of demand compare favorably with those estimates found in the price elasticity studies of the automobile industry, Langlois felt that her elasticity argument was supported by the data. However, there are some problems with her conclusion. One problem is that the structure of the full cost pricing equation constrains the values of her elasticity concepts so as to have them fall within the range necessary for her to obtain the comparative results she desired. That is, since full cost pricing procedures were used to set the prices found in the industry data used in the article and in the independent price elasticity studies, equations (5), (7), and (8) clearly show that the empirical results were structurally constrained to give values that would not be largely inconsistent with each other. A second and more significant problem is that the elasticity concepts consisted of ratios of the same variables, thus resulting in highly interdependent concepts. Hence it is not possible to estimate, say, $et$, without at the same time implicitly estimating $es$ and the price elasticity of demand. Therefore, it is not possible to attach any significance to the favorable comparison between Langlois' calculated values of the price elasticity of demand and those obtained from the comparison studies—indeed, it would be of more interest if the two sets of values did not closely correspond, since it would imply that the
comparison studies produced wrong values for \( e_d \). The final problem with Langlois' conclusion centers on its theoretical relevance. Since the values of \( k, ad_c, \) and \( mc \) are known data when the firm fixes its price using full cost pricing procedures, it is possible for the firm (or the economist) to calculate values for various ratios of these variables, independent of any theoretical framework. Indeed, working with the "data" Langlois supplied in appendix 2 and on pp. 150-150 of her article (1989c), it is possible to calculate values for \( e_d, es, \) and \( et \) without attaching any theoretical significance to them. The theoretical meaning she attached to these calculated values, therefore, had to be externally imposed. Consequently, Langlois has not tested the monopoly pricing model and its elasticity argument. Instead, she has simply shown that the data of the automobile industry were consistent with it, which is not surprising, since her monopoly pricing model is simply a full cost pricing equation but in a different language.

Langlois was able to reach her conclusion because, like the marginalists before her, she took only that part of Post Keynesian price theory, i.e., the full cost pricing equation, which could be made to fit in with a marginalist profit-maximizing pricing model. In doing so, the full cost pricing equation was converted into a neutral formal relationship devoid of any theoretical implications or meaning. What was left behind were those features of the theory that provided the equation its anti-marginalist content; but ironically it is precisely those features Post Keynesian economists fail to articulate clearly when utilizing the equation. Consequently, the ease with which Langlois converted the full cost pricing equation lies largely at the feet of those Post Keynesian econo-

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1 The close correspondence of the values strongly suggests that actual output and costs were not significantly different from normal output and costs that were used to fix the industry's automobile prices.

2 Using the data supplied by Langlois, we find that \( ad_c = 110.4, mc = 84.8 \) (assuming \( mc \) is two-thirds of manufacturing price), \( atc = 110.4, k = 0.421, \) and \( p = 156.9 \). Consequently, values for \( e_d, es, \) and \( et \) are 2.176, 3.375, and 0.645, respectively, which are not inconsistent with Langlois' regression results or the price elasticity results from the comparison studies. If marginal costs are altered to be one-third of the manufacturing price, then values for \( e_d \) and \( et \) are 1.37 and 0.406, respectively; and if marginal costs are equal to average direct costs, then values for \( e_d \) and \( et \) are 2.755 and 0.815, respectively. Again, these numerical results are not inconsistent with Langlois' results or the results from the comparison studies. Thus, it appears that a very wide range of marginal cost assumptions is consistent with the figures for the three Langlois elasticities, which are themselves consistent with the prior elasticity assumptions.
II.

One feature of Post Keynesian price theory that gives the full cost pricing equation its anti-marginalist content is the absence of any determinant inverse relationship between sales (or demand) and the selling price. For the individual manufacturing or retail firm, the absence of such a relationship is largely due to the oligopolistic nature of their markets. Moreover, at the level of the market, an inverse relationship between the selling price and sales is absent in industrial interindustry markets, due to the technological relationships among firms in those markets. It is also absent in consumer markets, because the social and largely lexicographic nature of consumer choice destroys the neoclassical explanation for such a relationship, and because of the disruptive impact consuming social goods has on the individual’s consuming behavior. That is, when the individual’s conceptions of objects or choices are mediated by society (as is certainly done in a capitalist economy), the act of consuming a social good at a specific price may quite easily alter his/her ordering of choices, so that a determinant inverse relationship between demand for the good and the selling price is impossible to establish. This is certainly the case for goods defined by social fashions, social health concerns, and social concerns for the environment. Moreover, it is also quite plausible that a consumer’s demand for a social good at a specific selling price may largely be determined by those same social forces that define the good in the first place, rather than by the selling price, hence implying that changes in the selling price will have no impact on the consumer’s demand for the good. Consequently, the lack of a determinant relationship at the level of the consuming individual prevents the same determinant relationship from exhibiting itself at the level of the market (Steedman, 1980; Earl, 1983; Baker, 1988 and 1989; Lavoie, 1989; and Davis, 1989).

In place of a determinant inverse relationship between sales and the selling price, Post Keynesians utilize the concept of goodwill to explain market shares at a given market price, and the concepts of income class and aggregate demand to explain the total volume of market sales at a given market price. With regard to industrial markets, Post Keynesians
argue that, for the sake of convenience of acquisition, the maintenance of easy access to supplies, the maintenance of a regular clientele, and the convenience of accounting, industrial buyers and sellers strive to establish mutually rewarding social relationships that go under the title of goodwill. These relationships, in turn, ensure the manufacturing firm a particular share of market sales under the condition that all firms in the market charge the same selling price. However, goodwill (and hence market share) is sensitive to price differentials. If different selling prices emerge in the market, the industrial buyers would tend to shift their purchases to the low-price firms in order to reduce the costs of production of their own firms, with the result that the market shares of these firms would increase at the expense of the high-price firms. Since industrial buyers’ goodwill (and hence market share) cannot be recaptured by the simple elimination of the price differential, industrial firms would pursue a price policy of matching its competitors’ prices, thus eliminating any impact their selling prices would have on their market shares. As for markets for consumer goods, the Post Keynesian position is that sellers and consumers interact much like industrial buyers and sellers, which means that market shares are based on goodwill as long as the selling prices are uniform.

The determinants of the volume of market sales, hence the volume of sales of the individual firm in the market, are, for Post Keynesians, aggregate demand and the distribution of income. With regard to the former, an increase in the general level of aggregate demand will increase market sales at given market prices. This is particularly the case for industrial markets. On the other hand, the impact of the redistribution of income is felt most directly in consumer markets, because these markets are not only delineated by product characteristics, but also by income class. Thus a given distribution of income at a given level of aggregate demand will determine the number of potential customers of a good of a particular income class. Consequently, in an economy with an unequal distribution of income, widening a market’s income class by reducing the market price would increase market sales by some indeterminate amount. Moreover, if the price reduction was part of a general process of income redistribution, the increase of market sales would be more indeterminate. Finally, an increase in market sales would be even.

3 One reason for the indeterminacy is that the potential consumers have different evaluations of the product’s characteristics. See Earl (1983, pp. 156–157) for additional discussion.
more indeterminate if the price reduction and income redistribution were closely tied to the growth of the level of aggregate demand. Thus, even if it was possible to say in these circumstances that a reduction in the market price would ultimately generate an increase in market sales, it would not be possible to associate a specific volume of market sales with the new lower market price. With such an indeterminate relationship between market sales and the market price, Post Keynesians essentially conclude that it is the level of aggregate demand and the distribution of income, and not the market price, that determines market sales and hence the volume of sales of the individual firm. 4

A second important feature of Post Keynesian price theory is its conception of market. Rejecting the attribute of market clearing, Post Keynesians define market as a concept that simply refers to all the exchanges of a specific good. Consequently, as long as regular and sequential exchanges of the good take place, the market exists; however, once exchanges become irregular, the market takes on a shadowy existence, and, if exchanges altogether cease, the market ceases to exist. One implication of this concept of market is that firms and individuals operating in the market establish social rules designed to maintain the smooth flow of regular exchanges. For example, firms could and would establish codes of behavior regarding secret price shading and socioeconomic institutions (such as price notification schemes) to enforce them if they would eliminate short-term price wars and enhance their ability to make long-term investment decisions. It would also be possible for the actors in the market to establish rules collectively, creating a “daily” market in which all transactions initiated during the day must be consummated. Consequently, from a Post Keynesian perspective, collusion in the market would be a social phenomenon in which conflicting individuals in the market had common interests that could only be achieved through establishing a social consensus about the matters at hand. Therefore prices in Post Keynesian markets are not solely determined by impersonal economic forces, but are largely social conventions established by a complex set of social rules (see also Moss, 1981 and 1984; Hodgson, 1988).

4 Discussion of the impact of changes in the distribution of income on market sales can be found in Dutt (1984), Vianello (1985) and Amsden (1986a and b). Other factors also contribute to the determination of market sales. In particular, firms could utilize their market and political power to increase the market demand for their goods.
A second implication arising from the Post Keynesian conception of market is that prices and quantities have a historical/temporal dimension that effectively precludes a determinant relationship between price and quantity, and price-quantity and maximizing objectives. Since firms in Post Keynesian markets engage in sequential transactions in historical time, the price-quantities of a particular transaction may be of different temporal dimensions. In particular, while quantities in exchange have an immediate temporal dimension, the exchange price may have a temporal dimension, denoted as the pricing period, of a month, quarter, or year. Thus the same price will be associated with many temporally distinct quantities.\(^5\)

This overlapping of time dimensions suggests that, since a price can be associated with many different quantities and conversely it is impossible to associate any particular quantity with the price, a determinant temporal relationship between price and quantity cannot be established. The different temporal dimensions of price and quantity also bring into question the nature of maximizing strategies. On the one hand, given the absence of a determinant temporal relationship between price and quantities, it is not possible to maximize profits or sales over a specific time period. For example, if a firm wanted to adopt the strategy of maximizing sales over, say, a year, it would need to posit a relationship between the price it administers to the market and the volume of yearly sales. But, if the appropriate temporal dimension of the quantity of sales is, say, six months or two years or simply unknown, the firm would not be able, in principle, to implement its sales maximizing strategy. On the other hand, given the temporal dimensions of prices and quantities, it would be possible for a firm to adopt multi-temporal overlapping price and quantities strategies designed to meet simultaneously its short- and long-term objectives. In such a context, it makes little sense to talk about maximizing profits or sales, since it is not clear what (if anything) is being maximized, and more sense to talk about overlapping short- and long-term profits and sales objectives. Thus the embodiment of time in the Post Keynesian conception of market undermines the traditional maximizing behavioral view of the firm, and replaces it with a much more complex and perhaps convoluted view that sees the firm adopting

\(^5\) For further discussions of historical time and economic modeling from a Post Keynesian perspective, see Bausor (1982/83 and 1984), Young (1982), Deprez (1985/86), and Carvalho (1983/84 and 1984/85).
multi-temporal, open-ended strategies designed to achieve time-specific and temporally undefined goals.  

The third important feature of Post Keynesian price theory is its non-equilibrium, evolutionary conception of the firm. The Post Keynesian firm has no permanent internal constraints to growth—there always exists unused managerial capacity and its average total costs decline as its capacity utilization increases. Therefore, at any given price, the firm is always trying to obtain more sales, hence it is in perpetual non-equilibrium. Moreover, because the Post Keynesian firm operates in markets that have a historical/temporal dimension, its own actions and objectives also have a temporal dimension. In particular, as suggested above, its goals, while temporally specific, must ultimately be open ended and subject to continual modification. The essential underlying goals of the Post Keynesian firm are, simply put, existence and growth. Because of the imprecise nature of these goals, the Post Keynesian firm is in the position to specify immediate goals and to adopt strategies to fulfill them, which enable it to engage in continual sequences of transactions that ensure its continual reproduction over time. Overlying these immediate goals would be others attending to the firm’s expansion and evolution. These far-looking goals may have a distant temporal horizon or a more immediate one. In any case, the temporal overlapping of the various goals makes a mockery of the simplistic positions held by economists that firms maximize profits or sales over a specific time period. In fact, it is distinctly possible that the Post Keynesian firm will pursue both profit and sales objectives at the same time but over different temporal horizons. Moreover, once the Post Keynesian firm achieves its goals, it establishes new ones—being in perpetual non-equilibrium clearly implies a process of continually establishing new goals and modifying old ones. Thus the implicit temporal overlapping of old and

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6 This discussion assumes that the various strategies are consistent with each other; but this need not be the case for specific periods of time or at all, if the temporal dimensions of the various strategies are interdependent.

7 At this point, it becomes obviously questionable whether the firm can obtain all the relevant knowledge required to pursue the maximizing objective. Post Keynesians take the position that the firm in historical time has no such knowledge, no way of obtaining such knowledge, and, most important, no way of knowing what all the relevant knowledge is. Thus, instead of pursuing a maximizing business strategy consistent with full information, the Post Keynesian firm pursues a strategy within the context of radical uncertainty. (See Moss, 1984, and Hodgson, 1988, for further discussion.)
new goals further undermines the notion of maximizing something over a given time period.⁸

The theoretical importance of the above features of Post Keynesian price theory for the full cost pricing equation is twofold. The first concerns the role of normal output or capacity utilization in determining the costs used in the full cost pricing equation in fixing the price. Because normal output is based on historical output figures combined with expectations about future sales, the full cost price is set prior to production and administered to the market by the firm, without regard to the actual quantities of the good sold in the market. The rationale for this feature of the full cost pricing equation is the absence of any determinant relationship between price and quantity.

The second concerns the setting of prices that permit the Post Keynesian firm to reproduce itself continually as it engages in sequential acts of production over time. That is, starting at a point in historical time when the firm, by implication, already has its complement of fixed capital, for production to take place the firm must have cash on hand to procure the necessary direct and indirect labor and material inputs. Once the necessary productive inputs are obtained, production is undertaken, the output is sold, and the revenue is collected. The period of time from the initial buying of the inputs through production to the collection of the revenue is called the turnover period. Now if the amount of revenue received at the end of the turnover period is greater than the initial expenditure of cash for productive inputs plus the amount for depreciation, the firm could not only repeat the process again, but also could engage in discretionary activities, such as expanding capacity. Assuming that normal output is achieved in each turnover period, then the full cost pricing equation would produce a price that would permit the firm to recover the cash advanced and its allowance for depreciation, and thus engage in sequential acts of production and to make a profit:

\[
M_{ca} \rightarrow TC_{wo} \rightarrow P_{wo} \rightarrow S_{wo} \rightarrow TR_{wo} = 8
\]

\[
q_{wo} [(NATC) (1 + r)] = TC_{wo} + Mp
\]

⁸ For example, if it is assumed that the firm's goal is to maximize sales over a specific time period, the above argument suggests that the goal has no real meaning if there exist at the same time, but not of the same temporal dimension, different goals regarding sales.
turnover period 2:

$$M_{ca} \rightarrow TC_{no} \rightarrow P_{no} \rightarrow S_{no} \rightarrow TR_{no} =$$

$$q_{no} \left\{ (NATC) (1 + r) \right\} = TC_{no} + Mp$$

etc., where

subscript "no" is normal output,

$M_{ca}$ is the cash advanced,

$TC$ is total costs including the depreciation allowance,

$P$ is production,

$s$ is selling the output,

$TR$ is the total revenue obtained from selling the output,

$q$ is output,

$NATC$ is normal average total costs determined at normal output,

$r$ is the percentage markup for profit,

$NATC(1 + r)$ is the full cost pricing equation, and

$Mp$ are profits that constitute a fund available for discretionary expenditures.

Inherent in this reproducing and sequential production feature of the pricing equation is the notion that the market is non-clearable, since the act of selling by the firm is also simultaneously an act of generating the cash needed to re-enter the market. Also essential to this feature of the pricing equation is the existence of social rules and codes of behavior that permit the establishment of cost-covering, reproductive prices. A third property of the reproductive and sequential production feature of the pricing equation is the overlapping temporal qualities of the pricing process. That is, in utilizing the full cost pricing equation, the firm simultaneously sets a price that ensures its long-term growth and evolution. This temporal overlapping of its general goals permits the firm to pursue multiple temporal overlapping specific objectives and to use its administrative capabilities to fine-tune its prices to meet unexpected and changing market conditions. The fourth property is that the length of the pricing period is determined by the firm in light of its own needs, such as responding to cost changes and to unexpected competitive threats, rather than to any specific notion of the quantity of sales or the maximization of profits. The final property of the pricing equation is

9 For further discussion in a Post Keynesian vein, see Levine (1981).

10 The absence of a determinate price-quantity relationship and with it the absence of the price elasticity of demand and Langlois' novel elasticity concepts are the
that the markup for profit is clearly identified as the firm's source of profits or the funds for expansion and other discretionary activities. Consequently, its determinants are found among the various overlapping temporal objectives pursued by the firm and among the inter-firm competitive relationships in the market, such as those that go under the title of barriers to entry. Thus the overlapping of temporal objectives precludes the markup from maximizing anything, a conclusion that is further strengthened by the impossibility of determining a temporal determinant price-quantity relationship, while the profits generated by the markup permit the firm to establish new objectives, hence keeping it in perpetual non-equilibrium. Therefore, rather than being a tool through which the firm can maximize profits or sales, the markup can more appropriately be thought of as an index of growth, change, non-equilibrium, and consequently radical uncertainty.

In light of the above discussion, it is clear that the Post Keynesian full cost pricing equation is radically different from its marginalist counterpart. Once we realize that pricing equations are not theoretically neutral, but are really integral parts of competing theoretical paradigms, then the marginalist controversy will be seen for what it is—a conflict between competing pricing theories. In such a conflict, empirical testing cannot provide any sort of final resolution, since the tests themselves are theory based. Langlois shows this problem very well, in that her test of the full cost pricing equation versus marginalism was not really a test. In her testing of the controversy, she included features of marginalism in her pricing models, which in effect converted her testing attempt into another test using the theory. The question that she and other marginalists fail to ask themselves is whether it is possible to explain prices and price fixing without any recourse to marginalism—which is just another way of stating that the controversy is a theoretical one, not an empirical one. The virtue of Langlois' paper is that she illustrates this conclusion so clearly that hopefully economists will get on with the theoretical debate instead of being sidetracked by empirical issues.

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Reasons why the pricing period is different from Langlois' time period over which profits are maximized. It should also be noted that extending the pricing period will result in more sales for the firm simply because of the sequential and reproductive nature of the pricing equation. Thus, if the pricing period is altered by the firm, it will not be for the reasons that Langlois suggests. However, this criticism does not deny the fact that her discussion of a firm-determined time period, as opposed to the economist-imposed short and long period, is extremely interesting and important for Post Keynesian economists (Langlois, 1989b).