# Professor Lester and the Marginalists

George J. Stigler

*The American Economic Review*, Vol. 37, No. 1, March 1947

Professor Lester continues his attack on economic theory with a rejection of my analysis of the effects of minimum wage legislation.[1] The grounds for the rejection arise only in small part from peculiarities in my presentation—which is termed a "strict application of 'pecuniary' marginalism"; much more they arise from alleged defects inherent in "marginal analysis." Thus his criticisms also refute, or fail to refute, modern price theory. It therefore seems more appropriate to explain briefly why economic theorists find Lester's general position unconvincing rather than to argue particular points on minimum wages.

1. Economic theory may refer to the logical relationships between economic magnitudes, or to both the logical relationships and their empirical content. It is a formal property of a maximum profit position that the marginal cost of a productive service equal its marginal value product, and it is an empirical property that the marginal physical product curve have a negative slope. There is some ambiguity concerning the object of Lester's attack, but it seems a fair inference that to him the empirical content of price theory is seriously deficient, while the logical structure is usually, but by no means always, valid. This interpretation seems reasonable even though he persists in denouncing "marginal analysis," a phrase that con-

[1] "Marginalism, Minimum Wages, and Labor Markets," pp. 135–48, above.

notes the formal side of theory—and in any event a meaningless phrase unless some contrast to "marginal" (or is it "analysis"?) is explained.

2. In the less frequent case, then, Lester finds the logical structure of price theory defective. Every theorist would welcome demonstrations of specific errors found in the works of leading modern economists. But, instead, Lester has a penchant for attributing to anonymous "marginalists" theories that I have never before encountered in economic literature. I may quote an example from his *Economics of Labor* since this passage is still recommended in his recent writing. One of the nine assumptions underlying the marginal productivity theory, we are told, is

(6) That the employer in an imperfect market will always reduce his price to increase his sales, whenever such action may add to his short-run profits. Employers following a price policy based on long-run considerations may not wish to sacrifice future profits in order to maximize present profits, especially when price reductions might antagonize customers or lead to a price war. It is not clear from the theory what production and employment policies an employer is assumed to pursue when there is a difference between the policy that would maximize profits in the short run and one that would maximize profits in the long run.[2]

Will Lester please give us the specific reference to just one leading economist who has made this stupid assumption?

3. More often Lester finds fault with the theorists' empirical assumptions. Everyone will agree with him that economists have more often made errors —of omission as well as commission—in observation than in logical analysis, and that incalculable amounts of good empirical work are still needed. But our empirical errors have not been so crude as those with which we are charged.

We may turn again to the *Economics of Labor* for examples of fictitious—and anonymous—empirical errors. Here are three more of Lester's nine assumptions of the marginal productivity theory:

(7) That the market for labor is a perfect market, so that the employer will not affect the wage rate no matter how much labor he himself hires.

(8) That no element of monopoly has entered into the determination of the prices for the other factors of production.

(9) That the employers' demand curves for labor correspond to the marginal-productivity curves of their workers and that the total demand curve for all labor is the sum of all employers' individual marginal-productivity curves.[3]

A theory that assumes 7 or 8 is of restricted applicability. The ninth assumption is probably meaningless—what can the demand curve for physicists + charwomen be?—and if meaningful, then internally inconsistent because the firms' demand curves are not independent. Fortunately, these assumptions are also strangers to the marginal productivity theory.

Or consider a more recent example: "Those who argue for wage reduc-

[2] R. A. Lester, *Economics of Labor* (1941), p. 181.

[3] *Ibid.*, pp. 181–82.

tions on the grounds that a certain relationship exists between wage rates and employment tend to overlook the fact that a shift to less capitalistic or more labor-consuming method may be impractical not only for reasons given above but also because the skilled workers necessary to operate the antiquated equipment are no longer available."[4] I shall mention only three of the possible meanings of this statement. (1) The "marginalists" contend that substitution of labor for capital often requires a reversion to "antiquated" techniques operated by laborers with obsolete skills. References? (2) The "marginalists" usually overlook or deny that a fall in the wage of one type of labor may lead to an increase in the demand for other kinds of labor whose wage rates have not fallen. References? (3) A fall in the wage rate of a given type of labor does not lead to additional employment of this type of labor. Evidence?

4. Even if large logical or empirical errors had been committed by leading modern economists, Lester could not refute price theory merely by demonstrating these errors. A theory can be refuted only in its strongest version, and it would be a necessary part of Lester's task to show that correction of these blunders would lead to logical inconsistency or empirical contradiction or deprive the theory of its ability to forecast economic events. But first the blunders in the existing theory should be demonstrated: Lester's reformulations have not been so happy as to make this first step redundant.

5. Lester apparently believes that the findings of his empirical studies must be accepted quickly and completely, presumably because they are "facts." Unfortunately, the details of his studies are not reported in sufficient detail to assess their validity or, indeed, even to understand their meaning. Consider an example.

As a rule, average variable cost falls when output rises, until capacity is reached. How were the entrepreneurs who filled in the questionnaire instructed to segregate variable costs? How was capacity defined? How were the diverse products of a firm to be added to secure an index of output? What were the characteristics of the firms that responded (in comparison with the industries at large): was their scale of operations growing; were they equally subject to competitive pressures; etc.?

6. Some of the findings in Lester's studies are impossible, and some are wholly in keeping with the "marginal" theory; yet both types are held up as refutations of the theory. An example of the impossible is the finding that when 6 metal-working firms increased output from 70 to 80 per cent of capacity—a 14.3 per cent increase of output—the average decline of average variable costs was 15.9 per cent. Hence on average the total cost fell by 4.9 per cent when output rose 14.3 per cent. We shall not accept this result even if Lester obtains it from 6,000 metal-working firms. An example of the expected is that a rise in wages may lead to increased selling efforts. It is said that "such actions can, however, hardly be described as employing workers according to the marginal principle,"[5] and yet it is surely part and

[4] "Shortcomings of Marginal Analysis for Wage-Employment Problems," *Am. Econ. Rev.*, Vol. XXXVI, No. 1 (Mar., 1946), p. 73.

[5] "Marginalism, Minimum Wages, and Labor Markets," pp. 135–48, above.

parcel of the marginal productivity theory that if the price of one productive service is increased, other productive services will be substituted for it.

7. Lester's use of others' empirical studies is equally disquieting. For example, he cites two industries in which employment rose more rapidly (between 1937 or 1939 and 1941) in the section of the industry most affected by minimum wage actions.[6] That the studies pertained to identical firms at both dates did not interest him; although by parallel logic it can be shown by a current inquiry of health of veterans in 1940 and 1946 that no soldier was fatally wounded.[7] "For the purposes of this paper there is no need to analyze individual cases where the results are so opposite to the expectations of marginal analysis and to assess the responsibility of each factor for those results."[8] This is regrettably true: for Lester's purposes it is unnecessary to analyze contradictions of the marginal productivity theory, for the chief of these purposes is to indict the theory. But if his purposes were to understand economic phenomena and to improve our theory of their behavior, these contradictions would be of crucial importance and they would receive exhaustive analysis. The economist is not a prosecutor, he is a judge.

GEORGE J. STIGLER*

[6] *American Economic Review*, Vol. XXXVI, No. 1, pp. 75–76.

[7] The analogy is reasonably complete; of one of his industries it is reported: "Of 128 plants from which information was sought, 16 were found to be out of business. . . . Fourteen of the sixteen plants paid lower average wages than the average for their division of the industry in 1937 and only two paid higher wages." "Hourly Earnings in the Furniture Industry," *Mo. Lab. Rev.*, Sept., 1941, p. 744 n.

[8] *American Economic Review*, Vol. XXXVI, No. 1, p. 76.

* The author is professor of economics at Brown University.