A STATISTICAL APPROACH TO MATHEMATICAL FORMULATION OF DEMAND-SUPPLY-PRICE RELATIONSHIPS

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A scientific approach to the practical problem of forecasting the prices of commodities clearly requires the development of methods of a somewhat mathematical type for analyzing the relationships between demand, supply, cost, and price. In the case of cotton and other annual crop agricultural commodities, the multiple correlation, link-relative and trend-ratio methods as applied by Moore, Schultz, B. B. Smith, Ezekiel, Holbrook and E. J. Working, and others, have demonstrated their worth. But for copper, lead, rubber, and similar commodities not on an annual crop basis, where quantity produced, or the quantity available, in a given period cannot logically be considered as the supply linked to the average price of that period, the method seems inapplicable and another type of approach is necessary. For this reason, and because of the failure of price to function as expected as a major regulator in our present money economy, it seems worth while to attempt to develop a general mathematical procedure involving cost, demand and supply functions and to analyze elasticity of supply and elasticity of demand as a mathematician naturally does. But some mathematical studies along these lines have not seemed to represent a truly scientific approach to the problem, however helpful they may be in suggesting potentially valuable ideas.

The mathematical economist of the non-statistical type sometimes seems to believe that he has contributed to the solution of economic problems if he finds an answer in the form of a mathematical equation with undetermined constants. The determination of these constants is left as a sec-