

A STATISTICAL INVESTIGATION OF THE
FACTORS AFFECTING THE SUPPLY OF
CERTAIN NON-FERROUS METALS

by

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INTRODUCTION

Object:

It is an accepted economic fact that there is a relation between the supply of a commodity and the price at which it is marketed. The nature of this relation is controversial, but it is probably not a simple one, for there are many factors which obscure its true form. Such factors include the natural growth of a nation and its industries, the price level, the level of business activity, and even the philosophical outlook of the people, their attitude of optimism or pessimism, of hope or despair.

This study is an attempt to discover, by statistical means, the true relation between supply and price as modified by disturbing factors, for three common non-ferrous metals: zinc, copper and lead. Attention has been centered chiefly on the statistical methods employed, but the economic implications of the results have by no means been neglected.

Scope:

The method employed to discover the relation of supply to price and other factors is that of multiple correlation, on the premise that regression curves giving a high degree of correlation represent very nearly the true causal relationships in the universe. The proviso to this assumption is of course that the a priori economic reasoning and the statistical procedure be sound and correct. It is believed that these conditions have not been violated.

With a single exception (see p.23), all data used in the investigation relate only to the United States of America, while in time the thesis covers the years of 1908-34. The use of figures for earlier years seemed to produce in the series a lack of homogeneity, hence this latter restriction. Annual data have been used in all cases.

In addition to the determination of the net regressions, all coefficients of multiple and of part correlation have been computed, as well as beta coefficients and coefficients of elasticity for the supply-price curves. Finally, an attempt has been made to explain and interpret the results in terms of their economic significance.