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A COMPARISON OF
THE REAL PRICE AND MARKET PRICE
OF SOME COMMON METALS

by

KON-HOCK KHAW

A

THESIS

submitted to the faculty of the
SCHOOL OF MINES AND METALLURGY OF THE UNIVERSITY OF MISSOURI

in partial fulfillment of the work required for the

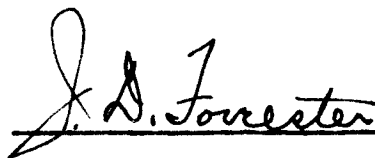
Degree of

MASTER OF SCIENCE IN MINING ENGINEERING

Rolla, Missouri

1952

Approved by



Dr. J. D. Forrester
Professor of Mining Engineering

ACKNOWLEDGMENT

The writer is greatly indebted to W. A. Vine, Associate Professor of Mining Engineering, for suggesting this problem and for his many valuable advice, guidance and encouragement in the development of this paper, and to Dr. J. D. Forrester, Chairman of the Mining Department, Missouri School of Mines and Metallurgy, for critically reviewing this presentation.

Grateful acknowledgment is made to R. I. Matthaei, Instructor in Mining Engineering, for his untiring efforts in reading this paper and offering constructive criticisms throughout the course of this work.

S. H. Lloyd, Jr., Professor of Economics, various members of the staff of the Mining Department and my colleagues gave valuable cooperation and appreciation is expressed for their aid.

K. H. K.

CONTENTS

	Page
Acknowledgment	1
List of Graphs	111
List of Tables	1v
Introduction	1
Review of literature	3
Value or real price	5
Development of Khaw's index number for metals	7
Discussion of the price-value graphs ...	95
Conclusions	99
Summary	101
Appendix A	103
Appendix B	104
Bibliography	110
Vita	112

LIST OF GRAPHS

Figure No.	Page
1. Comparison of index numbers	85
2. Pig-iron (composite) price-value comparison	86
3. Copper price-value comparison	87
4. Lead price-value comparison	88
5. Zinc price-value comparison	89
6. Aluminum price-value comparison	90
7. Magnesium price-value comparison	91
8. Tin price-value comparison	92
9. Antimony price-value comparison	93
10. Mercury price-value comparison	94

LIST OF TABLES

Table No.		Page
1.	Values of P_0 and Q_0	12
2.	Values of F	14
3.	Khaw's yearly index numbers for metals	16
4.	Khaw's monthly index numbers for metals	17
5.	Conversion factors for changing U. S. Bureau of Labor and Statistics whole- sale price index numbers to the new base	20
6.	Adjusted U. S. Bureau of Labor and Statistics wholesale price index numbers (yearly from 1901 to 1950)	21
7.	Adjusted U. S. Bureau of Labor and Statistics wholesale price index numbers (monthly from 1934 to 1950)	22
8.	Adjusted U. S. Bureau of Labor and Statistics metals and metal products index numbers (yearly from 1901 to 1950)	24
9.	Adjusted U. S. Bureau of Labor and Statistics metals and metal products index numbers (monthly from 1934 to 1950)	25
10.	Adjusted U. S. Bureau of Labor and Statistics non-ferrous metals index numbers (yearly from 1913 to 1949)	27
11.	Adjusted U. S. Bureau of Labor and Statistics non-ferrous metals index numbers (monthly from 1934 to 1950) ...	28
12.	Values (real prices) of composite pig iron	30
13.	Values (real prices) of electrolytic copper in New York	36

Table No.		Page
14.	Values (real prices) of lead in New York	42
15.	Values (real prices) of prime western zinc in E. St. Louis	48
16.	Values (real prices) of aluminum in New York	54
17.	Values (real prices) of magnesium ...	60
18.	Values (real prices) of Straits tin in New York	66
19.	Values (real prices) of antimony in New York	72
20.	Values (real prices) of mercury in New York	78

INTRODUCTION

A number of complex factors influence the fluctuation of the price of a metal. In this investigation, the writer is concerned with the influence of the purchasing power of the dollar and, therefore, the difference between the value (real price) and market price of nine metals. That is, this is a study of metal prices and their corresponding values. No attempt is made to analyze the supply and demand of the past or the future, except as they are expressed by their function — price.

To aid in the comparison, a set of index numbers for metals is compiled and a comparison is made with the index numbers of metals, and of wholesale prices, published by the U. S. Bureau of Labor and Statistics. In addition, a series of graphs comparing the market price and value of the metals are made.

Price data on metals, as published in the Engineering and Mining Journal, Iron Age, American Bureau of Metal Statistics' Yearbook, are not consolidated nor available in a single volume. The Metal Statistics Handbook is the only source that contains the average monthly and yearly prices of metals covering a period of ten to fifteen years. The prices quoted in these publications are market prices and do not indicate relative worth. The value of the dollar is changing constantly, and it is of interest and advantage to know, especially during the planning stage of a mine,

the trend of the value (real price) of the metal under consideration. Many mine operators study market price of metals to guide them in mine planning and to formulate development policies. A compilation of prices and values for nine common metals: Pig Iron (composite), Copper, Lead, Zinc, Aluminum, Magnesium, Tin, Antimony, and Mercury has been made. This investigation covers a period of fifty years. A comparison of values based on a representative period should serve as another valuable tool for the engineer and management.

REVIEW OF LITERATURE

Very little literature on the price and the value of metals is available. Only two articles on the price and value of copper were found. The paper by J. E. Spurr⁽¹⁾

- (1) Spurr, J. E., The price of copper in terms of wheat. Engineering and Mining Journal Press, 1925, V.119, No.23, p.913.
-

measures the amount of wheat a pound of copper would buy, while W. S. Black⁽²⁾ used Dunn's cost of living index,

- (2) Black, W. S., Price and value of copper. Engineering and Mining Journal Press, 1925, V.119, No.20, p.799.
-

(base: 1903 = 100), to compute the value of copper. Both of these authors found that in the period 1844-1924, the value of copper decreased steadily.

To record the degree of change in the price level of a metal from one period to another, index numbers for metals and composite metal prices are compiled by a few organizations in the United States.

Index numbers for non-ferrous metals have been published monthly since May 1926 in the Engineering and Mining Journal. These numbers are based on the average prices of the period 1922-24.

The U. S. Bureau of Labor and Statistics publishes also as part of its wholesale price index, a general metals and metal products index, and non-ferrous metals index. The base year used is 1926. These index numbers are published

monthly in the Monthly Labor Review and annually in the Bureau's bulletins.

The composite price of metals is compiled by the publishers of the Metal Statistics Handbook and are published yearly.

VALUE OR REAL PRICE

The price of a commodity is the amount of money that would be given in exchange for one unit of it, while the value of the commodity is defined in most economics textbooks as the quantity of other goods or services that would be obtainable in exchange for the first item. In practice, it is customary to express values as well as prices in terms of money. (3)

(3) Fairchild, F. R., Furness, E. S., and Buck, N. S., Elementary economics, Vol.1, Fourth edition, The Macmillan Company, N. Y., 1937, pp.21-23.

The use of money as a yardstick to measure the value of things is convenient but not commendable, as the value of money itself changes from time to time. However, by using money of a particular time as a standard of comparison, a clearer concept of the value of things may be obtained.

Index numbers measure the purchasing power of the money. In other words, they are a manifestation of the value of money in terms of certain commodities. For this study four sets of index numbers are used to compare the real price of metals. They are,

1. USBLS wholesale price index numbers,
2. USBLS metals and metal products index numbers,
3. USBLS non-ferrous metals index numbers. and
4. Khaw's metals index numbers.

There are two reasons for following this procedure. The

first reason is to find out how the Khaw's index numbers computed for this study compare with the three sets of index numbers compiled by the U. S. Bureau of Labor and Statistics. The other reason is to determine how the market price and value (real price) of metals vary.

The value (real price) of a metal is defined as

$$\text{Value (real price)} = \frac{\text{market price}}{\text{Index number}} \times 100$$

This means that the value (real price) of a metal will be expressed in terms of the 1935-39 dollars based on:

- a. General commodities, when USBLS wholesale price index is used,
- b. Metals and metal products, when USBLS metals and metal products index is used,
- c. Non-ferrous metals, when USBLS non-ferrous metals index is used, and
- d. Metals, when Khaw's metals index is used.

DEVELOPMENT OF KHAW'S INDEX NUMBER FOR METALS

" An index number is a statistical device or method by which the level of earnings, wages, prices or any quantitative measurement at any given time may be compared with the level of the same measurement at some other date."⁽⁴⁾ In

(4) Ely, R. T., and Hess, R. H., Outlines of economics, The Macmillan Company, N. Y., 1937, p.135.

other words, an index number expresses the general price level for any given year or period, relative to the general price level of some particular period which is taken as the base period and whose general price level is commonly represented by 100.⁽⁵⁾ The main purpose of index

(5) Fairchild, F. R., Furniss, E. S., and Buck, N. S., op. cit., p.658.

number is to measure the purchasing power of the money.⁽⁶⁾

(6) Fisher, I., The making of index numbers, Houghton Mifflon Company, Boston and New York, 1923, p.369.

Regarding the accuracy of index numbers, the Encyclopedia Britannica states:⁽⁷⁾

" The precision for any year is directly proportional to the square root of the number of independent terms included and inversely proportional to the mean dispersion of these terms from their average in that year. The greater the interval from the base year, the greater is the dispersion and the smaller the precision."

(7) Encyclopedia Britannica, 1945, V.12, p.149.

In the study of the value and price of metals, a set of index numbers is compiled so that the index number measures the value of the money in terms of the quantity of common metals it would buy during a representative period. The author believes that in the United States, the period after the depression of 1929 and prior to the World War II, is the period of greatest stability, and should be chosen as the base period. The Engineering and Mining Journal's index numbers for non-ferrous metals and the U. S. Bureau of Labor and Statistics' metal index numbers use base periods which are outmoded.

How the index numbers for metals are made

In compiling a set of index numbers for metals, three important points are to be considered. They are:

- (i) Choice of metals to make up the index,
- (ii) Determination of the base period,
- (iii) Choice of formula to compute the index number.

Choice of Metals. To compile its non-ferrous metals index the Engineering and Mining Journal uses copper, lead, zinc, tin, silver, nickel, and aluminum whereas the Bureau of Labor and Statistics uses, in addition to the above mentioned metals, mercury, antimony, and brass to compute its non-ferrous metals index. ⁽⁸⁾ For an analysis of the price and

(8) U. S. Bureau of Labor and Statistics, Bulletin 493, August 1929, p.153-55.

value of metals, the monetary metals, gold and silver, are not included in the makeup of the index. Artificial price levels have been set up for them and sudden and violent changes in their prices can be brought about by legislation and politics. Nickel is another metal that is omitted as the production as well as the source of ore are completely controlled by one corporation, the International Nickel Corporation.

The metals chosen to make up the index are pig-iron, copper, lead, zinc, aluminum, magnesium, tin, antimony, and mercury, and can be separated into three important groups:

- (a) Common base metals, (Pig-iron, Cu, Pb, Zn),
- (b) Light metals, (Al, Mg),
- (c) Metal in which the U.S.A. is deficient and has to depend on imports. (Sn, Sb, Hg).

Common base metals are necessary for modern industrial growth and without them on the list, no metal index can be representative. Pig-iron is included instead of steel because production figures for it are easily available and also because the Metal Statistics Handbook compile average monthly and yearly composite pig-iron prices. Composite pig-iron is a convention devised by the American Metal Market in 1910, to show at one glance the bulk movement of all pig-iron. The composite price is computed from the prices

of Bessemer, basic and No.2 foundry, Valley pig-irons and No.2 foundry pig-irons of Philadelphia, Buffalo, Cleveland, Chicago and Cincinnati.

The light metals, aluminum and magnesium, are included because of the importance to the aircraft and building industries. It will be of interest to determine also, the effect of a semi-monopoly in these two metals and to note how much the value (real price) differs from the market price.

A comparison of price and value of metals in which the United States is deficient may provide interesting data, and accordingly, tin, antimony, and mercury have been chosen to complete the list of the metals index.

Choice of Base Period. The average figure for 1935-6-7-8-9 is chosen as base. The depression period, 1929-35, the war years, 1940-46, the post-war inflationary period, 1946-49, and the period since the start of the Korean war, 1950 on, clearly, are not suitable to be used as base years for the index. Since the precision of the index number becomes smaller and smaller as the interval from the base year becomes greater and greater, a base year as close to the present day as possible must be chosen. Therefore, the period after the depression and just before the war years, 1935-39, in the opinion of the writer, is the only period left that can be considered as the base period.

Choice of Formula. There are numerous types of formula for computing index numbers. Each type has its advantages and limitations. There are formulae which give very accu-

rate and consistent values but are time consuming, while on the other extreme, very simple formulae which require less time, but give results which are not reliable. For simplicity, precision, speed of computation, and also because only production figures for the base period and monthly or yearly price data are required to compute the index number, the fixed base aggregate method, using formula No.53 given in Professor Fisher's book⁽⁹⁾

$$I_k = \frac{\sum P_k \cdot Q_0}{\sum P_0 \cdot Q_0} \times 100 \quad \text{where}$$

- I_k = Index number at time k
- P_k = Price of metal at time k
- P_0 = Price of metal at base period
- Q_0 = Quantity of the metal at base period

(9) Fisher, I., op. cit., p.471.

is chosen. The same method is used by the Engineering and Mining Journal⁽¹⁰⁾ and by the U. S. Bureau of Labor and

(10) Parsons, A. B., Review of current statistics, EMJ, 1926, Vol.121, No.20, p.830.

⁽¹¹⁾ Statistics for computing their latest figures for index

(11) Cutts, J. E., and Dennis. S. J., Revised method of calculating the wholesale price index of the U. S. Bureau of Labor and Statistics, American Statistical Association, 1937, V.32, p.663.

numbers of non-ferrous metals and wholesale prices respectively.

Table No.1 below gives the values of the arithmetic mean of the average yearly price (P_0) and production or supply (Q_0) of each metal during the base period. The calculations for the P_0 and Q_0 are shown in Appendices A and B.

TABLE 1. - Values of P_0 and Q_0

Metal	The arith. mean of the average yearly price during the base period. (P_0)	The arith. mean of the average yearly production or supply during the base period. (Q_0)	Worth in dollars ($P_0 Q_0$)
Pig-iron	23.4 \$/L-ton	31,482,000 S-tons	673,085,000
Copper	10.451 ¢/#	974,927 " "	203,779,242
Lead	4.915 ¢/#	585,370 " "	57,541,871
Zinc	5.094 ¢/#	525,540 " "	53,542,015
Aluminum	20.22 ¢/#	143,759 " "	58,136,140
Magnesium	29.40 ¢/#	2,816 " "	1,655,573
Tin	48.764 ¢/#	67,867 L-tons	74,132,047
Antimony	13.184 ¢/#	21,165 S-tons	5,580,787
Mercury	84.31 \$/flask	27,026 flasks	<u>2,278,562</u>
Fixed Base Aggregate, $\sum P_0 Q_0$			= \$ 1,129,731,237

In order to make the computations for the index numbers more rapidly and with greater simplicity, the formula No.53 is rearranged in the following manner:

Let $I_k = \sum N$

$$I_k = \frac{\sum Q_o P_k}{\sum Q_o P_o} \times 100$$

$$= (Q_o^a P_k^a + Q_o^b P_k^b + Q_o^c P_k^c + \dots) \frac{100}{\sum Q_o P_o}$$

Therefore

$$N^a = Q_o^a P_k^a \times \frac{100}{\sum Q_o P_o}$$

For metal "a" let a factor $F^a = \frac{N^a}{P_k^a}$

Then $F^a = Q_o^a \times \frac{100}{\sum Q_o P_o}$

$$FP_k = (F^a P_k^a + F^b P_k^b + F^c P_k^c + \dots)$$

$$= (Q_o^a P_k^a + Q_o^b P_k^b + Q_o^c P_k^c + \dots) \frac{100}{\sum Q_o P_o}$$

Therefore

$$I_k = \sum FP_k$$

This expression means that to determine an index number of a particular year or month, multiply the average price of each metal for the time concerned, by the corresponding factor F and add all the products. The result is the index number for metals.

To illustrate how the computations are made, the factor for tin is calculated.

$$F^{Sn} = Q_o^{Sn} \times \frac{100}{\sum Q_o P_o}$$

From table No.1

$$Q_o^{Sn} = 67,867 \text{ Long tons}$$

$$= 67,867 \times 2,240 \text{ pounds}$$

$$\sum Q_o P_o = \$ 1,129,731,237.00$$

$$\text{Therefore } F = \frac{67,867 \times 2,240}{1,129,731,237} \times 100$$

$$F = 13.456$$

In a similar manner, the values of F for the remaining eight metals are obtained. Table No.2 gives the values of F.

TABLE 2. - Values of F

Metal	F
Pig-iron	2.7867
Copper	172.59
Lead	103.63
Zinc	93.038
Aluminum	25.450
Magnesium	0.4985
Tin	13.456
Antimony	3.7469
Mercury	0.002392

Index numbers are computed in the following manner.
The example below is for January 1949.

Example:

<u>Metal</u>	<u>Market Price (P_k)</u>	<u>(F)</u>	<u>(P_k·F)</u>
Pig-iron	47.67 \$/L-ton	2.7867	132.79
Copper	23.200 £/#	172.59	40.04
Lead	21.500 £/#	103.63	22.28
Zinc	17.500 £/#	93.038	16.28
Aluminum	17.000 £/#	25.450	4.33
Magnesium	20.500 £/#	0.4985	0.10
Tin	103.00 £/#	13.456	13.86
Antimony	40.21 £/#	3.7469	1.51
Mercury	91.19 \$/Flask	0.002392	0.22
		$\sum P_k F$	231.41

Therefore the index number for January 1949 is 231.41.

The index numbers are compiled on an annual basis from 1915 to 1950 and on a monthly basis from 1934 to 1951 and are presented in Table Nos. 3 and 4. The yearly index numbers for 1901 to 1915 are not computed as price data for (12) magnesium were not available before 1915.

(12) Personal communications, The Dow Chemical Company, Midland, Michigan, July 18, 1951.

TABLE 3. - Khaw's Index Numbers for Metals
 Yearly from 1915 to 1950
 (Composite of 1935-39 = 100)

Yearly Index Numbers						
Year	1915	1916	1917	1918	1919	1920
Index No.	103.9	147.0	199.1	172.0	146.0	183.8
Year	1921	1922	1923	1924	1925	1926
Index No.	108.0	114.3	127.5	112.5	116.1	114.9
Year	1927	1928	1929	1930	1931	1932
Index No.	105.2	102.2	110.8	94.2	77.5	66.7
Year	1933	1934	1935	1936	1937	1938
Index No.	77.0	87.5	89.4	93.8	114.2	100.3
Year	1939	1940	1941	1942	1943	1944
Index No.	102.2	107.8	112.8	114.1	114.1	113.9
Year	1945	1946	1947	1948	1949	1950
Index No.	116.8	103.1	174.1	209.4	210.8	217.0

TABLE 4. - Khaw's Index Numbers for Metals
 Monthly from 1934 to 1950
 (Composite of 1935-39 = 100)

Year	1934	1935	1936	1937	1938
Jan	85.2	88.2	92.7	105.4	106.0
Feb	84.7	87.9	92.9	108.5	104.8
Mar	85.0	87.7	93.0	122.4	104.3
Apr	87.3	88.3	93.2	120.1	103.7
May	88.8	89.0	93.2	116.8	102.6
June	88.7	88.8	92.7	116.9	100.3
Jly	89.0	87.6	96.4	117.5	93.9
Aug	88.9	88.0	92.8	118.2	94.4
Sep	88.6	89.1	93.0	117.9	95.3
Oct	88.3	90.6	93.1	112.1	99.4
Nov	88.0	93.5	96.1	108.0	99.9
Dec	88.0	93.2	100.3	105.9	99.5
Year	1939	1940	1941	1942	1943
Jan	99.3	108.5	111.7	113.8	114.2
Feb	99.1	106.5	111.9	114.0	114.2
Mar	99.2	107.0	112.4	114.0	114.2
Apr	98.0	106.5	112.9	114.2	114.2
May	95.5	107.1	112.9	114.2	114.2
June	97.4	108.0	113.0	114.2	114.1
Jly	97.8	106.7	113.1	114.2	114.1
Aug	102.1	106.5	112.9	114.2	114.1
Sep	110.7	108.0	112.9	114.2	114.1
Oct	110.9	109.7	113.0	114.2	114.1
Nov	110.6	109.9	113.3	114.2	114.1
Dec	109.7	109.5	113.3	114.3	114.1
Year	1944	1945	1946	1947	1948
Jan	114.0	114.0	118.7	157.1	192.7
Feb	113.9	114.0	118.7	157.5	194.6
Mar	113.9	116.8	119.8	169.6	194.6
Apr	113.9	116.8	120.8	172.3	196.9
May	113.9	116.8	125.2	170.8	198.1
June	113.8	116.7	132.2	172.6	200.3
Jly	113.8	116.7	134.4	175.9	207.1
Aug	113.8	116.7	132.5	181.8	219.9
Sep	113.9	116.6	132.5	181.8	220.4
Oct	113.9	117.3	133.0	182.0	225.3
Nov	113.9	118.7	143.4	182.1	230.5
Dec	113.9	118.7	154.2	183.4	231.2

TABLE 4 (Continued)

Year	1949	1950
Jan	231.4	199.4
Feb	231.5	200.4
Mar	228.3	199.8
Apr	218.3	201.1
May	204.9	205.3
June	199.4	212.1
Jly	202.1	214.2
Aug	204.7	218.4
Sep	204.7	225.9
Oct	201.4	235.6
Nov	201.5	241.8
Dec	199.5	250.2

Change of the base year from 1926 to the new base for
U. S. Bureau of Labor and Statistics index numbers

The base year of 1926 was used by the U. S. Bureau of Labor and Statistics for its index numbers, whereas a composite of 1935-39 is used as base for Khaw's metals index numbers. In order to make a logical comparison of the different index numbers and the real price of metal computed from them, all the index numbers must be referred to the same base.

A simple proportion method may be used to convert all the ~~USLS~~ index numbers to the new base. It is not known how justifiable this use of the simple proportion is nor what the magnitude of errors involved is by such a conversion. A better method probably would be to compile new index numbers of wholesale prices, etc., using the composite of 1935-39 as base. To decrease the amount of time required in performing the computations, the simple proportion method is chosen. The example below shows how the conversion of index numbers is made.

Example:

<u>Year</u>	<u>Wholesale price index number Base: 1926</u>
1935	80.0
1936	80.8
1937	86.3
1938	76.6
1939	<u>77.2</u>

Total : 402.8

The arithmetical average ($\frac{402.8}{5} = 80.56$) is used as the base rate of 100 for this period. The conversion factor for wholesale price index numbers will be $\frac{100}{80.56} = 1.2414$. To convert the index number to the new base, multiply the old index number by this conversion factor, i. e.,

$$\begin{array}{l} \text{Wholesale price} \\ \text{index number} \\ \text{Base: 1926} \end{array} \quad \times \quad \begin{array}{l} \text{Conversion} \\ \text{factor} \end{array} \quad = \quad \begin{array}{l} \text{Wholesale} \\ \text{price index} \\ \text{number Base:} \\ \text{Composite of} \\ \text{1935-39} \end{array}$$

The conversion factors for the remaining two sets of index numbers are calculated in the same manner. Table No. 5 gives the conversion factors.

TABLE 5. - Conversion Factors for Changing U. S. Bureau of Labor and Statistics Index Numbers to the New Base

Index	Conversion Factor
Wholesale Price	1.2414
Metals and Metal Products	1.0887
<u>Non-Ferrous Metals</u>	<u>1.3137</u>

The index numbers for wholesale prices, metals and metal products, and non-ferrous metals, with composite of 1935-39 as base, are given in Table Nos. 6 to 11.

The values (real prices) of each metal are calculated from these converted index numbers. The results are presented in Table Nos. 12 to 20.

TABLE 6. - Adjusted U..S. Bureau of Labor and
 Statistics Wholesale Price Index Numbers
 Yearly from 1901 to 1950
 (Composite of 1935-39 = 100)

Yearly Index Numbers					
Year	1901	1902	1903	1904	1905
Index No.	68.7	73.1	74.0	74.1	74.6
Year	1906	1907	1908	1909	1910
Index No.	76.7	80.9	78.1	83.9	87.4
Year	1911	1912	1913	1914	1915
Index No.	80.6	85.8	86.7	84.5	86.3
Year	1916	1917	1918	1919	1920
Index No.	106.1	145.9	163.0	172.1	191.7
Year	1921	1922	1923	1924	1925
Index No.	121.2	120.0	124.9	121.8	128.5
Year	1926	1927	1928	1929	1930
Index No.	124.1	118.4	120.0	118.3	107.3
Year	1931	1932	1933	1934	1935
Index No.	90.6	80.4	81.8	93.0	99.3
Year	1936	1937	1938	1939	1940
Index No.	100.3	107.5	97.6	95.7	97.6
Year	1941	1942	1943	1944	1945
Index No.	108.4	122.7	128.0	129.1	131.3
Year	1946	1947	1948	1949	1950
Index No.	150.3	188.8	205.0	192.4	200.5

TABLE 7. - Adjusted U. S. Bureau of Labor and
 Statistics Wholesale Price Index Numbers
 Monthly from 1934 to 1950
 (Composite of 1935-39 = 100)

Year	1934	1935	1936	1937	1938
Jan	89.6	97.8	100.1	106.7	100.4
Feb	91.4	98.7	100.6	107.1	99.2
Mar	91.6	98.6	98.8	109.0	99.0
Apr	91.1	99.4	99.0	109.1	97.7
May	91.6	99.6	97.6	108.5	96.9
June	92.6	99.2	98.3	108.2	97.2
Jly	92.8	98.6	100.0	109.1	97.4
Aug	94.8	100.0	101.2	108.7	96.9
Sep	96.3	100.2	101.2	108.4	97.2
Oct	95.0	100.0	101.1	106.0	96.3
Nov	95.0	100.1	102.2	103.2	96.2
Dec	95.5	100.5	104.5	101.7	95.6

Year	1939	1940	1941	1942	1943
Jan	95.6	98.7	100.3	119.1	126.7
Feb	95.6	97.7	100.0	120.0	127.2
Mar	95.3	97.4	101.1	121.1	128.5
Apr	94.6	97.6	103.2	122.5	128.8
May	94.6	97.4	105.2	122.7	129.3
June	93.8	96.3	108.1	122.3	129.0
Jly	93.7	96.5	110.2	122.5	128.2
Aug	93.1	96.1	112.0	123.1	128.1
Sep	98.2	96.8	114.0	123.6	128.1
Oct	98.6	97.7	114.8	124.1	127.9
Nov	98.3	98.8	114.8	124.7	127.8
Dec	98.3	99.4	116.1	125.3	128.2

TABLE 7 (Continued)

Year	1944	1945	1946	1947
Jan	128.2	130.1	133.0	176.3
Feb	128.6	130.5	133.7	180.2
Mar	129.0	130.8	135.2	186.2
Apr	129.1	131.2	137.0	183.8
May	129.2	131.7	137.9	183.0
June	129.6	131.8	140.2	183.5
Jly	129.2	131.6	154.8	187.0
Aug	129.1	131.2	160.2	190.8
Sep	129.2	130.5	154.0	195.5
Oct	129.2	131.6	166.4	196.9
Nov	129.8	132.6	173.5	198.1
Dec	130.1	133.0	174.9	201.5
Year	1948	1949	1950	
Jan	206.0	199.5	188.2	
Feb	200.0	196.2	189.6	
Mar	200.5	196.8	189.6	
Apr	202.5	194.9	189.6	
May	204.0	193.2	193.6	
June	206.8	191.8	195.2	
Jly	209.5	190.7	201.5	
Aug	210.8	189.9	206.8	
Sep	209.8	190.5	210.5	
Oct	205.5	189.0	210.0	
Nov	203.8	188.2	213.5	
Dec	201.8	187.9	217.8	

TABLE 8. - Adjusted U. S. Bureau of Labor and
 Statistics Metals and Metal Products
 Index Numbers
 Yearly from 1901 to 1950
 (Composite of 1935-39 = 100)

Yearly Index Numbers					
Year	1901	1902	1903	1904	1905
Index No.	101.4	99.1	98.2	87.0	97.0
Year	1906	1907	1908	1909	1910
Index No.	111.5	119.5	94.0	92.0	92.8
Year	1911	1912	1913	1914	1915
Index No.	88.0	97.4	98.9	87.3	94.0
Year	1916	1917	1918	1919	1920
Index No.	126.8	164.0	148.6	142.5	162.7
Year	1921	1922	1923	1924	1925
Index No.	127.9	112.0	119.0	115.7	112.4
Year	1926	1927	1928	1929	1930
Index No.	108.9	104.8	105.6	109.4	100.3
Year	1931	1932	1933	1934	1935
Index No.	92.0	87.3	86.9	94.6	94.1
Year	1936	1937	1938	1939	1940
Index No.	94.7	104.2	104.2	102.8	104.3
Year	1941	1942	1943	1944	1945
Index No.	108.2	112.5	113.0	113.0	114.0
Year	1946	1947	1948	1949	1950
Index No.	125.7	157.9	178.1	191.2	188.8

TABLE 9. - Adjusted U. S. Bureau of Labor and
 Statistics Metals and Metal Products
 Index Numbers
 Monthly from 1934 to 1950
 (Composite of 1935-39 = 100)

Year	1934	1935	1936	1937	1938
Jan	93.0	93.4	94.4	99.0	105.0
Feb	94.7	93.4	94.4	99.7	104.4
Mar	94.8	93.2	94.2	104.4	104.4
Apr	95.8	93.6	94.2	105.0	104.8
May	96.8	94.2	94.0	104.3	105.1
June	95.4	94.6	93.8	104.3	104.5
Jly	94.5	94.1	94.7	104.5	103.6
Aug	94.4	94.2	94.8	105.5	103.8
Sep	94.2	94.2	94.6	105.6	103.9
Oct	94.0	94.2	94.7	104.9	103.7
Nov	93.8	94.7	95.7	105.2	103.2
Dec	93.6	94.6	97.4	104.8	102.8
Year	1939	1940	1941	1942	1943
Jan	102.7	104.2	106.2	112.7	113.0
Feb	102.6	103.7	106.1	112.8	113.0
Mar	102.6	103.9	106.2	113.0	113.0
Apr	102.2	102.8	106.5	113.0	113.0
May	101.7	102.8	106.7	113.1	113.0
June	101.3	103.0	106.9	113.1	113.0
Jly	101.3	103.3	107.1	113.0	112.9
Aug	101.3	103.2	107.2	113.0	112.9
Sep	103.2	103.8	107.2	113.0	112.9
Oct	104.3	105.8	112.1	113.0	112.9
Nov	104.4	106.1	112.5	113.0	113.0
Dec	104.4	106.1	112.5	113.0	113.0

TABLE 9 (Continued)

Year	1944	1945	1946	1947
Jan	112.9	113.2	115.0	150.2
Feb	112.9	113.5	116.0	150.0
Mar	112.9	113.5	118.1	152.2
Apr	112.9	113.5	118.5	152.7
May	112.9	113.6	119.2	171.0
June	112.9	114.0	122.1	155.1
Jly	113.0	114.0	123.3	156.5
Aug	113.0	114.0	124.1	162.0
Sep	113.0	114.2	124.3	164.1
Oct	112.9	114.3	137.0	164.3
Nov	112.9	114.5	141.8	165.0
Dec	113.0	114.9	146.6	165.5
Year	1948	1949	1950	
Jan	168.0	191.1	183.2	
Feb	169.1	191.0	183.4	
Mar	169.7	190.0	183.3	
Apr	171.1	187.0	183.5	
May	171.0	183.3	184.5	
June	172.5	182.2	187.0	
Jly	176.3	182.8	187.6	
Aug	186.0	183.0	189.8	
Sep	187.0	183.0	192.2	
Oct	187.6	182.1	194.3	
Nov	188.5	182.1		
Dec	189.2	182.7		

TABLE 10. - Adjusted U. S. Bureau of Labor and
 Statistics Non-ferrous Metals
 Index Numbers
 Yearly from 1913 to 1949
 (Composite of 1935-39 = 100)

Yearly Index Numbers					
Year	1913	1914	1915	1916	1917
Index No.	116.8	100.2	142.7	210.5	217.7
Year	1918	1919	1920	1921	1922
Index No.	189.7	156.2	155.4	102.9	109.7
Year	1923	1924	1925	1926	1927
Index No.	125.2	122.2	133.2	131.4	121.9
Year	1928	1929	1930	1931	1932
Index No.	123.5	139.4	108.3	81.3	65.4
Year	1933	1934	1935	1936	1937
Index No.	78.3	88.9	90.12	94.1	117.7
Year	1938	1939	1940	1941	1942
Index No.	95.6	102.5	106.8	110.9	112.6
Year	1943	1944	1945	1946	1947
Index No.	113.0	112.7	112.7	130.1	184.0
Year	1948	1949			
Index No.	206.6	189.3			

TABLE 11. - Adjusted U. S. Bureau of Labor and
 Statistics Non-ferrous Metals
 Index Numbers
 Monthly from 1934 to 1950
 (Composite of 1935-39 = 100)

Year	1934	1935	1936	1937	1938
Jan	86.7	88.8	91.6	111.7	98.7
Feb	86.5	88.3	91.6	117.6	94.8
Mar	87.2	88.1	91.9	133.0	94.2
Apr	89.4	89.6	92.6	127.6	92.9
May	89.6	90.8	92.8	120.6	90.6
June	90.0	88.2	92.0	120.9	88.4
Jly	90.5	86.8	92.6	121.9	94.6
Aug	90.6	88.0	93.2	122.7	95.9
Sep	89.9	90.2	93.8	121.8	96.7
Oct	89.4	93.2	94.3	112.4	100.1
Nov	89.0	93.7	99.2	103.2	101.9
Dec	88.7	92.7	103.2	98.8	101.0
Year	1939	1940	1941	1942	1943
Jan	100.9	108.7	110.0	112.2	113.1
Feb	100.7	104.1	110.4	112.6	113.1
Mar	100.8	104.8	110.8	112.6	113.1
Apr	98.2	104.1	110.8	112.6	113.1
May	96.1	105.7	111.0	112.6	113.1
June	95.8	106.8	111.1	112.6	113.1
Jly	96.3	106.2	111.3	112.6	113.1
Aug	98.1	104.0	111.0	112.6	113.1
Sep	111.2	106.1	111.0	113.1	113.1
Oct	112.2	110.0	111.0	113.1	113.1
Nov	111.9	110.3	111.7	113.1	113.1
Dec	111.2	109.7	111.7	113.1	113.1

TABLE 11 (Continued)

Year	1944	1945	1946	1947
Jan	113.0	113.0	112.7	171.5
Feb	112.8	113.0	112.7	172.7
Mar	112.8	113.0	113.2	182.7
Apr	112.8	113.0	114.4	185.3
May	112.8	113.0	117.0	188.5
June	112.8	113.0	130.4	187.2
Jly	112.8	113.0	135.7	186.4
Aug	112.8	112.8	133.4	186.4
Sep	112.8	112.7	133.4	186.8
Oct	112.8	112.7	133.8	186.8
Nov	112.8	112.8	155.6	187.0
Dec	112.8	112.8	170.0	188.0
Year	1948	1949	1950	
Jan	191.2	226.8	169.0	
Feb	193.0	226.8	168.3	
Mar	193.0	221.5	167.3	
Apr	196.9	205.5	169.5	
May	197.2	181.8	179.2	
June	200.0	169.3	195.1	
Jly	202.0	173.5	197.9	
Aug	218.0	178.0	205.5	
Sep	218.8	178.4	218.1	
Oct	219.5	172.9	227.8	
Nov	225.2	173.1		
Dec	226.5	169.9		

TABLE 12. - Values (real prices) of Composite Pig-Iron as computed from the market prices listed in Metals Statistics, 1951

Values (real prices) in dollars per gross ton based on the index numbers of:				
	Khaw's	U.S.B.L.S. wholesale prices	U.S.B.L.S. metals and metal products	U.S.B.L.S. non-ferrous metals
1901	-	20.95	14.14	-
1902	-	27.20	20.08	-
1903	-	24.00	18.06	-
1904	-	18.02	15.35	-
1905	-	21.39	16.45	-
1906	-	24.75	16.90	-
1907	-	27.81	18.81	-
1908	-	20.54	17.05	-
1909	-	19.35	17.64	-
1910	-	17.81	16.78	-
1911	-	17.38	15.92	-
1912	-	17.26	15.20	-
1913	-	17.80	15.61	13.08
1914	-	16.00	15.48	13.50
1915	13.61	16.41	15.06	9.93
1916	13.81	19.12	16.01	9.65
1917	20.07	27.42	24.40	18.36
1918	20.01	21.40	23.14	18.12
1919	20.46	17.32	21.00	19.17
1920	23.83	22.88	26.94	28.25
1921	22.27	19.84	18.02	23.15
1922	21.88	20.81	22.13	22.80
1923	21.29	21.75	22.76	21.68
1924	19.59	17.91	18.93	17.91
1925	18.36	16.58	19.00	15.98
1926	18.32	16.96	19.35	16.00
1927	18.38	16.32	18.46	15.88
1928	18.05	15.26	17.34	14.82
1929	17.27	16.18	17.50	13.73
1930	19.31	16.95	18.50	16.80
1931	21.22	18.60	17.88	20.25
1932	22.49	18.63	17.18	22.95
1933	21.17	19.93	18.75	20.80

TABLE 12 (Continued)

1934				
Jan	21.06	20.02	19.29	20.68
Feb	21.19	19.63	18.94	20.74
Mar	21.12	21.38	18.93	20.58
Apr	21.04	20.16	19.17	20.54
May	21.33	20.68	19.57	21.14
June	21.36	20.46	19.85	21.04
Jly	21.29	20.42	20.04	20.93
Aug	21.31	19.98	20.06	20.91
Sep	21.38	19.66	20.11	21.06
Oct	21.46	19.94	20.15	21.19
Nov	21.52	19.94	20.19	21.29
Dec	21.52	19.83	20.23	21.35
1935				
Jan	21.48	19.38	20.28	21.33
Feb	21.53	19.19	20.28	21.44
Mar	21.59	19.21	20.32	21.50
Apr	21.46	19.05	20.23	21.14
May	21.29	19.02	20.11	20.85
June	21.35	19.11	20.04	21.50
Jly	21.65	19.23	20.15	21.84
Aug	21.54	18.96	20.14	21.54
Sep	21.27	18.92	20.14	21.03
Oct	20.96	18.99	20.17	20.38
Nov	21.36	19.94	21.08	21.30
Dec	21.42	19.86	21.10	21.54
1936				
Jan	21.54	19.94	21.14	21.80
Feb	21.48	19.84	21.14	21.80
Mar	21.46	20.20	21.20	21.72
Apr	21.42	20.16	21.20	21.56
May	21.42	20.46	21.24	21.52
June	21.54	20.30	21.28	21.70
Jly	20.70	19.96	21.08	21.56
Aug	21.41	19.62	20.95	21.31
Sep	21.29	19.56	20.93	21.11
Oct	21.27	19.58	20.91	20.99
Nov	20.82	19.76	20.90	20.16
Dec	20.76	19.92	21.34	20.17
1937				
Jan	20.21	19.96	21.51	19.06
Feb	19.77	20.02	21.50	18.22
Mar	19.44	21.82	22.80	17.90
Apr	20.04	22.06	22.91	18.86
May	20.60	22.18	23.07	19.95
June	20.57	22.23	23.07	19.90

TABLE 12 (Continued)

1937				
Jly	20.48	22.06	23.03	19.73
Aug	20.35	22.14	22.81	19.61
Sep	20.40	22.21	22.73	19.75
Oct	21.46	22.69	22.93	21.41
Nov	22.28	23.31	22.88	23.31
Dec	22.76	23.70	23.00	24.40
1938				
Jan	22.74	24.01	22.95	24.42
Feb	23.00	24.30	23.10	25.44
Mar	23.12	24.35	23.10	25.60
Apr	23.26	24.71	23.02	25.96
May	23.55	24.92	22.99	26.66
June	23.51	24.27	22.58	26.68
Jly	21.46	20.67	19.44	21.29
Aug	21.34	20.79	19.40	21.00
Sep	21.28	20.88	19.54	20.98
Oct	21.27	21.94	20.38	21.12
Nov	21.17	22.00	20.49	20.75
Dec	21.26	22.12	20.58	20.94
1939				
Jan	21.30	22.12	20.60	20.96
Feb	21.34	22.12	20.62	21.00
Mar	21.32	22.19	20.62	20.98
Apr	21.57	22.36	20.71	21.53
May	22.14	22.36	20.79	22.02
June	21.72	22.55	20.88	22.08
Jly	21.64	22.57	20.88	21.95
Aug	20.71	22.72	20.88	21.55
Sep	20.18	22.75	21.66	20.09
Oct	20.88	23.47	22.20	20.63
Nov	20.93	23.54	22.18	20.70
Dec	21.11	23.54	22.18	20.81
1940				
Jan	21.34	23.45	22.22	21.30
Feb	21.74	23.71	22.32	22.25
Mar	21.65	23.78	22.29	22.09
Apr	21.74	23.73	22.52	22.25
May	21.62	23.78	22.52	21.90
June	21.44	24.03	22.48	21.67
Jly	21.69	23.98	22.41	21.81
Aug	21.74	24.10	22.43	22.27
Sep	21.44	23.91	22.29	21.83
Oct	21.11	23.71	21.88	21.04
Nov	21.07	23.43	21.83	21.00
Dec	21.14	23.29	21.83	21.11

TABLE 12 (Continued)

1941				
Jan	21.44	23.88	22.56	21.77
Feb	21.41	23.95	22.58	21.70
Mar	21.36	23.74	22.61	21.67
Apr	21.40	23.40	22.68	21.81
May	21.40	22.97	22.63	21.76
June	21.37	22.34	22.60	21.74
Jly	21.35	21.90	22.56	21.69
Aug	21.40	21.57	22.53	21.76
Sep	21.40	21.18	22.53	21.76
Oct	21.37	21.03	21.54	21.76
Nov	21.32	21.03	21.47	21.61
Dec	21.32	20.79	21.47	21.61
1942				
Jan	21.23	20.28	21.42	21.52
Feb	21.18	20.12	21.42	21.46
Mar	21.20	19.96	21.39	21.46
Apr	21.20	19.75	21.42	21.49
May	21.20	19.72	21.39	21.49
June	21.20	19.80	21.39	21.49
Jly	21.20	19.75	21.42	21.49
Aug	21.20	19.65	21.42	21.49
Sep	21.20	19.58	21.42	21.39
Oct	21.20	19.51	21.42	21.39
Nov	21.20	19.41	21.42	21.39
Dec	21.20	19.34	21.44	21.42
1943				
Jan	21.23	19.12	21.44	21.42
Feb	21.23	19.04	21.44	21.42
Mar	21.23	18.85	21.44	21.42
Apr	21.23	18.80	21.44	21.42
May	21.20	18.71	21.42	21.39
June	21.17	18.73	21.39	21.37
Jly	21.17	18.85	21.41	21.37
Aug	21.17	18.88	21.41	21.37
Sep	21.17	18.88	21.41	21.37
Oct	21.17	18.90	21.41	21.37
Nov	21.17	18.93	21.39	21.37
Dec	21.17	18.85	21.39	21.37
1944				
Jan	21.20	18.85	21.41	21.39
Feb	21.22	18.80	21.41	21.44
Mar	21.22	18.73	21.41	21.44
Apr	21.22	18.73	21.41	21.44
May	21.22	18.71	21.41	21.44
June	21.25	18.66	21.41	21.44

TABLE 12 (Continued)

1944				
Jly	21.25	18.71	21.39	21.44
Aug	21.25	18.73	21.39	21.44
Sep	21.22	18.71	21.39	21.44
Oct	21.22	18.71	21.41	21.44
Nov	21.22	18.71	21.41	21.44
Dec	21.22	18.59	21.39	21.44
1945				
Jan	21.20	18.59	21.34	21.39
Feb	21.20	18.51	21.29	21.39
Mar	21.55	19.26	22.17	22.28
Apr	21.55	19.18	22.17	22.28
May	21.55	19.10	22.15	22.28
June	21.57	19.10	22.07	22.28
Jly	21.57	19.13	22.07	22.28
Aug	21.57	19.18	22.07	22.33
Sep	21.60	19.28	22.05	22.33
Oct	21.67	19.30	22.23	22.53
Nov	21.85	19.54	22.63	22.99
Dec	21.85	19.49	22.55	22.99
1946				
Jan	21.85	19.49	22.55	22.99
Feb	21.85	19.39	22.34	22.99
Mar	21.98	19.48	22.29	23.24
Apr	22.08	19.47	22.51	23.31
May	21.43	19.44	22.50	22.93
June	21.67	20.44	23.48	21.99
Jly	21.38	18.56	23.30	21.17
Aug	21.69	17.93	23.16	21.55
Sep	21.69	18.65	23.13	21.55
Oct	21.60	17.27	20.97	21.46
Nov	20.02	16.55	20.25	18.47
Dec	19.55	17.23	20.54	17.71
1947				
Jan	19.66	17.50	20.55	17.99
Feb	19.60	17.13	20.58	17.87
Mar	19.79	18.01	22.04	18.35
Apr	19.61	18.39	22.15	18.26
May	19.81	18.46	22.04	17.95
June	19.58	18.43	21.81	18.05
Jly	19.97	18.78	22.43	18.85
Aug	20.47	19.50	22.96	19.98
Sep	20.47	19.05	22.66	19.91
Oct	20.50	18.94	22.63	19.94
Nov	20.49	18.85	22.62	19.97
Dec	20.45	18.61	22.66	19.96

TABLE 12 (Continued)

1948				
Jan	20.91	19.54	23.97	21.07
Feb	20.88	20.32	24.01	21.05
Mar	20.88	20.27	23.93	21.05
Apr	20.64	20.07	23.77	20.64
May	20.69	20.08	23.97	20.77
June	20.60	19.98	23.95	20.65
Jly	20.89	20.64	24.53	21.41
Aug	20.62	21.48	24.38	19.44
Sep	20.63	21.67	24.31	20.77
Oct	20.87	22.89	25.05	21.43
Nov	20.65	23.37	25.27	21.13
Dec	20.61	23.60	25.18	21.03
1949				
Jan	20.58	23.87	24.92	21.01
Feb	20.59	24.31	24.98	21.02
Mar	20.88	24.22	25.07	21.55
Apr	21.78	24.39	25.44	23.16
May	22.75	24.15	25.45	25.64
June	23.40	24.29	25.59	27.55
Jly	23.08	24.43	25.50	26.85
Aug	22.80	24.57	25.45	26.20
Sep	22.83	24.51	25.49	26.19
Oct	23.20	24.69	25.63	26.98
Nov	23.15	24.79	25.63	26.98
Dec	23.39	24.83	25.53	27.49
1950				
Jan	23.43	24.79	25.49	27.63
Feb	23.54	24.86	25.71	28.02
Mar	23.69	24.92	23.81	28.27
Apr	23.50	24.92	25.77	27.90
May	23.03	24.44	25.62	26.38
June	22.32	24.21	25.29	24.25
Jly	22.08	23.45	25.20	23.88
Aug	21.75	22.98	25.02	23.12
Sep	21.24	22.78	24.93	22.01
Oct	21.14	23.73	25.68	21.89
Nov	20.92	23.65		
Dec	21.28	24.41		

TABLE 13. - Values (real prices) of Electrolytic Copper in New York as computed from the market prices listed in the Year Books of the American Bureau of Metal Statistics

Values (real prices) in cents per pound based on the index numbers of:

	Khaw's	U.S.B.L.S. wholesale prices	U.S.B.L.S. metals and metal products	U.S.B.L.S. non-ferrous metals
1901	-	23.433	15.943	-
1902	-	15.910	11.744	-
1903	-	17.890	13.490	-
1904	-	17.323	14.754	-
1905	-	20.900	16.200	-
1906	-	25.101	17.290	-
1907	-	24.702	16.722	-
1908	-	17.022	14.051	-
1909	-	15.483	14.122	-
1910	-	14.590	13.754	-
1911	-	15.354	14.080	-
1912	-	19.044	16.770	-
1913	-	17.623	15.460	12.983
1914	-	16.090	15.572	13.571
1915	16.622	20.011	18.754	12.112
1916	18.490	25.464	21.463	12.922
1917	13.643	18.563	16.590	12.484
1918	14.331	15.122	16.563	12.990
1919	12.782	10.863	13.122	11.980
1920	9.501	9.115	10.732	11.264
1921	11.580	10.322	9.731	12.153
1922	11.711	11.312	11.844	12.200
1923	11.322	11.551	12.111	11.612
1924	11.724	10.690	11.454	10.670
1925	12.090	10.933	12.511	10.523
1926	12.000	11.121	12.690	10.500
1927	12.273	10.900	12.332	10.600
1928	14.364	12.133	13.812	11.780
1929	16.332	15.290	16.543	12.983
1930	13.790	12.101	12.933	11.982
1931	10.474	6.955	8.822	9.979
1932	8.332	6.901	6.363	8.491
1933	9.120	8.589	8.080	8.973

TABLE 13 (Continued)

1934				
Jan	9.260	8.806	8.484	9.100
Feb	9.182	8.509	8.213	8.990
Mar	9.147	8.488	8.202	8.916
Apr	9.362	8.972	8.531	9.142
May	9.318	9.034	8.549	9.236
June	9.697	9.281	9.008	9.549
Jly	9.860	9.456	9.286	9.696
Aug	9.871	9.257	9.295	9.686
Sep	9.904	9.112	9.316	9.760
Oct	9.938	9.237	9.335	9.816
Nov	9.972	9.237	9.355	9.860
Dec	9.972	9.188	9.375	9.893
1935				
Jan	9.949	8.972	9.395	9.882
Feb	9.983	8.891	9.395	9.938
Mar	10.006	8.900	9.416	9.961
Apr	9.938	8.828	9.375	9.794
May	9.860	8.810	9.316	9.664
June	9.723	8.704	9.127	9.789
Jly	8.876	7.885	8.262	8.958
Aug	9.067	7.979	8.471	9.067
Sep	9.544	8.487	9.028	9.428
Oct	9.898	8.967	9.519	9.622
Nov	9.652	9.016	9.530	9.631
Dec	9.684	8.980	9.540	9.735
1936				
Jan	9.735	9.016	9.560	9.853
Feb	9.715	8.971	9.560	9.853
Mar	9.705	9.134	9.581	9.820
Apr	9.838	9.262	9.734	9.902
May	9.952	9.503	9.867	9.995
June	10.005	9.435	9.888	10.082
Jly	9.702	9.352	9.876	10.099
Aug	10.264	9.412	10.048	10.220
Sep	10.242	9.412	10.069	10.155
Oct	10.272	9.459	10.099	10.141
Nov	10.574	10.040	10.617	10.243
Dec	10.731	10.299	11.050	10.429
1937				
Jan	11.779	11.635	12.540	11.115
Feb	12.376	12.537	13.467	11.417
Mar	12.888	14.472	15.111	11.861
Apr	12.590	13.860	14.401	11.849
May	11.794	12.695	13.206	11.422
June	11.783	12.731	13.206	11.393

TABLE 13 (Continued)

1937				
Jly	11.724	12.626	13.181	11.300
Aug	11.655	12.673	13.057	11.227
Sep	11.476	12.481	12.813	11.108
Oct	10.561	11.168	11.285	10.532
Nov	9.997	10.462	10.264	10.462
Dec	9.449	9.837	9.548	10.127
1938				
Jan	9.621	10.157	9.713	10.333
Feb	9.327	9.854	9.363	10.312
Mar	9.372	9.874	9.363	10.377
Apr	9.426	10.005	9.327	10.522
May	9.138	9.675	8.920	10.348
June	8.749	9.028	8.397	9.926
Jly	10.208	9.841	9.252	10.132
Aug	10.487	10.217	9.538	10.324
Sep	10.522	10.316	9.652	10.370
Oct	10.825	11.173	10.376	10.749
Nov	11.036	11.460	10.683	10.820
Dec	11.080	11.532	10.725	10.916
1939				
Jan	11.102	11.532	10.735	10.927
Feb	11.125	11.532	10.746	10.748
Mar	11.114	11.569	10.746	10.938
Apr	10.474	10.851	10.044	10.453
May	10.296	10.394	9.669	10.232
June	10.036	10.421	9.650	10.203
Jly	10.199	10.645	9.847	10.358
Aug	10.050	11.021	10.130	10.460
Sep	10.510	11.848	11.274	10.463
Oct	11.014	12.388	11.711	10.887
Nov	11.099	12.487	11.758	10.970
Dec	11.190	12.487	11.758	11.039
1940				
Jan	11.018	12.112	11.472	10.998
Feb	10.468	11.410	10.750	10.709
Mar	10.430	11.458	10.742	10.649
Apr	10.411	11.360	10.785	10.650
May	10.344	11.375	10.778	10.482
June	10.303	11.555	10.804	10.419
Jly	9.901	10.947	10.227	9.947
Aug	10.055	11.143	10.376	10.296
Sep	10.459	11.670	10.883	10.657
Oct	10.781	12.104	11.178	10.751
Nov	10.737	11.943	11.122	10.698
Dec	10.778	11.873	11.123	10.759

TABLE 13 (Continued)

1941				
Jan	10.582	11.784	11.129	10.745
Feb	10.540	11.794	11.116	10.683
Mar	10.511	11.685	11.124	10.662
Apr	10.469	11.454	11.099	10.668
May	10.465	11.231	11.073	10.644
June	10.452	10.925	11.048	10.630
Jly	10.444	10.718	11.029	10.613
Aug	10.432	10.517	10.987	10.611
Sep	10.429	10.329	10.984	10.608
Oct	10.421	10.257	10.504	10.608
Nov	10.393	10.257	10.467	10.542
Dec	10.393	10.142	10.467	10.542
1942				
Jan	10.347	9.886	10.448	10.495
Feb	10.329	9.812	10.439	10.457
Mar	10.329	9.724	10.421	10.457
Apr	10.311	9.612	10.421	10.457
May	10.311	9.597	10.411	10.457
June	10.311	9.628	10.411	10.457
Jly	10.311	9.612	10.421	10.457
Aug	10.311	9.565	10.421	10.457
Sep	10.311	9.527	10.421	10.411
Oct	10.311	9.488	10.421	10.411
Nov	10.311	9.442	10.421	10.411
Dec	10.302	9.398	10.421	10.411
1943				
Jan	10.311	9.294	10.421	10.411
Feb	10.311	9.258	10.421	10.411
Mar	10.311	9.163	10.421	10.411
Apr	10.311	9.142	10.421	10.411
May	10.311	9.107	10.421	10.411
June	10.320	9.128	10.421	10.411
Jly	10.320	9.185	10.429	10.411
Aug	10.320	9.192	10.429	10.411
Sep	10.320	9.192	10.429	10.411
Oct	10.320	9.207	10.429	10.411
Nov	10.320	9.214	10.421	10.411
Dec	10.320	9.185	10.421	10.411
1944				
Jan	10.329	9.185	10.429	10.421
Feb	10.338	9.156	10.429	10.439
Mar	10.338	9.128	10.429	10.439
Apr	10.338	9.121	10.429	10.439
May	10.338	9.114	10.429	10.439
June	10.347	9.086	10.429	10.439

TABLE 13 (Continued)

1944				
Jly	10.347	9.114	10.421	10.439
Aug	10.347	9.121	10.421	10.439
Sep	10.338	9.114	10.421	10.439
Oct	10.338	9.114	10.429	10.439
Nov	10.338	9.071	10.429	10.439
Dec	10.338	9.050	10.421	10.439
1945				
Jan	10.329	9.050	10.402	10.421
Feb	10.329	9.023	10.375	10.421
Mar	10.082	9.002	10.375	10.421
Apr	10.082	8.975	10.375	10.421
May	10.082	8.941	10.366	10.421
June	10.090	8.934	10.329	10.421
Jly	10.090	8.948	10.329	10.421
Aug	10.090	8.975	10.329	10.439
Sep	10.098	9.023	10.311	10.448
Oct	10.038	8.948	10.302	10.448
Nov	9.920	8.880	10.284	10.439
Dec	9.920	8.854	10.248	10.439
1946				
Jan	9.920	8.854	10.240	10.448
Feb	9.920	8.807	10.151	10.448
Mar	9.829	8.709	9.970	10.402
Apr	9.747	8.595	9.937	10.293
May	9.405	8.539	9.878	10.064
June	10.631	10.025	11.511	10.779
Jly	10.528	9.141	11.476	10.427
Aug	10.679	8.832	11.402	10.607
Sep	10.679	9.189	11.384	10.607
Oct	9.868	8.504	10.328	10.576
Nov	11.881	9.820	12.014	10.949
Dec	12.500	11.021	13.147	11.338
1947				
Jan	12.265	10.930	12.830	11.236
Feb	12.285	10.737	12.900	11.203
Mar	12.329	11.231	13.739	11.445
Apr	12.319	11.549	13.900	11.455
May	12.942	12.078	14.410	11.727
June	12.369	11.635	13.763	11.404
Jly	12.067	11.352	13.563	11.388
Aug	11.674	11.124	13.102	11.387
Sep	11.674	10.857	12.935	11.362
Oct	11.654	10.772	12.908	11.353
Nov	11.641	10.702	12.849	11.338
Dec	11.560	10.522	12.809	11.276

TABLE 13 (Continued)

1948				
Jan	11.001	10.290	12.618	11.088
Feb	10.895	10.600	12.538	10.984
Mar	10.895	10.575	12.493	10.984
Apr	10.767	10.469	12.391	10.767
May	10.702	10.392	12.398	10.751
June	10.583	10.252	12.290	10.600
Jly	10.322	10.202	12.124	10.581
Aug	10.499	10.952	12.410	9.897
Sep	10.526	11.057	12.407	10.602
Oct	10.298	11.289	12.365	10.570
Nov	10.064	11.384	12.308	10.301
Dec	10.034	11.496	12.261	10.243
1949				
Jan	10.027	11.630	12.141	10.229
Feb	10.022	11.825	12.148	10.229
Mar	10.151	11.775	12.197	10.464
Apr	9.826	11.006	11.471	10.438
May	8.668	9.194	9.691	9.771
June	8.196	8.521	8.968	9.653
Jly	8.441	8.946	9.331	9.833
Aug	8.463	9.123	9.466	9.733
Sep	8.463	9.094	9.466	9.711
Oct	8.602	9.167	9.513	10.021
Nov	8.964	9.596	9.918	10.434
Dec	9.125	9.686	9.961	10.713
1950				
Jan	9.214	9.760	10.026	10.870
Feb	9.167	9.688	10.017	10.915
Mar	9.194	9.688	10.023	10.980
Apr	9.364	9.931	10.262	11.110
May	9.659	10.242	10.748	11.065
June	10.425	11.330	11.824	11.334
Jly	10.445	11.102	11.923	11.304
Aug	10.413	10.997	11.982	11.065
Sep	10.346	11.103	12.159	10.715
Oct	10.343	11.605	12.543	10.698
Nov	10.079	11.415		
Dec	9.741	11.188		

TABLE 14. - Values (real prices) of Lead in New York as computed from the market prices listed in the Year Books of the American Bureau of Metal Statistics

Values (real prices) in cents per pound based on the index numbers of:

	Khaw's	U.S.B.L.S. wholesale prices	U.S.B.L.S. metals and metal products	U.S.B.L.S. non-ferrous metals
1901	-	6.311	4.272	-
1902	-	5.573	4.110	-
1903	-	5.725	4.309	-
1904	-	5.821	4.951	-
1905	-	6.310	4.861	-
1906	-	7.362	5.075	-
1907	-	6.579	4.450	-
1908	-	5.381	4.469	-
1909	-	5.091	4.650	-
1910	-	5.085	4.785	-
1911	-	4.490	5.032	-
1912	-	5.211	4.591	-
1913	-	5.045	4.420	3.712
1914	-	4.572	4.420	3.851
1915	4.495	4.415	4.975	3.279
1916	4.667	6.461	4.411	3.255
1917	4.441	6.029	5.361	4.041
1918	4.314	4.542	4.985	3.900
1919	3.939	3.348	4.039	3.693
1920	4.328	4.152	4.892	5.134
1921	4.209	3.751	3.551	4.410
1922	5.017	4.769	5.068	5.223
1923	5.697	5.816	6.091	5.814
1924	7.347	6.652	6.989	6.632
1925	7.767	7.022	8.021	6.761
1926	7.323	6.781	7.732	6.402
1927	6.417	5.700	6.449	5.538
1928	6.269	5.251	5.973	5.093
1929	6.163	5.765	6.240	4.903
1930	5.859	5.140	5.500	5.094
1931	5.473	4.571	4.610	5.222
1932	4.770	3.950	3.641	4.863
1933	5.025	4.745	4.450	4.938

TABLE 14 (Continued)

1934				
Jan	4.695	4.464	4.301	4.614
Feb	4.722	4.376	4.224	4.624
Mar	4.706	4.367	4.220	4.587
Apr	4.787	4.587	4.362	4.675
May	4.662	4.520	4.277	4.621
June	4.485	4.293	4.167	4.417
Jly	4.238	4.065	3.992	4.168
Aug	4.215	3.953	3.969	4.136
Sep	4.159	3.827	3.912	4.099
Oct	4.138	3.846	3.887	4.087
Nov	4.054	3.755	3.803	4.008
Dec	4.096	3.774	3.851	4.063
1935				
Jan	4.186	3.775	3.953	4.158
Feb	4.014	3.575	3.777	3.995
Mar	4.081	3.630	3.840	4.063
Apr	4.181	3.714	3.945	4.121
May	4.452	3.978	4.206	4.363
June	4.527	4.053	4.250	4.558
Jly	4.707	4.182	4.382	4.750
Aug	4.834	4.254	4.516	4.834
Sep	4.953	4.404	4.685	4.892
Oct	4.980	4.512	4.790	4.841
Nov	4.813	4.496	4.752	4.802
Dec	4.829	4.478	4.757	4.854
1936				
Jan	4.854	4.496	4.767	4.913
Feb	4.860	4.488	4.783	4.929
Mar	4.946	4.656	4.883	5.005
Apr	4.936	4.646	4.883	4.968
May	4.936	4.713	4.893	4.957
June	4.962	4.680	4.904	5.000
Jly	4.772	4.600	4.858	4.968
Aug	4.957	4.545	4.853	4.936
Sep	4.946	4.545	4.863	4.904
Oct	4.974	4.581	4.890	4.911
Nov	5.322	5.053	5.344	5.155
Dec	5.537	5.315	5.703	5.382
1937				
Jan	5.693	5.623	6.061	5.372
Feb	5.750	5.825	6.258	5.305
Mar	5.874	6.596	6.887	6.844
Apr	5.141	5.660	5.881	4.839
May	5.137	5.530	5.752	4.975
June	5.132	5.545	5.752	4.963

TABLE 14 (Continued)

1937				
Jly	5.107	5.500	5.741	4.922
Aug	5.459	5.936	6.116	5.258
Sep	5.428	5.904	6.061	5.254
Oct	5.121	5.415	5.472	5.107
Nov	4.660	4.877	4.784	4.877
Dec	4.603	4.794	4.652	4.934
1938				
Jan	4.594	4.851	4.638	4.934
Feb	4.420	4.670	4.437	4.886
Mar	4.315	4.545	4.311	4.777
Apr	4.339	4.606	4.294	4.844
May	4.289	4.541	4.187	4.857
June	4.136	4.267	3.969	4.692
Jly	5.199	5.012	4.713	5.161
Aug	5.191	5.057	4.721	5.110
Sep	5.244	5.142	4.811	5.168
Oct	5.131	5.296	4.918	5.095
Nov	5.096	5.292	4.933	4.996
Dec	4.866	5.065	4.710	4.794
1939				
Jan	4.860	5.048	4.699	4.783
Feb	4.849	5.026	4.683	4.771
Mar	4.863	5.062	4.702	4.786
Apr	4.880	5.055	4.679	4.870
May	4.974	5.021	4.670	4.942
June	4.928	5.117	4.739	5.010
Jly	4.994	5.212	4.821	5.072
Aug	4.939	5.417	4.978	5.141
Sep	4.922	5.549	5.280	4.900
Oct	4.959	5.578	5.273	4.902
Nov	4.973	5.595	5.268	4.915
Dec	5.014	5.595	5.268	4.948
1940				
Jan	5.043	5.543	5.251	5.033
Feb	4.766	5.195	4.895	4.876
Mar	4.852	5.331	4.997	4.954
Apr	4.762	5.196	4.933	4.871
May	4.683	5.149	4.879	4.745
June	4.630	5.192	4.855	4.682
Jly	4.686	5.182	4.841	4.708
Aug	4.558	5.051	4.704	4.667
Sep	4.564	5.092	4.749	4.650
Oct	4.839	5.433	5.017	4.826
Nov	5.210	5.795	5.397	5.191
Dec	5.023	5.533	5.184	5.014

TABLE 14 (Continued)

1941				
Jan	4.924	5.484	5.179	5.000
Feb	5.007	5.602	5.280	5.074
Mar	5.129	5.702	5.428	5.203
Apr	5.181	5.669	5.493	5.280
May	5.181	5.561	5.483	5.270
June	5.177	5.412	5.473	5.266
Jly	5.173	5.308	5.462	5.256
Aug	5.181	5.223	5.457	5.270
Sep	5.181	5.132	5.457	5.270
Oct	5.177	5.096	5.219	5.270
Nov	5.163	5.096	5.200	5.238
Dec	5.163	5.039	5.200	5.238
1942				
Jan	5.514	5.268	5.569	5.593
Feb	5.702	5.416	5.762	5.773
Mar	5.702	5.368	5.753	5.773
Apr	5.692	5.306	5.753	5.773
May	5.692	5.296	5.747	5.773
June	5.692	5.315	5.747	5.773
Jly	5.692	5.306	5.753	5.773
Aug	5.692	5.280	5.753	5.773
Sep	5.692	5.259	5.753	5.747
Oct	5.692	5.238	5.753	5.747
Nov	5.692	5.212	5.753	5.747
Dec	5.687	5.188	5.753	5.747
1943				
Jan	5.692	5.130	5.753	5.747
Feb	5.692	5.110	5.753	5.747
Mar	5.692	5.047	5.753	5.747
Apr	5.692	5.047	5.753	5.747
May	5.692	5.027	5.753	5.747
June	5.697	5.039	5.753	5.747
Jly	5.697	5.070	5.757	5.747
Aug	5.697	5.074	5.757	5.747
Sep	5.697	5.074	5.757	5.747
Oct	5.697	5.082	5.757	5.747
Nov	5.697	5.086	5.753	5.747
Dec	5.697	5.070	5.753	5.747
1944				
Jan	5.702	5.070	5.757	5.753
Feb	5.707	5.054	5.757	5.762
Mar	5.707	5.039	5.757	5.762
Apr	5.707	5.035	5.757	5.762
May	5.707	5.031	5.757	5.762
June	5.712	5.015	5.757	5.762

TABLE 14 (Continued)

1944				
Jly	5.712	5.031	5.753	5.762
Aug	5.712	5.035	5.753	5.762
Sep	5.707	5.031	5.753	5.762
Oct	5.707	5.031	5.757	5.762
Nov	5.707	5.008	5.757	5.762
Dec	5.707	4.996	5.753	5.762
1945				
Jan	5.702	4.996	5.742	5.753
Feb	5.702	4.981	5.727	5.753
Mar	5.565	4.969	5.727	5.753
Apr	5.565	4.954	5.727	5.753
May	5.565	4.935	5.722	5.753
June	5.570	4.932	5.702	5.753
Jly	5.570	4.939	5.702	5.753
Aug	5.570	4.954	5.702	5.762
Sep	5.574	4.981	5.692	5.767
Oct	5.541	4.939	5.687	5.767
Nov	5.476	4.902	5.677	5.762
Dec	5.476	4.887	5.657	5.762
1946				
Jan	5.476	4.887	5.652	5.767
Feb	5.476	4.861	5.604	5.767
Mar	5.426	4.807	5.504	5.742
Apr	5.321	4.744	5.485	5.682
May	5.192	4.714	5.453	5.556
June	6.187	5.835	6.699	6.273
Jly	6.882	5.976	7.502	6.816
Aug	6.226	5.150	6.648	6.124
Sep	6.226	5.358	6.637	6.184
Oct	6.203	4.958	6.022	6.166
Nov	7.279	6.016	7.360	6.708
Dec	7.905	6.970	8.315	7.170
1947				
Jan	8.231	7.334	8.609	7.540
Feb	8.369	7.315	8.788	7.632
Mar	8.819	8.033	9.827	8.186
Apr	8.706	8.162	9.824	8.096
May	8.783	8.196	9.779	7.952
June	8.691	8.175	9.671	8.013
Jly	8.528	8.022	9.585	8.048
Aug	8.250	7.862	9.260	8.048
Sep	8.250	7.673	9.141	8.030
Oct	8.243	7.619	9.129	8.030
Nov	8.237	7.572	9.092	8.022
Dec	8.180	7.445	9.063	7.979

TABLE 14 (Continued)

1948				
Jan	7.784	7.281	8.928	7.845
Feb	7.709	7.500	8.871	7.772
Mar	7.709	7.482	8.840	7.772
Apr	8.742	8.499	10.060	8.742
May	8.834	8.579	10.234	8.874
June	8.736	8.463	10.145	8.750
Jly	8.599	8.500	10.101	8.815
Aug	9.869	9.251	10.483	8.360
Sep	8.847	9.294	10.429	8.912
Oct	8.656	9.489	10.394	8.884
Nov	9.327	10.550	11.406	9.546
Dec	9.299	10.653	11.363	9.492
1949				
Jan	9.292	10.778	11.251	9.479
Feb	9.288	10.959	11.257	9.479
Mar	8.281	9.607	9.951	8.537
Apr	6.942	7.776	8.104	7.374
May	6.695	7.101	7.486	7.547
June	6.018	6.257	6.586	7.088
Jly	6.710	7.112	7.418	7.817
Aug	7.343	7.916	8.213	8.445
Sep	7.352	7.900	8.223	8.436
Oct	6.663	7.101	7.369	7.762
Nov	6.215	6.653	6.876	7.234
Dec	6.017	6.386	6.568	7.063
1950				
Jan	6.019	6.376	6.550	7.100
Feb	5.988	6.329	6.544	7.130
Mar	5.485	5.780	5.980	6.551
Apr	5.286	5.606	5.793	6.272
May	5.709	6.053	6.352	6.540
June	5.568	6.050	6.316	6.054
Jly	5.444	5.787	6.215	5.892
Aug	5.921	6.253	6.813	6.292
Sep	6.995	7.507	8.221	7.244
Oct	6.790	7.619	8.235	7.024
Nov	7.031	7.963		
Dec	6.795	7.805		

TABLE 15. - Values (real prices) of Prime Western Zinc in E. St. Louis as computed from the market prices listed in the Year Book of the American Bureau of Metal Statistics

Values (real prices) in cents per pound based on the index numbers of:

	Khaw's	U.S.B.L.S. wholesale prices	U.S.B.L.S. metals and metal products	U.S.B.L.S. non-ferrous metals
1901	-	5.925	4.014	-
1902	-	6.621	4.890	-
1903	-	7.015	5.283	-
1904	-	6.661	5.665	-
1905	-	7.685	5.915	-
1906	-	7.875	5.419	-
1907	-	7.182	4.865	-
1908	-	5.865	4.870	-
1909	-	6.380	5.822	-
1910	-	6.151	5.790	-
1911	-	6.262	6.471	-
1912	-	7.920	6.980	-
1913	-	6.393	5.565	4.674
1914	-	5.981	5.790	5.049
1915	12.558	15.123	13.900	9.150
1916	8.591	11.901	9.963	6.000
1917	4.382	5.985	5.332	4.012
1918	4.592	4.844	5.311	4.160
1919	4.780	4.062	4.912	4.480
1920	4.173	4.000	4.721	4.952
1921	4.311	3.841	4.643	4.522
1922	5.002	4.765	5.063	5.213
1923	5.180	5.290	5.545	5.270
1924	5.760	5.210	5.485	5.189
1925	6.563	5.925	6.780	5.720
1926	6.366	5.915	6.739	5.581
1927	5.930	5.260	5.955	5.121
1928	5.994	5.020	5.711	4.880
1929	5.874	5.500	5.954	4.661
1930	4.838	4.250	4.545	4.211
1931	4.696	4.015	3.855	4.483
1932	4.301	3.572	3.300	4.403
1933	5.232	4.930	4.643	5.150

TABLE 15 (Continued)

1934				
Jan	5.013	4.767	4.593	4.926
Feb	5.176	4.797	4.630	5.068
Mar	5.139	4.769	4.608	5.009
Apr	5.006	4.797	4.561	4.888
May	4.894	4.745	4.490	4.851
June	4.784	4.579	4.444	4.711
Jly	4.851	4.652	4.568	4.770
Aug	4.816	4.516	4.535	4.725
Sep	4.570	4.204	4.298	4.504
Oct	4.340	4.034	4.076	4.286
Nov	4.241	3.928	3.979	4.193
Dec	4.217	3.886	3.965	4.184
1935				
Jan	4.229	3.814	3.934	4.200
Feb	4.225	3.763	3.976	4.206
Mar	4.440	3.949	4.178	4.420
Apr	4.564	4.054	4.306	4.498
May	4.742	4.237	4.480	4.647
June	4.841	4.334	4.544	4.874
Jly	4.937	4.386	4.596	4.983
Aug	5.154	4.535	4.814	5.154
Sep	5.240	4.660	4.957	5.176
Oct	5.326	4.825	5.122	5.177
Nov	5.187	4.845	5.122	5.176
Dec	5.204	4.826	5.127	5.232
1936				
Jan	5.230	4.843	5.135	5.293
Feb	5.230	4.830	5.147	5.305
Mar	5.269	4.959	5.202	5.332
Apr	5.258	4.949	5.202	5.292
May	5.258	5.021	5.213	5.280
June	5.264	4.964	5.203	5.305
Jly	4.962	4.783	5.051	5.165
Aug	5.172	4.743	5.064	5.150
Sep	5.215	4.792	5.127	5.171
Oct	5.209	4.797	5.122	5.143
Nov	5.145	4.885	5.166	4.984
Dec	5.257	5.046	5.414	5.110
1937				
Jan	5.548	5.480	5.906	5.235
Feb	5.959	6.036	6.484	5.497
Mar	6.030	6.771	7.070	5.550
Apr	5.837	6.425	6.676	5.493
May	5.780	6.221	6.471	5.597
June	5.774	6.238	6.471	5.583

TABLE 15 (Continued)

1937				
Jly	5.892	6.346	6.625	5.679
Aug	6.085	6.617	6.817	5.861
Sep	6.099	6.633	6.809	5.903
Oct	5.428	5.741	5.801	5.414
Nov	5.213	5.455	5.352	5.455
Dec	4.731	4.926	4.781	5.071
1938				
Jan	4.717	4.980	4.762	5.066
Feb	4.593	4.852	4.610	5.077
Mar	4.235	4.462	4.231	4.689
Apr	3.993	4.238	3.951	4.457
May	3.940	4.171	3.846	4.462
June	4.119	4.250	3.953	4.673
Jly	5.053	4.872	4.580	5.016
Aug	5.032	4.902	4.576	4.953
Sep	5.131	5.031	4.707	5.057
Oct	5.042	5.204	4.833	5.007
Nov	4.929	5.118	4.771	4.832
Dec	4.523	4.707	4.378	4.455
1939				
Jan	4.532	4.707	4.382	4.460
Feb	4.541	4.707	4.386	4.469
Mar	4.536	4.722	4.386	4.464
Apr	4.592	4.757	4.403	4.582
May	4.712	4.757	4.425	4.683
June	4.620	4.797	4.442	4.697
Jly	4.618	4.819	4.458	4.689
Aug	4.622	5.069	4.659	4.811
Sep	5.514	6.216	5.915	5.489
Oct	5.861	6.592	6.232	5.793
Nov	5.877	6.612	6.226	5.809
Dec	5.451	6.083	5.728	5.378
1940				
Jan	5.202	5.719	5.417	5.192
Feb	5.196	5.664	5.336	5.316
Mar	5.374	5.904	5.534	5.487
Apr	5.399	5.891	5.594	5.523
May	5.418	5.958	5.645	5.490
June	5.773	6.474	6.054	5.838
Jly	5.858	6.477	6.051	5.885
Aug	5.999	6.648	6.191	6.143
Sep	6.407	7.149	6.667	6.528
Oct	6.609	7.420	6.853	6.591
Nov	6.597	7.338	6.833	6.573
Dec	6.621	7.294	6.833	6.609

TABLE 15 (Continued)

1941				
Jan	6.491	7.228	6.827	6.591
Feb	6.479	7.250	6.833	6.567
Mar	6.450	7.171	6.827	6.543
Apr	6.421	7.025	6.808	6.543
May	6.421	6.892	6.795	6.532
June	6.416	6.707	6.782	6.526
Jly	6.410	6.579	6.769	6.514
Aug	6.421	6.474	6.763	6.532
Sep	6.421	6.360	6.763	6.532
Oct	7.029	6.918	7.085	7.155
Nov	7.281	7.187	7.333	7.386
Dec	7.281	7.106	7.333	7.386
1942				
Jan	7.249	6.927	7.320	7.353
Feb	7.237	6.875	7.314	7.327
Mar	7.237	6.813	7.301	7.327
Apr	7.225	6.734	7.301	7.327
May	7.225	6.724	7.295	7.327
June	7.225	6.746	7.295	7.327
Jly	7.225	6.734	7.301	7.327
Aug	7.225	6.701	7.301	7.327
Sep	7.225	6.675	7.301	7.295
Oct	7.225	6.648	7.301	7.295
Nov	7.225	6.616	7.301	7.295
Dec	7.218	6.584	7.301	7.295
1943				
Jan	7.225	6.512	7.301	7.295
Feb	7.225	6.486	7.301	7.295
Mar	7.225	6.420	7.301	7.295
Apr	7.225	6.405	7.301	7.295
May	7.225	6.381	7.301	7.295
June	7.230	6.395	7.301	7.295
Jly	7.230	6.435	7.307	7.295
Aug	7.230	6.440	7.307	7.295
Sep	7.230	6.440	7.307	7.295
Oct	7.230	6.451	7.307	7.295
Nov	7.230	6.456	7.301	7.295
Dec	7.230	6.435	7.301	7.295
1944				
Jan	7.237	6.435	7.307	7.301
Feb	7.244	6.415	7.307	7.314
Mar	7.244	6.395	7.307	7.314
Apr	7.244	6.390	7.307	7.314
May	7.244	6.386	7.307	7.314
June	7.249	6.366	7.307	7.314

TABLE 15 (Continued)

1944				
Jly	7.249	6.368	7.301	7.314
Aug	7.249	6.390	7.301	7.314
Sep	7.244	6.386	7.301	7.314
Oct	7.244	6.386	7.307	7.314
Nov	7.244	6.356	7.307	7.314
Dec	7.244	6.341	7.301	7.314
1945				
Jan	7.237	6.341	7.288	7.301
Feb	7.237	6.322	7.269	7.301
Mar	7.064	6.307	7.269	7.301
Apr	7.064	6.288	7.269	7.301
May	7.064	6.264	7.262	7.301
June	7.069	6.259	7.237	7.301
Jly	7.069	6.269	7.237	7.301
Aug	7.069	6.288	7.237	7.314
Sep	7.075	6.322	7.225	7.320
Oct	7.033	6.269	7.218	7.320
Nov	6.951	6.221	7.206	7.314
Dec	6.951	6.203	7.180	7.314
1946				
Jan	6.951	6.203	7.174	7.320
Feb	6.951	6.170	7.112	7.320
Mar	6.886	6.102	6.985	7.288
Apr	6.829	6.022	6.962	7.211
May	6.589	5.983	6.921	7.051
June	6.240	5.885	6.757	6.327
Jly	6.138	5.330	6.691	6.079
Aug	6.226	5.150	6.648	6.184
Sep	6.226	5.358	6.637	6.184
Oct	6.666	5.328	6.471	6.626
Nov	7.058	5.833	7.137	6.504
Dec	6.809	6.004	7.162	6.176
1947				
Jan	6.683	5.956	6.991	6.123
Feb	6.666	5.826	7.000	6.080
Mar	6.191	5.640	6.899	5.747
Apr	6.094	5.713	6.876	5.667
May	6.148	5.737	6.845	5.570
June	6.084	5.723	6.769	5.609
Jly	5.941	5.615	6.710	5.633
Aug	5.775	5.503	6.482	5.633
Sep	5.775	5.371	6.399	5.621
Oct	5.770	5.333	6.390	5.621
Nov	5.766	5.300	6.364	5.615
Dec	5.726	5.211	6.344	5.585

TABLE 15 (Continued)

1948				
Jan	5.748	5.377	6.593	5.793
Feb	6.167	6.000	7.097	6.217
Mar	6.167	5.986	7.072	6.217
Apr	6.095	5.926	7.014	6.095
May	6.058	5.882	7.018	6.085
June	5.990	5.803	6.956	6.000
Jly	6.018	5.948	7.068	6.169
Aug	6.822	7.116	8.064	6.431
Sep	6.806	7.149	8.022	6.855
Oct	6.765	7.416	8.123	6.943
Nov	7.282	8.237	8.905	7.453
Dec	7.260	8.317	8.871	7.411
1949				
Jan	7.564	8.773	9.158	7.716
Feb	7.560	8.920	9.163	7.716
Mar	7.471	8.666	8.977	7.701
Apr	6.440	7.213	7.518	6.841
May	5.797	6.149	6.482	6.535
June	4.788	4.978	5.240	5.640
Jly	4.631	4.908	5.120	5.395
Aug	4.885	5.266	5.464	5.618
Sep	4.887	5.252	5.467	5.608
Oct	4.627	4.931	5.118	5.391
Nov	4.839	5.180	5.354	5.633
Dec	4.890	5.191	5.338	5.741
1950				
Jan	4.921	5.212	5.354	5.805
Feb	4.865	5.142	5.317	5.793
Mar	4.975	5.242	5.423	5.941
Apr	5.321	5.643	5.832	6.313
May	5.840	6.193	6.499	6.690
June	6.964	7.567	7.899	7.571
Jly	7.004	7.445	7.995	7.580
Aug	6.869	7.254	7.904	7.299
Sep	7.570	8.124	8.897	7.840
Oct	7.427	8.334	9.007	7.683
Nov	7.238	8.197		
Dec	6.995	8.034		

TABLE 16. - Values (real prices) of Virgin Aluminum ingots in New York as computed from the market prices as listed in the Year Books of the American Bureau of Metal Statistics

Values (real prices) in cents per pound based on the index numbers of:				
	Khaw's	U.S.B.L.S. wholesale prices	U.S.B.L.S. metals and metal products	U.S.B.L.S. non-ferrous metals
1901	-	48.10	32.50	-
1902	-	45.20	33.17	-
1903	-	44.60	33.58	-
1904	-	47.25	40.25	-
1905	-	46.90	36.16	-
1906	-	46.55	32.04	-
1907	-	55.55	37.64	-
1908	-	36.79	30.55	-
1909	-	26.22	23.92	-
1910	-	25.42	24.00	-
1911	-	24.96	23.85	-
1912	-	25.61	22.60	-
1913	-	27.35	23.95	20.10
1914	-	22.02	21.33	18.58
1915	32.69	39.38	36.18	23.80
1916	41.28	57.15	47.90	31.80
1917	25.90	35.40	31.50	23.70
1918	19.51	20.56	12.56	17.65
1919	21.98	18.70	22.54	20.60
1920	17.78	17.06	20.12	21.10
1921	19.55	17.81	16.50	20.50
1922	16.35	15.56	16.54	17.05
1923	19.92	20.35	21.32	20.15
1924	24.02	22.21	22.36	22.10
1925	23.41	21.08	24.18	20.40
1926	23.48	21.75	24.80	20.50
1927	24.13	21.76	24.22	20.85
1928	23.40	19.92	22.65	19.35
1929	21.56	20.18	21.10	17.15
1930	25.27	22.18	23.76	21.95
1931	30.06	25.71	25.32	28.65
1932	34.95	28.95	26.70	35.62
1933	30.26	28.50	26.82	29.75

TABLE 16 (Continued)

1934				
Jan	27.35	26.00	25.05	26.86
Feb	25.56	23.69	22.86	25.03
Mar	25.47	23.64	22.84	24.83
Apr	24.80	23.77	22.60	24.23
May	24.38	23.64	22.36	24.16
June	24.42	23.38	22.69	24.05
Jly	24.33	23.34	22.91	23.92
Aug	24.37	22.84	22.93	23.90
Sep	24.44	22.47	22.99	24.07
Oct	24.35	22.63	22.87	24.05
Nov	23.29	21.59	21.85	23.04
Dec	23.29	21.46	21.89	23.10
1935				
Jan	23.25	20.97	21.96	23.08
Feb	23.33	20.77	21.96	23.21
Mar	23.37	20.79	22.00	23.27
Apr	23.23	20.62	21.89	22.89
May	23.04	20.58	21.77	22.57
June	23.08	20.66	21.67	23.25
Jly	23.41	20.79	21.79	23.62
Aug	23.29	20.50	21.77	23.29
Sep	23.00	20.46	21.77	22.73
Oct	22.63	20.50	21.77	22.00
Nov	21.94	20.48	21.65	21.87
Dec	22.00	20.40	21.67	22.12
1936				
Jan	22.12	20.48	21.71	22.39
Feb	22.06	20.38	21.71	22.39
Mar	22.04	20.75	21.77	22.30
Apr	22.00	20.71	21.77	22.14
May	22.00	21.01	21.81	22.10
June	22.12	20.85	21.85	22.28
Jly	21.26	20.50	21.65	22.14
Aug	22.10	20.25	21.65	22.00
Sep	22.04	20.25	21.67	21.85
Oct	22.02	20.27	21.65	21.73
Nov	21.34	20.25	21.42	20.66
Dec	20.44	19.62	21.05	19.86
1937				
Jan	19.45	19/21	20.71	18.35
Feb	18.90	19.15	20.56	17.43
Mar	16.34	18.34	19.16	15.04
Apr	16.66	18.34	19.04	15.68
May	17.12	18.48	19.18	16.58
June	17.10	18.48	19.18	16.54

TABLE 16 (Continued)

1937				
Jly	17.02	18.34	19.14	16.41
Aug	16.92	18.40	18.96	16.30
Sep	16.96	18.46	18.94	16.42
Oct	17.84	18.86	19.06	17.80
Nov	18.52	19.38	19.02	19.38
Dec	18.88	19.66	19.08	20.24
1938				
Jan	18.86	19.92	19.04	20.26
Feb	19.08	20.16	19.16	21.10
Mar	19.18	20.20	19.16	21.24
Apr	19.28	20.48	19.08	21.52
May	19.50	20.64	19.04	22.08
June	19.94	20.58	19.14	22.62
Jly	21.30	20.54	19.30	21.14
Aug	21.18	20.64	19.26	20.86
Sep	20.98	20.58	19.26	20.68
Oct	20.12	20.76	19.28	19.98
Nov	20.02	20.80	19.38	19.62
Dec	20.10	20.92	19.46	19.80
1939				
Jan	20.14	20.92	19.48	19.82
Feb	20.18	20.92	19.50	19.86
Mar	20.16	20.98	19.50	19.84
Apr	20.40	21.14	19.58	20.36
May	20.94	21.14	19.66	20.82
June	20.54	21.32	19.74	20.88
Jly	20.46	21.34	19.74	20.76
Aug	19.58	21.48	19.74	20.38
Sep	18.06	20.36	19.38	17.98
Oct	18.02	20.28	19.18	17.82
Nov	18.08	20.34	19.16	17.88
Dec	18.24	20.34	19.16	17.98
1940				
Jan	18.44	20.26	19.20	18.40
Feb	18.78	20.48	19.28	19.22
Mar	18.46	20.28	19.02	18.84
Apr	17.84	19.48	18.49	18.26
May	17.75	19.51	18.49	17.97
June	17.59	19.72	18.45	17.78
Jly	17.80	19.68	18.39	17.90
Aug	16.90	18.74	17.44	17.32
Sep	16.67	18.59	17.33	16.97
Oct	16.42	18.43	17.01	16.36
Nov	15.92	17.72	16.50	15.87
Dec	15.52	17.10	16.03	15.50

TABLE 16 (Continued)

1941				
Jan	13.43	14.96	14.13	13.64
Feb	13.41	15.00	14.14	13.59
Mar	13.35	14.84	14.13	13.54
Apr	13.29	14.54	14.09	13.54
May	13.29	14.26	14.06	13.51
June	13.28	13.88	14.04	13.50
Jly	13.26	13.61	14.01	13.48
Aug	13.29	13.39	13.99	13.51
Sep	13.29	13.16	13.99	13.51
Oct	13.28	13.07	13.38	13.51
Nov	13.24	13.07	13.33	13.43
Dec	13.24	12.92	13.33	13.43
1942				
Jan	13.18	12.60	13.31	13.37
Feb	13.16	12.50	13.30	13.32
Mar	13.16	12.39	13.28	13.32
Apr	13.14	12.24	13.28	13.32
May	13.14	12.23	13.26	13.32
June	13.14	12.27	13.26	13.32
Jly	13.14	12.24	13.28	13.32
Aug	13.14	12.18	13.28	13.32
Sep	13.14	12.14	13.28	13.26
Oct	13.14	12.09	13.28	13.26
Nov	13.14	12.03	13.28	13.26
Dec	13.12	11.97	13.28	13.26
1943				
Jan	13.14	11.84	13.28	13.26
Feb	13.14	11.79	13.28	13.26
Mar	13.14	11.67	13.28	13.26
Apr	13.14	11.64	13.28	13.26
May	13.14	11.60	13.28	13.26
June	13.14	11.63	13.28	13.26
Jly	13.14	11.70	13.29	13.26
Aug	13.14	11.71	13.29	13.26
Sep	13.14	11.71	13.29	13.26
Oct	13.14	11.73	13.29	13.26
Nov	13.14	11.74	13.28	13.26
Dec	13.14	11.70	13.28	13.26
1944				
Jan	13.16	11.70	13.29	13.28
Feb	13.17	11.67	13.29	13.30
Mar	13.17	11.63	13.29	13.30
Apr	13.17	11.62	13.29	13.30
May	13.17	11.61	13.29	13.30
June	13.18	11.58	13.29	13.30

TABLE 16 (Continued)

1944				
Jly	13.18	11.61	13.28	13.30
Aug	13.18	11.62	13.28	13.30
Sep	13.17	11.61	13.28	13.30
Oct	13.17	11.61	13.29	13.30
Nov	13.17	11.55	13.29	13.30
Dec	13.17	11.53	13.28	13.30
1945				
Jan	13.16	11.53	13.25	13.28
Feb	13.16	11.49	13.22	13.28
Mar	12.84	11.47	13.22	13.28
Apr	12.84	11.43	13.22	13.28
May	12.84	11.39	13.20	13.28
June	12.85	11.38	13.16	13.28
Jly	12.85	11.40	13.16	13.28
Aug	12.85	11.43	13.16	13.30
Sep	12.87	11.49	13.14	13.31
Oct	12.79	11.40	13.12	13.31
Nov	12.64	11.31	13.10	13.30
Dec	12.64	11.28	13.05	13.30
1946				
Jan	12.64	11.28	13.05	13.31
Feb	12.64	11.22	12.93	13.31
Mar	12.52	11.10	12.70	13.25
Apr	12.42	10.95	12.66	13.11
May	11.98	10.88	12.60	12.82
June	11.34	10.70	12.29	11.50
Jly	11.16	9.69	12.17	11.05
Aug	11.32	9.36	12.09	11.25
Sep	11.32	9.74	12.07	11.25
Oct	11.28	9.02	10.95	11.21
Nov	10.46	8.64	10.58	9.64
Dec	9.73	8.58	10.23	8.82
1947				
Jan	9.55	8.51	9.99	8.75
Feb	9.52	8.32	10.00	8.69
Mar	8.85	8.06	9.86	8.21
Apr	8.70	8.16	9.82	8.10
May	8.79	8.19	9.78	7.96
June	8.70	8.18	9.67	8.01
Jly	8.53	8.02	9.59	8.05
Aug	8.25	7.86	9.26	8.05
Sep	8.25	7.68	9.14	8.03
Oct	8.25	7.62	9.13	8.03
Nov	8.24	7.57	9.09	8.02
Dec	8.18	7.44	9.06	7.98

TABLE 16 (Continued)

1948				
Jan	7.78	7.28	8.93	7.85
Feb	7.71	7.50	8.87	7.77
Mar	7.71	7.48	8.84	7.77
Apr	7.62	7.41	8.77	7.62
May	7.57	7.35	8.77	7.61
June	7.54	7.31	8.76	7.56
Jly	7.72	7.63	9.07	7.92
Aug	7.28	7.58	8.60	6.86
Sep	7.26	7.63	8.56	7.31
Oct	7.40	8.12	8.89	7.60
Nov	7.37	8.34	9.02	7.55
Dec	7.36	8.43	8.99	7.51
1949				
Jan	7.34	8.52	8.89	7.49
Feb	7.34	8.67	8.90	7.49
Mar	7.45	8.64	8.94	7.68
Apr	7.79	8.72	9.09	8.27
May	8.30	8.80	9.28	9.35
June	8.53	8.86	9.33	10.04
Jly	8.41	8.91	9.30	9.79
Aug	8.31	8.95	9.28	9.55
Sep	8.31	8.92	9.28	9.53
Oct	8.44	8.99	9.33	9.83
Nov	8.43	9.03	9.33	9.82
Dec	8.52	9.04	9.30	10.01
1950				
Jan	8.53	9.03	9.28	10.06
Feb	8.48	8.96	9.27	10.10
Mar	8.51	8.96	9.28	10.16
Apr	8.45	8.96	9.27	10.03
May	8.37	8.88	9.31	9.59
June	8.26	8.96	9.36	8.97
Jly	8.17	8.68	9.33	8.84
Aug	8.01	8.47	9.22	8.52
Sep	7.81	8.38	9.18	8.10
Oct	8.04	9.02	9.76	8.32
Nov	7.86	8.89		
Dec	7.60	8.72		

TABLE 17. - Values (real prices) of Magnesium ingots (99.8%) in New York as computed from the market prices listed in the 1949 Year Book of the American Bureau of Metal Statistics and Metal Statistics 1951 Beginning December 1, 1947, f. o. b., Freeport, Texas.

Values (real prices) in cents per pound based on the index numbers of:

	Khaw's	U.S.B.L.S. wholesale prices	U.S.B.L.S. metals and metal products	U.S.B.L.S. non-ferrous metals
1915	481.00	550.10	532.00	350.00
1916	280.81	389.50	326.00	196.00
1917	101.40	138.50	123.30	92.81
1918	105.35	111.00	126.20	95.52
1919	125.17	106.30	128.40	117.22
1920	87.04	83.45	98.40	103.21
1921	120.38	107.50	101.70	126.32
1922	140.00	133.20	141.60	146.00
1923	98.00	100.20	104.90	99.83
1924	97.69	90.40	95.20	90.11
1925	74.05	67.95	75.62	64.52
1926	69.69	64.45	73.51	60.81
1927	64.60	57.40	64.85	56.74
1928	53.81	45.82	52.11	44.51
1929	50.51	47.33	51.20	40.11
1930	50.98	44.72	47.91	44.32
1931	43.86	37.70	36.95	41.80
1932	43.50	36.05	33.20	44.35
1933	36.36	34.22	32.21	35.75
1934				
Jan	35.21	33.48	32.26	34.60
Feb	35.42	32.82	31.68	34.68
Mar	35.30	32.75	31.65	34.40
Apr	34.37	32.93	31.31	33.56
May	33.78	32.75	30.99	33.48
June	33.85	32.40	31.45	33.33
Jly	33.71	32.33	31.75	33.15
Aug	33.75	31.65	31.78	33.11
Sep	33.86	31.15	31.85	33.37
Oct	33.98	31.58	31.91	33.56
Nov	34.09	31.58	31.89	33.70
Dec	34.09	31.41	32.05	33.82

TABLE 17 (Continued)

1935				
Jan	34.01	30.68	32.12	33.78
Feb	34.13	30.40	32.12	33.98
Mar	34.21	30.43	32.19	34.05
Apr	33.98	30.18	32.05	33.48
May	33.71	30.12	31.85	33.04
June	33.78	30.24	31.71	34.01
Jly	34.25	30.43	31.88	34.56
Aug	34.09	30.00	31.85	34.09
Sep	33.67	29.94	31.85	33.26
Oct	33.11	30.00	31.85	32.19
Nov	32.09	29.97	31.68	31.91
Dec	32.19	29.85	31.77	32.36
1936				
Jan	32.36	29.97	31.78	32.75
Feb	32.29	29.82	31.78	32.75
Mar	32.26	30.36	31.85	32.64
Apr	32.19	30.30	31.85	32.39
May	32.19	30.74	31.91	32.33
June	32.36	30.52	31.98	32.61
Jly	31.12	30.00	31.68	32.40
Aug	32.33	29.64	31.65	32.19
Sep	32.26	29.64	31.71	31.98
Oct	32.22	29.67	31.68	31.81
Nov	31.22	29.64	31.35	30.24
Dec	29.91	28.71	30.80	29.07
1937				
Jan	28.46	28.11	30.30	26.86
Feb	27.65	28.01	30.09	25.51
Mar	24.51	27.52	28.74	22.56
Apr	24.98	27.50	28.57	22.51
May	25.67	27.65	28.76	24.88
June	25.66	27.73	28.76	24.81
Jly	25.53	27.50	28.71	24.61
Aug	25.38	27.60	28.44	24.45
Sep	25.45	27.68	28.41	24.63
Oct	26.76	28.30	28.60	26.67
Nov	27.78	29.07	28.52	29.07
Dec	28.33	29.50	28.63	30.36
1938				
Jan	28.30	29.88	28.57	30.39
Feb	28.63	30.24	28.74	31.65
Mar	28.76	30.30	28.74	31.85
Apr	28.93	30.71	28.63	32.29
May	29.24	30.96	28.55	33.11
June	29.91	30.86	28.71	33.94

TABLE 17 (Continued)

1938				
Jly	31.95	30.80	28.96	31.71
Aug	31.78	30.96	28.90	31.28
Sep	31.48	30.86	28.88	31.02
Oct	30.18	31.15	28.93	29.97
Nov	30.03	31.19	29.97	29.44
Dec	30.15	31.38	29.18	29.70
1939				
Jan	30.21	31.38	29.21	29.73
Feb	30.27	31.38	29.24	29.79
Mar	30.24	31.48	29.24	29.76
Apr	28.57	29.60	27.40	28.51
May	29.32	29.60	27.53	29.14
June	28.75	29.85	27.64	29.23
Jly	28.63	29.88	27.64	29.08
Aug	27.42	30.08	27.64	28.54
Sep	24.39	27.49	26.16	24.28
Oct	24.35	27.38	25.89	24.07
Nov	24.41	27.47	25.86	24.13
Dec	24.61	27.47	25.86	24.28
1940				
Jan	24.89	27.36	25.91	24.84
Feb	25.35	27.64	26.04	25.94
Mar	25.23	27.72	25.99	25.76
Apr	25.35	27.66	26.27	25.94
May	25.21	27.72	26.27	25.55
June	25.00	28.04	26.21	25.28
Jly	25.30	27.98	26.14	25.42
Aug	25.35	28.10	26.16	25.96
Sep	25.00	27.89	26.01	25.47
Oct	24.61	27.64	25.53	24.55
Nov	24.57	27.33	25.53	24.48
Dec	24.66	27.16	25.53	24.63
1941				
Jan	24.17	26.92	25.42	24.55
Feb	24.13	27.00	25.45	24.46
Mar	24.02	26.71	25.42	24.37
Apr	23.91	26.16	25.35	24.37
May	23.91	25.67	25.30	24.32
June	23.90	24.98	25.26	24.30
Jly	23.87	24.50	25.21	24.26
Aug	23.91	24.11	25.19	24.32
Sep	23.91	23.68	25.19	24.32
Oct	23.90	23.53	24.09	24.32
Nov	23.83	23.53	24.00	24.17
Dec	23.83	23.26	24.00	24.17

TABLE 17 (Continued)

1942				
Jan	23.73	22.67	24.00	24.07
Feb	23.68	22.50	23.94	23.98
Mar	19.74	18.58	19.91	19.98
Apr	19.70	18.37	19.91	19.98
May	19.70	18.34	19.90	19.98
June	19.70	18.40	19.90	19.98
Jly	19.70	18.37	19.91	19.98
Aug	19.70	18.28	19.91	19.98
Sep	19.70	18.21	19.91	19.90
Oct	19.70	18.13	19.91	19.90
Nov	19.70	18.04	19.91	19.90
Dec	19.69	17.96	19.91	19.90
1943				
Jan	17.95	16.18	18.14	18.13
Feb	17.95	16.12	18.14	18.13
Mar	17.95	15.95	18.14	18.13
Apr	17.95	15.92	18.14	18.13
May	17.95	15.86	18.14	18.13
June	17.97	15.89	18.14	18.13
Jly	17.97	15.99	18.16	18.13
Aug	17.97	16.00	18.16	18.13
Sep	17.97	16.00	18.16	18.13
Oct	17.97	16.03	18.16	18.13
Nov	17.97	16.04	18.14	18.13
Dec	17.97	15.99	18.14	18.13
1944				
Jan	17.98	15.99	18.16	18.14
Feb	18.00	15.94	18.16	18.17
Mar	18.00	15.89	18.16	18.17
Apr	18.00	15.88	18.16	18.17
May	18.00	15.88	18.16	18.17
June	18.01	15.82	18.16	18.17
Jly	18.01	15.87	18.14	18.17
Aug	18.01	15.87	18.14	18.17
Sep	18.00	15.87	18.14	18.17
Oct	18.00	15.87	18.16	18.17
Nov	18.00	15.79	18.16	18.17
Dec	18.00	15.76	18.14	18.17
1945				
Jan	17.98	15.76	18.11	18.14
Feb	17.98	15.71	18.06	18.14
Mar	17.55	15.67	18.06	18.14
Apr	17.55	15.62	18.06	18.14
May	17.55	15.57	18.04	18.14
June	17.57	15.55	18.19	18.14

TABLE 17 (Continued)

1945				
Jly	17.57	15.58	18.19	18.14
Aug	17.57	15.63	18.19	18.17
Sep	17.58	15.71	17.95	18.19
Oct	17.48	15.58	17.94	18.19
Nov	17.27	15.46	17.91	18.17
Dec	17.27	15.41	17.84	18.17
1946				
Jan	17.27	15.41	17.83	18.19
Feb	17.27	15.33	17.67	18.19
Mar	17.11	15.16	17.36	18.11
Apr	16.97	14.96	17.30	17.92
May	16.37	14.87	17.20	17.52
June	15.51	14.62	16.79	15.72
Jly	15.25	13.24	16.62	15.11
Aug	15.47	12.80	16.52	15.38
Sep	15.47	13.31	16.49	15.37
Oct	15.41	12.32	14.96	15.32
Nov	14.30	11.82	14.46	13.18
Dec	13.29	11.72	13.98	12.06
1947				
Jan	13.05	11.63	13.65	11.95
Feb	13.02	11.38	13.67	11.87
Mar	12.09	11.01	13.47	11.22
Apr	11.90	11.15	13.43	11.06
May	12.00	11.20	13.36	10.88
June	11.88	11.18	13.22	10.95
Jly	11.65	10.96	13.10	11.00
Aug	11.28	10.74	12.66	11.00
Sep	11.28	10.49	12.49	10.97
Oct	11.27	10.41	12.48	10.97
Nov	11.26	10.35	12.43	10.96
Dec	11.18	10.17	12.39	10.90
1948				
Jan	10.64	9.95	12.20	10.72
Feb	10.54	10.25	12.12	10.62
Mar	10.54	10.23	12.08	10.62
Apr	10.41	10.12	11.98	10.41
May	10.35	10.05	11.99	10.40
June	10.23	9.91	11.88	10.25
Jly	9.90	9.79	11.63	10.15
Aug	9.32	9.73	11.02	8.79
Sep	9.30	9.77	10.96	9.37
Oct	9.10	9.98	10.93	9.10
Nov	8.89	10.06	10.88	9.10
Dec	8.87	10.16	10.83	9.05

TABLE 17 (Continued)

1949				
Jan	8.86	10.28	10.73	9.04
Feb	8.86	10.45	10.73	9.04
Mar	8.98	10.42	10.79	9.26
Apr	9.39	10.52	10.96	9.98
May	10.00	10.61	11.19	11.28
June	10.28	10.69	11.25	12.11
Jly	10.14	10.75	11.21	11.82
Aug	10.01	10.80	11.20	11.51
Sep	10.01	10.76	11.20	11.49
Oct	10.18	10.85	11.26	11.86
Nov	10.17	10.89	11.26	11.84
Dec	10.28	10.91	11.22	12.07
1950				
Jan	10.28	10.89	11.19	12.13
Feb	10.23	10.81	11.18	12.18
Mar	10.26	10.81	11.19	12.25
Apr	10.20	10.81	11.17	12.10
May	9.99	10.59	11.11	11.44
June	10.14	11.01	11.50	11.02
Jly	10.24	10.89	11.69	11.09
Aug	10.30	10.88	11.86	10.95
Sep	9.96	10.69	11.71	10.32
Oct	10.40	11.67	12.61	10.76
Nov	10.13	11.48		
Dec	9.59	11.02		

TABLE 18. - Values (real prices) of Straits Tin in New York as computed from the market prices listed in the Year Books of the American Bureau of Metal Statistics

Values (real prices) in cents per pound based on the index numbers of:

	Khaw's	U.S.B.L.S. wholesale prices	U.S.B.L.S. metals and metal products	U.S.B.L.S. non-ferrous metals
1901	-	38.922	26.354	-
1902	-	36.610	28.181	-
1903	-	37.990	28.600	-
1904	-	37.823	32.180	-
1905	-	42.011	32.353	-
1906	-	51.903	35.744	-
1907	-	47.154	31.898	-
1908	-	37.700	31.353	-
1909	-	35.412	32.322	-
1910	-	39.054	36.800	-
1911	-	52.353	48.101	-
1912	-	53.651	37.300	-
1913	-	51.100	44.950	37.554
1914	-	40.602	39.254	34.203
1915	37.124	44.703	41.102	27.050
1916	29.566	40.900	34.300	20.654
1917	31.025	42.404	37.722	28.422
1918	50.500	53.200	58.400	45.700
1919	43.284	36.811	44.400	40.603
1920	26.711	25.600	30.202	31.622
1921	27.702	24.683	22.389	29.050
1922	28.485	27.103	28.803	29.653
1923	33.449	34.122	35.801	34.051
1924	44.683	42.500	43.302	41.100
1925	49.846	45.000	51.604	43.453
1926	56.798	52.603	60.003	49.703
1927	61.135	54.303	61.350	52.780
1928	49.419	41.954	47.711	40.754
1929	40.730	38.080	41.251	32.351
1930	33.659	29.553	31.612	29.280
1931	31.559	27.000	26.623	30.103
1932	33.026	27.323	25.203	32.152
1933	50.788	47.803	45.000	49.900

TABLE 18 (Continued)

1934				
Jan	60.904	57.916	55.798	59.851
Feb	60.999	56.530	54.561	59.728
Mar	63.340	58.775	56.794	61.741
Apr	63.751	61.056	58.058	62.219
May	60.293	58.451	55.313	59.757
June	57.849	55.368	53.742	56.967
Jly	58.349	55.960	54.952	57.383
Aug	58.442	54.805	55.034	57.346
Sep	58.131	53.481	54.676	57.287
Oct	57.702	53.631	54.202	56.994
Nov	58.214	53.922	54.613	57.559
Dec	57.845	53.299	54.384	57.387
1935				
Jan	57.729	52.062	54.516	57.337
Feb	56.957	50.724	53.602	56.696
Mar	53.551	47.629	50.390	53.307
Apr	56.799	50.454	53.585	55.977
May	57.459	51.343	54.288	56.318
June	57.553	51.522	54.036	57.946
Jly	59.702	53.040	55.576	60.251
Aug	57.346	50.463	53.572	57.346
Sep	55.134	49.028	52.152	54.461
Oct	56.470	51.160	54.311	54.895
Nov	55.469	51.812	54.768	55.349
Dec	53.429	49.545	52.637	53.713
1936				
Jan	50.951	47.187	50.035	51.565
Feb	51.626	47.674	50.806	52.360
Mar	51.654	48.618	50.996	52.269
Apr	50.391	47.437	49.856	50.715
May	49.736	47.492	49.309	49.949
June	45.525	42.934	44.994	45.876
Jly	44.670	43.021	45.430	46.458
Aug	45.883	42.072	44.917	45.687
Sep	48.124	44.221	47.309	47.712
Oct	48.308	44.435	47.494	47.691
Nov	53.679	50.780	53.700	51.808
Dec	51.668	52.720	49.641	50.216
1937				
Jan	48.318	47.727	51.439	45.593
Feb	47.938	48.562	52.166	44.224
Mar	51.506	57.836	60.389	47.402
Apr	49.267	54.237	56.355	46.367
May	47.648	51.288	53.353	46.146
June	47.750	51.617	53.544	46.194

TABLE 18 (Continued)

1937				
Jly	50.423	54.304	56.692	48.599
Aug	50.313	54.708	56.367	48.464
Sep	49.768	54.128	55.565	48.172
Oct	46.081	48.730	49.242	45.957
Nov	40.091	41.957	41.160	41.957
Dec	40.653	42.332	41.079	43.572
1938				
Jan	39.196	41.382	39.570	42.096
Feb	39.478	41.708	39.631	43.644
Mar	39.521	41.635	39.484	43.758
Apr	37.058	39.333	36.670	41.366
May	35.952	38.065	35.096	40.714
June	40.255	41.539	38.636	45.673
Jly	46.251	44.588	41.921	45.908
Aug	45.842	44.661	41.692	45.128
Sep	45.507	44.618	41.743	44.849
Oct	45.535	47.001	47.647	45.218
Nov	46.308	48.089	44.828	45.402
Dec	46.411	48.304	44.924	45.723
1939				
Jan	46.729	48.539	45.184	45.991
Feb	46.055	47.739	44.485	45.321
Mar	46.605	48.510	45.061	45.866
Apr	48.122	49.853	46.146	48.023
May	51.340	51.830	48.212	51.022
June	50.157	52.082	48.228	50.993
Jly	49.640	51.810	47.927	50.412
Aug	47.788	52.409	48.168	49.740
Sep	58.342	65.770	62.586	58.084
Oct	50.116	56.369	53.285	49.538
Nov	47.310	53.227	50.119	46.760
Dec	46.255	51.613	48.604	45.630
1940				
Jan	43.050	47.324	44.825	42.970
Feb	43.054	46.928	44.214	44.044
Mar	44.000	48.336	45.314	44.923
Apr	43.959	47.967	45.542	44.970
May	48.151	52.947	50.167	48.790
June	50.571	56.715	53.029	51.139
Jly	48.351	53.464	49.945	48.578
Aug	48.057	53.257	49.592	49.209
Sep	46.617	52.015	48.505	47.498
Oct	46.938	52.700	48.668	46.810
Nov	46.020	51.189	47.669	45.853
Dec	45.752	50.402	47.220	45.672

TABLE 18 (Continued)

1941				
Jan	44.903	50.004	47.225	45.595
Feb	45.841	51.293	48.344	46.461
Mar	46.324	51.499	49.026	46.990
Apr	46.040	50.370	48.810	46.913
May	46.203	49.589	48.890	46.996
June	46.786	48.905	49.455	47.584
Jly	47.288	48.529	49.935	48.053
Aug	46.056	46.431	48.506	46.847
Sep	46.056	45.614	48.506	46.847
Oct	46.020	45.297	46.389	46.847
Nov	45.895	45.297	46.223	46.556
Dec	45.895	44.788	46.223	46.556
1942				
Jan	45.692	43.659	46.140	46.348
Feb	45.614	43.332	46.098	46.181
Mar	45.614	42.942	46.020	46.181
Apr	45.536	42.448	46.020	46.181
May	45.536	42.380	45.978	46.181
June	45.536	42.520	45.978	46.181
Jly	45.536	42.448	46.020	46.181
Aug	45.536	42.240	46.020	46.181
Sep	45.536	42.073	46.020	45.978
Oct	45.536	41.902	46.020	45.978
Nov	45.536	41.699	46.020	45.978
Dec	45.495	41.501	46.020	45.978
1943				
Jan	45.536	41.044	46.020	45.978
Feb	45.536	40.882	46.020	45.978
Mar	45.536	40.466	46.020	45.978
Apr	45.536	40.373	46.020	45.978
May	45.536	40.217	46.020	45.978
June	45.573	40.310	46.020	45.978
Jly	45.573	40.560	46.056	45.978
Aug	45.573	40.591	46.056	45.978
Sep	45.573	40.591	46.056	45.978
Oct	45.573	40.659	46.056	45.978
Nov	45.573	40.690	46.020	45.978
Dec	45.573	40.560	46.020	45.978
1944				
Jan	45.614	40.560	46.056	46.020
Feb	45.656	40.435	46.056	46.098
Mar	45.656	40.310	46.056	46.098
Apr	45.656	40.279	46.056	46.098
May	45.656	40.248	46.056	46.098
June	45.692	40.127	46.056	46.098

TABLE 18 (Continued)

1944				
Jly	45.692	40.248	46.020	46.098
Aug	45.692	40.279	46.020	46.098
Sep	45.656	40.248	46.020	46.098
Oct	45.656	40.248	46.056	46.098
Nov	45.656	40.061	46.056	46.098
Dec	45.656	39.967	46.020	46.098
1945				
Jan	45.614	39.967	45.937	46.020
Feb	45.614	39.848	45.817	46.020
Mar	44.522	39.754	45.817	46.020
Apr	44.522	39.634	45.817	46.020
May	44.522	39.484	45.776	46.020
June	44.559	39.452	45.614	46.020
Jly	44.559	39.515	45.614	46.020
Aug	44.559	39.634	45.614	46.098
Sep	44.595	39.848	45.536	46.140
Oct	44.330	39.515	45.495	46.140
Nov	43.810	39.213	45.417	46.098
Dec	43.810	39.099	45.256	46.098
1946				
Jan	43.810	39.099	45.219	46.140
Feb	43.810	38.891	44.829	46.140
Mar	43.404	38.459	44.028	45.937
Apr	43.046	37.955	43.883	45.453
May	41.532	37.710	43.623	44.444
June	39.333	37.092	42.588	39.879
Jly	38.688	33.592	42.172	38.319
Aug	39.244	32.458	41.902	38.979
Sep	39.244	33.769	41.834	38.979
Oct	39.099	31.252	37.955	38.865
Nov	44.996	37.189	45.500	41.467
Dec	45.395	40.026	47.747	41.174
1947				
Jan	44.555	39.704	46.606	40.817
Feb	44.443	38.843	46.669	40.530
Mar	41.272	37.597	45.990	38.311
Apr	46.432	43.528	52.392	43.176
May	46.840	43.712	52.152	42.440
June	46.352	43.600	51.576	42.736
Jly	45.480	42.784	51.120	42.920
Aug	44.000	41.928	49.384	42.920
Sep	44.000	40.920	48.752	42.824
Oct	43.960	40.632	48.688	42.824
Nov	43.928	40.384	48.488	42.784
Dec	46.560	42.377	51.675	45.416

TABLE 18 (Continued)

1948				
Jan	48.777	45.628	55.949	49.162
Feb	48.307	47.000	55.592	48.701
Mar	48.307	46.887	55.394	48.701
Apr	47.743	46.417	54.943	47.743
May	47.451	46.079	54.971	47.667
June	46.925	45.458	54.492	47.000
Jly	49.739	49.162	58.422	50.985
Aug	46.844	48.863	55.373	44.156
Sep	46.731	49.090	55.084	47.071
Oct	45.722	50.120	54.899	46.927
Nov	44.681	50.542	54.642	45.732
Dec	44.548	51.037	54.436	45.475
1949				
Jan	44.517	51.634	53.900	45.413
Feb	44.496	52.499	53.931	45.413
Mar	45.114	52.334	54.209	46.505
Apr	47.184	52.849	55.084	50.120
May	50.264	53.313	56.197	56.660
June	51.655	53.704	56.526	60.842
Jly	50.964	54.013	56.341	59.369
Aug	50.316	54.240	56.279	57.865
Sep	49.869	53.585	55.780	57.220
Oct	47.525	50.645	52.560	55.364
Nov	45.258	48.449	50.072	52.680
Dec	39.630	42.064	43.257	46.522
1950				
Jan	38.081	40.336	41.437	44.922
Feb	37.101	39.212	40.543	44.179
Mar	37.908	39.945	41.324	45.270
Apr	38.019	40.320	41.665	45.106
May	37.750	40.029	42.005	43.245
June	36.616	39.806	41.554	39.829
Jly	41.965	44.607	47.906	45.416
Aug	46.729	49.351	53.770	49.658
Sep	44.841	48.123	52.701	46.441
Oct	48.106	53.977	58.341	49.761
Nov	56.940	64.485		
Dec	57.865	66.464		

TABLE 19. - Values (real prices) of Antimony (ordinary brands) in New York as computed from the market prices listed in the Year Books of the American Bureau of Metal Statistics and Metal Statistics, 1951 Chinese antimony through 1934 and American antimony thereafter.

Values (real prices) in cents per pound based on the index numbers of:

	Khaw's	U.S.B.L.S. wholesale prices	U.S.B.L.S. metals and metal products	U.S.E.L.S. non-ferrous metals
1901	-	12.02	8.13	-
1902	-	8.37	6.18	-
1903	-	8.11	6.11	-
1904	-	8.61	7.33	-
1905	-	13.74	10.58	-
1906	-	28.30	19.51	-
1907	-	18.37	12.41	-
1908	-	10.25	8.52	-
1909	-	8.89	8.12	-
1910	-	8.45	7.96	-
1911	-	9.33	8.58	-
1912	-	9.03	7.96	-
1913	-	8.68	7.62	6.38
1914	-	10.36	10.05	8.74
1915	29.13	35.12	32.25	21.22
1916	17.25	23.88	20.02	12.05
1917	10.39	14.20	12.63	9.51
1918	7.32	7.72	8.47	6.64
1919	5.60	4.76	5.75	5.24
1920	4.62	4.43	5.22	5.48
1921	4.59	4.09	3.87	4.81
1922	4.79	4.56	4.85	4.98
1923	6.19	6.32	6.64	6.30
1924	9.63	8.91	9.37	8.87
1925	15.06	13.60	15.58	13.11
1926	13.91	12.88	14.68	12.15
1927	11.77	10.43	11.82	10.02
1928	10.09	8.58	9.76	8.34
1929	8.08	7.57	8.18	6.42
1930	8.14	7.15	7.64	7.08
1931	8.67	7.42	7.31	8.26
1932	8.39	6.95	6.40	8.55
1933	8.48	7.98	7.52	8.34

TABLE 19 (Continued)

1934				
Jan	8.46	8.05	7.75	8.31
Feb	8.47	7.84	7.57	8.29
Mar	8.87	8.23	7.95	8.64
Apr	9.07	8.69	8.26	8.86
May	9.56	9.27	8.77	9.47
June	8.90	8.52	8.27	8.77
Jly	9.01	8.64	8.49	8.86
Aug	9.50	8.98	9.02	9.40
Sep	9.89	9.09	9.30	9.74
Oct	10.63	9.88	9.99	10.50
Nov	14.06	13.03	13.20	13.92
Dec	15.69	14.46	14.75	15.56
1935				
Jan	16.28	14.69	15.37	16.17
Feb	16.50	14.69	15.52	16.42
Mar	16.53	14.70	15.56	16.46
Apr	16.20	14.39	15.27	15.96
May	15.63	13.97	14.77	15.31
June	14.36	12.85	13.48	14.45
Jly	14.56	12.93	13.55	14.69
Aug	14.69	12.93	13.73	14.69
Sep	15.19	13.51	14.37	15.01
Oct	17.24	15.62	16.58	16.76
Nov	16.37	15.28	16.16	16.33
Dec	15.60	14.47	15.37	15.68
1936				
Jan	13.98	12.95	13.72	14.15
Feb	14.04	12.97	13.82	14.25
Mar	14.43	13.58	14.25	14.61
Apr	14.49	13.64	14.33	14.58
May	14.49	13.83	14.36	14.55
June	14.24	13.42	14.07	14.35
Jly	13.48	13.00	13.73	14.04
Aug	13.55	12.42	13.26	13.49
Sep	13.44	12.35	13.21	13.33
Oct	13.43	12.36	13.20	13.25
Nov	13.01	12.35	13.06	12.60
Dec	12.89	12.37	13.27	12.53
1937				
Jan	13.41	13.25	14.28	12.66
Feb	13.41	13.58	14.59	12.37
Mar	13.37	15.01	15.68	12.31
Apr	13.34	14.69	15.25	12.55
May	12.66	13.64	14.18	12.26
June	12.57	13.58	14.07	12.16

TABLE 19 (Continued)

1937				
Jly	12.60	13.58	14.17	12.14
Aug	12.98	14.11	14.54	12.50
Sep	14.07	15.31	15.71	13.62
Oct	15.09	15.96	16.12	15.05
Nov	14.69	15.38	15.09	15.38
Dec	13.33	13.88	13.47	14.29
1938				
Jan	12.97	13.70	13.09	13.93
Feb	13.12	13.86	13.17	14.50
Mar	13.18	13.89	13.17	14.60
Apr	13.16	13.97	13.02	14.69
May	12.14	12.86	11.86	13.75
June	11.69	12.07	11.22	13.27
Jly-	11.74	11.31	10.63	11.65
Aug	11.52	11.23	10.48	11.34
Sep	11.87	11.64	10.90	11.70
Oct	12.13	12.52	11.63	12.05
Nov	12.26	12.74	11.84	12.02
Dec	11.62	12.09	11.24	11.44
1939				
Jan	11.76	12.22	11.37	11.57
Feb	11.35	11.77	10.96	11.17
Mar	11.36	11.82	10.98	11.18
Apr	11.73	12.16	11.25	11.71
May	12.25	12.37	11.50	12.18
June	12.32	12.79	11.84	12.52
Jly	12.27	12.80	11.84	12.46
Aug	11.75	12.89	11.84	12.23
Sep	11.62	13.10	12.47	11.57
Oct	12.62	14.20	13.42	12.47
Nov	12.66	14.24	13.41	12.52
Dec	12.76	14.24	13.41	12.59
1940				
Jan	12.90	14.18	13.44	12.88
Feb	13.15	14.33	13.50	13.45
Mar	13.09	14.37	13.48	13.36
Apr	13.15	14.35	13.62	13.45
May	13.07	14.38	13.62	13.24
June	12.96	14.53	13.59	13.10
Jly	13.12	14.50	13.55	13.18
Aug	13.15	14.57	13.57	13.46
Sep	12.96	14.46	13.48	13.20
Oct	12.76	14.33	13.23	12.73
Nov	12.74	14.17	13.20	12.69
Dec	12.78	14.08	13.20	12.76

TABLE 19 (Continued)

1941				
Jan	12.53	13.96	13.18	12.73
Feb	12.51	14.00	13.20	12.68
Mar	12.46	13.85	13.18	12.64
Apr	12.40	13.57	13.15	12.64
May	12.40	13.31	13.12	12.61
June	12.39	12.95	13.10	12.60
Jly	12.38	12.70	13.07	12.58
Aug	12.40	12.50	13.06	12.61
Sep	12.40	12.28	13.06	12.61
Oct	12.39	12.19	12.49	12.61
Nov	12.36	12.19	12.44	12.53
Dec	12.36	12.05	12.44	12.53
1942				
Jan	12.30	11.76	12.42	12.47
Feb	12.28	11.66	12.41	12.43
Mar	12.82	12.07	12.94	12.98
Apr	13.92	12.97	14.07	14.12
May	14.02	13.05	14.15	14.22
June	14.02	13.09	14.15	14.22
Jly	14.02	13.06	14.17	14.22
Aug	14.02	13.00	14.17	14.22
Sep	14.02	12.95	14.17	14.15
Oct	14.02	12.90	14.17	14.15
Nov	14.02	12.84	14.17	14.15
Dec	14.01	12.78	14.18	14.16
1943				
Jan	14.05	12.66	14.20	14.18
Feb	14.05	12.62	14.20	14.18
Mar	14.05	12.49	14.20	14.18
Apr	14.05	12.45	14.20	14.18
May	13.96	12.32	14.11	14.09
June	13.88	12.28	14.02	14.00
Jly	13.88	12.36	14.03	14.00
Aug	13.88	12.37	14.03	14.00
Sep	13.88	12.37	14.03	14.00
Oct	13.88	12.38	14.03	14.00
Nov	13.88	12.40	14.02	14.00
Dec	13.88	12.36	14.02	14.00
1944				
Jan	13.89	12.36	14.03	14.02
Feb	13.91	12.32	14.03	14.05
Mar	13.91	12.29	14.03	14.05
Apr	13.91	12.29	14.03	14.05
May	13.91	12.26	14.03	14.05
June	13.92	12.22	14.03	14.05

TABLE 19 (Continued)

1944				
Jly	13.92	12.26	14.02	14.05
Aug	13.92	12.27	14.02	14.05
Sep	13.91	12.26	14.02	14.05
Oct	13.91	12.26	14.03	14.05
Nov	13.91	12.20	14.03	14.05
Dec	13.91	12.18	14.02	14.05
1945				
Jan	13.89	12.18	13.99	14.02
Feb	13.89	12.13	13.96	14.02
Mar	13.56	12.11	13.96	14.02
Apr	13.56	12.07	13.96	14.02
May	13.56	12.02	13.94	14.02
June	13.57	12.02	13.89	14.02
Jly	13.57	12.03	13.89	14.02
Aug	13.57	12.07	13.89	14.05
Sep	13.59	12.13	13.87	14.05
Oct	13.51	12.03	13.86	14.05
Nov	13.35	11.94	13.83	14.05
Dec	13.35	11.91	13.78	14.05
1946				
Jan	13.30	11.87	13.73	14.01
Feb	13.30	11.81	13.61	14.01
Mar	13.18	11.68	13.37	13.94
Apr	13.07	11.52	13.33	13.80
May	12.62	11.45	13.25	13.48
June	11.94	11.26	12.93	12.11
Jly	11.81	10.25	12.87	11.70
Aug	11.98	9.90	12.79	11.90
Sep	11.98	10.30	12.77	11.90
Oct	11.93	9.54	11.58	11.85
Nov	15.59	12.89	15.77	14.38
Dec	17.61	15.52	18.51	15.96
1947				
Jan	18.84	16.77	19.70	17.25
Feb	18.77	16.40	19.71	17.11
Mar	18.95	17.25	21.10	17.57
Apr	19.98	18.74	22.55	18.59
May	20.18	18.80	22.45	18.27
June	19.94	18.77	22.21	18.39
Jly	19.59	18.42	22.01	18.49
Aug	18.94	18.05	21.25	18.49
Sep	18.94	17.63	20.97	18.43
Oct	18.96	17.52	21.00	18.45
Nov	18.96	17.43	20.93	18.47
Dec	18.82	17.13	20.86	18.37

TABLE 19 (Continued)

1948				
Jan	17.96	16.79	20.59	18.10
Feb	17.79	17.30	20.46	17.93
Mar	17.79	17.27	20.39	17.93
Apr	17.58	17.09	20.25	17.58
May	17.75	17.23	20.56	17.83
June	18.30	17.74	21.26	18.34
Jly	17.71	17.49	20.79	18.15
Aug	16.68	17.38	19.72	15.73
Sep	16.64	17.49	19.61	16.76
Oct	17.46	19.15	20.96	17.93
Nov	17.43	19.72	21.33	17.84
Dec	17.39	19.92	21.25	17.76
1949				
Jan	17.37	20.15	21.03	17.73
Feb	17.38	20.51	21.08	17.74
Mar	17.62	20.44	21.16	18.18
Apr	18.43	20.64	21.52	19.59
May	19.63	20.84	21.96	22.13
June	20.19	20.96	22.08	23.77
Jly	19.91	21.08	22.00	23.17
Aug	19.67	21.20	21.97	22.60
Sep	19.69	21.14	21.99	22.59
Oct	17.43	18.56	19.26	20.28
Nov	16.75	17.94	18.55	19.52
Dec	16.92	17.97	18.48	19.89
1950				
Jan	15.91	16.83	17.30	18.77
Feb	14.52	15.34	15.86	17.29
Mar	13.21	13.90	14.40	15.77
Apr	13.06	13.85	14.32	15.51
May	12.80	13.58	14.24	14.66
June	12.40	13.46	14.06	13.48
Jly	12.27	13.03	14.01	13.27
Aug	12.10	12.79	13.93	12.87
Sep	14.53	15.58	17.06	15.05
Oct	14.32	16.08	17.36	14.83
Nov	13.95	15.81		
Dec	13.51	15.51		

TABLE 20. - Values (real prices) of Mercury in New York as computed from the market prices listed in the Year Book of the American Bureau of Metal Statistics and Metal Statistics, 1951 Beginning June 1927, a flask weighs 76 pounds; previously it weighed 75 pounds.

Values (real prices) in dollars per flask based on the index numbers of:

	Khaw's	U.S.B.L.S. wholesale prices	U.S.B.L.S. metals and metal products	U.S.B.L.S. non-ferrous metals
1901	-	68.45	46.30	-
1902	-	65.65	48.50	-
1903	-	55.80	42.10	-
1904	-	55.40	47.20	-
1905	-	38.20	38.50	-
1906	-	53.25	36.68	-
1907	-	51.30	34.72	-
1908	-	57.40	47.70	-
1909	-	55.15	50.30	-
1910	-	53.85	50.75	-
1911	-	57.65	53.00	-
1912	-	49.40	43.50	-
1913	-	45.60	40.10	33.58
1914	-	57.15	55.30	48.20
1915	83.70	100.80	92.75	62.00
1916	85.33	118.23	99.10	59.35
1917	53.36	72.83	64.80	58.80
1918	71.86	75.70	83.10	65.10
1919	63.03	53.55	64.65	59.00
1920	44.13	42.31	49.85	52.40
1921	42.10	37.48	35.50	44.20
1922	51.58	49.10	52.15	53.70
1923	52.14	53.30	55.80	53.10
1924	61.99	57.25	60.22	57.10
1925	71.57	64.65	74.00	62.28
1926	79.95	74.10	84.43	69.90
1927	112.25	100.50	112.81	96.85
1928	120.91	102.92	117.20	99.95
1929	110.18	103.19	117.00	87.50
1930	122.14	107.20	114.81	106.20
1931	112.68	96.40	94.85	104.00
1932	86.90	72.00	66.35	88.60
1933	76.42	72.50	68.20	75.70

TABLE 20 (Continued)

1934				
Jan	80.71	76.73	73.91	79.29
Feb	84.66	78.43	75.70	82.87
Mar	88.27	81.90	79.12	86.02
Apr	86.93	83.29	79.19	84.88
May	85.27	82.69	78.23	84.51
June	84.88	81.27	78.86	83.60
Jly	84.58	81.11	79.61	83.51
Aug	84.65	79.38	79.69	83.07
Sep	84.95	78.11	79.91	83.68
Oct	85.25	79.23	80.06	84.20
Nov	84.36	78.19	79.16	83.67
Dec	83.46	76.92	78.47	82.80
1935				
Jan	82.21	74.16	77.64	81.64
Feb	82.43	73.44	77.64	82.14
Mar	82.65	73.52	77.79	82.29
Apr	82.14	72.94	77.43	80.91
May	81.49	72.79	76.99	79.82
June	81.13	72.63	76.16	81.70
Jly	81.16	72.06	75.54	81.87
Aug	79.26	69.77	74.09	79.26
Sep	77.78	69.18	73.62	76.87
Oct	78.71	71.30	75.72	76.50
Nov	80.13	74.82	79.08	79.91
Dec	80.68	74.81	79.48	81.13
1936				
Jan	83.63	77.43	82.08	84.64
Feb	84.34	77.91	83.00	85.59
Mar	84.17	79.24	83.15	85.19
Apr	82.58	77.73	81.73	83.11
May	81.10	77.46	80.42	81.47
June	80.65	76.02	79.68	81.25
Jly	76.77	74.03	78.18	79.95
Aug	80.39	73.69	78.68	80.02
Sep	96.40	88.59	94.78	95.59
Oct	100.96	92.97	99.26	99.64
Nov	97.85	92.87	98.23	94.75
Dec	93.72	89.95	96.53	91.09
1937				
Jan	89.20	88.08	94.94	84.13
Feb	86.66	87.79	94.28	79.90
Mar	76.80	86.20	90.05	70.68
Apr	78.16	86.05	89.34	73.57
May	82.65	89.02	92.59	80.04
June	83.79	90.55	93.98	81.05

TABLE 20 (Continued)

1937				
Jly	81.94	88.29	92.14	78.96
Aug	78.98	85.89	88.50	76.09
Sep	76.80	83.59	85.77	74.36
Oct	78.63	83.13	84.01	78.45
Nov	78.60	82.26	80.73	82.26
Dec	78.19	81.42	79.02	83.82
1938				
Jan	75.82	80.08	76.54	81.45
Feb	75.14	79.39	75.45	83.09
Mar	70.92	74.70	70.85	78.54
Apr	69.19	73.49	68.47	77.22
May	72.80	77.06	71.08	82.43
June	81.75	84.37	78.47	92.74
Jly	86.37	83.28	78.26	85.72
Aug	82.74	80.63	75.24	81.48
Sep	80.13	78.60	73.56	78.99
Oct	76.96	79.47	73.75	76.42
Nov	74.33	77.23	71.96	72.85
Dec	77.39	80.54	74.92	76.23
1939				
Jan	78.60	81.64	76.02	77.35
Feb	87.72	90.94	84.75	86.33
Mar	90.94	94.64	87.96	89.50
Apr	94.78	98.22	90.96	94.59
May	94.77	95.68	88.98	94.23
June	90.89	94.44	87.44	92.48
Jly	92.12	96.08	88.88	93.47
Aug	84.34	92.53	85.03	87.79
Sep	132.84	149.76	142.55	132.25
Oct	162.25	149.41	159.53	160.13
Nov	143.81	136.49	144.36	139.26
Dec	145.50	139.66	149.88	141.42
1940				
Jan	148.73	163.42	154.86	148.41
Feb	171.17	186.66	175.73	175.18
Mar	171.61	188.50	176.75	175.11
Apr	166.72	181.98	172.75	170.62
May	169.85	186.77	176.94	172.04
June	184.79	207.14	193.77	186.79
Jly	185.12	204.68	191.25	186.11
Aug	174.41	193.35	179.98	178.68
Sep	164.41	183.41	170.98	167.43
Oct	156.51	175.72	162.17	155.99
Nov	154.21	171.50	159.81	157.70
Dec	151.92	167.40	156.91	151.75

TABLE 20 (Continued)

1941				
Jan	148.78	165.73	156.58	151.10
Feb	152.57	170.66	160.93	154.62
Mar	158.92	176.61	168.21	161.24
Apr	161.18	176.29	170.83	164.28
May	161.73	173.60	171.05	164.47
June	165.92	173.42	175.48	168.73
Jly	169.33	173.74	178.90	172.20
Aug	171.48	172.84	180.58	174.39
Sep	170.51	168.78	179.55	173.39
Oct	172.97	170.24	174.34	176.10
Nov	175.24	172.87	176.43	177.63
Dec	178.74	174.29	179.96	181.17
1942				
Jan	183.58	175.44	185.26	186.09
Feb	175.44	166.66	177.30	177.70
Mar	173.65	163.54	175.23	175.82
Apr	173.50	161.62	175.28	175.88
May	173.67	161.58	175.26	176.05
June	172.79	161.35	174.37	175.16
Jly	171.91	160.14	173.68	174.27
Aug	171.91	159.36	173.68	174.27
Sep	171.91	158.77	173.68	173.49
Oct	172.24	158.48	174.02	173.82
Nov	173.12	158.49	174.90	174.70
Dec	172.92	157.71	174.90	174.70
1943				
Jan	173.12	155.93	174.90	174.70
Feb	173.12	155.34	174.90	174.70
Mar	173.12	153.76	174.90	174.70
Apr	173.12	153.36	174.90	174.70
May	173.12	152.77	174.90	174.70
June	173.12	153.16	174.90	174.70
Jly	173.12	154.15	175.10	174.70
Aug	173.12	154.34	175.10	174.70
Sep	173.12	154.34	175.10	174.70
Oct	171.87	153.42	173.83	173.44
Nov	171.10	152.93	172.86	172.66
Dec	167.20	148.88	168.92	168.73
1944				
Jan	142.20	126.47	143.65	143.49
Feb	118.97	105.41	120.05	120.18
Mar	116.81	103.11	117.87	118.00
Apr	113.22	99.93	114.24	114.37
May	103.45	91.19	104.38	104.50
June	90.61	79.38	91.33	91.44

TABLE 20 (Continued)

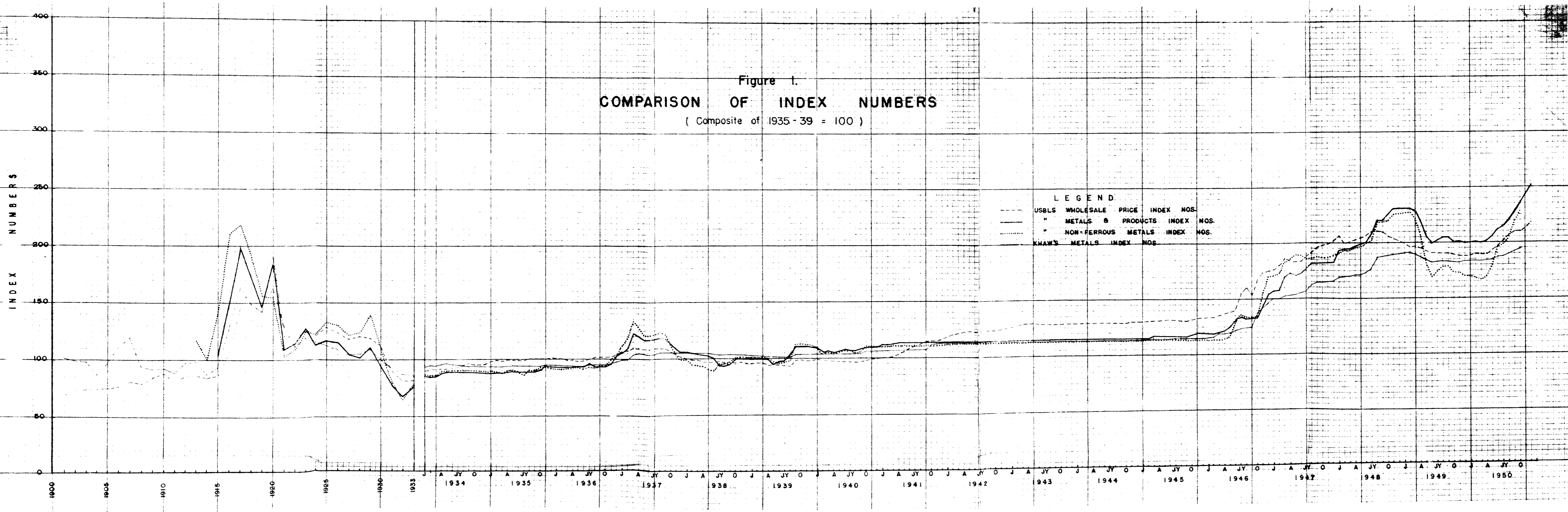
1944				
Jly	88.77	78.17	89.39	89.58
Aug	91.07	80.29	91.69	91.90
Sep	91.49	80.65	92.22	92.42
Oct	95.08	83.82	95.94	96.05
Nov	101.71	89.20	102.64	102.75
Dec	113.80	99.67	114.71	114.97
1945				
Jan	140.52	123.21	141.48	141.80
Feb	149.55	130.63	150.24	150.92
Mar	140.10	125.20	144.19	144.85
Apr	135.25	120.40	139.20	139.83
May	133.69	118.54	137.44	138.22
June	127.26	112.71	130.23	131.42
Jly	122.67	108.78	125.53	126.68
Aug	109.69	97.54	112.26	113.53
Sep	83.72	74.75	85.48	86.55
Oct	85.95	75.68	87.14	88.34
Nov	90.24	80.72	93.45	94.95
Dec	91.04	81.21	93.96	95.79
1946				
Jan	90.00	80.29	92.88	94.70
Feb	86.77	76.99	88.73	91.31
Mar	86.28	76.46	87.52	91.24
Apr	85.52	75.40	87.17	90.28
May	81.21	73.69	85.27	86.90
June	75.34	71.05	81.61	76.43
Jly	73.32	63.66	79.92	72.63
Aug	73.92	61.10	78.91	73.43
Sep	72.55	62.37	77.36	72.07
Oct	71.99	57.54	69.89	71.52
Nov	63.20	52.23	63.92	58.30
Dec	57.35	50.55	60.28	51.97
1947				
Jan	56.05	49.90	58.60	51.30
Feb	55.47	48.49	58.27	50.59
Mar	51.33	46.72	57.16	47.59
Apr	49.74	46.65	56.17	46.31
May	49.66	46.28	55.26	45.00
June	48.64	45.78	54.18	44.86
Jly	47.79	44.94	53.68	45.11
Aug	46.20	44.02	51.83	45.11
Sep	45.08	41.96	49.91	43.85
Oct	44.50	41.10	49.11	43.29
Nov	43.89	40.36	48.44	42.76
Dec	43.06	39.18	47.72	42.02

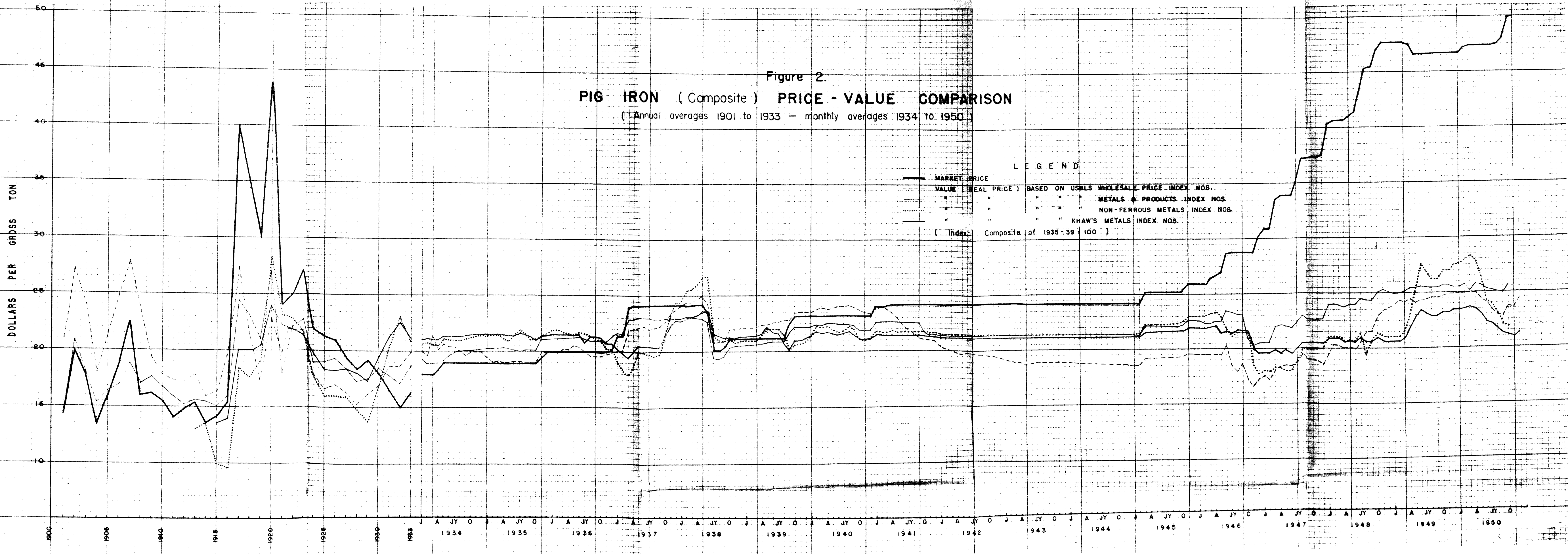
TABLE 20 (Continued)

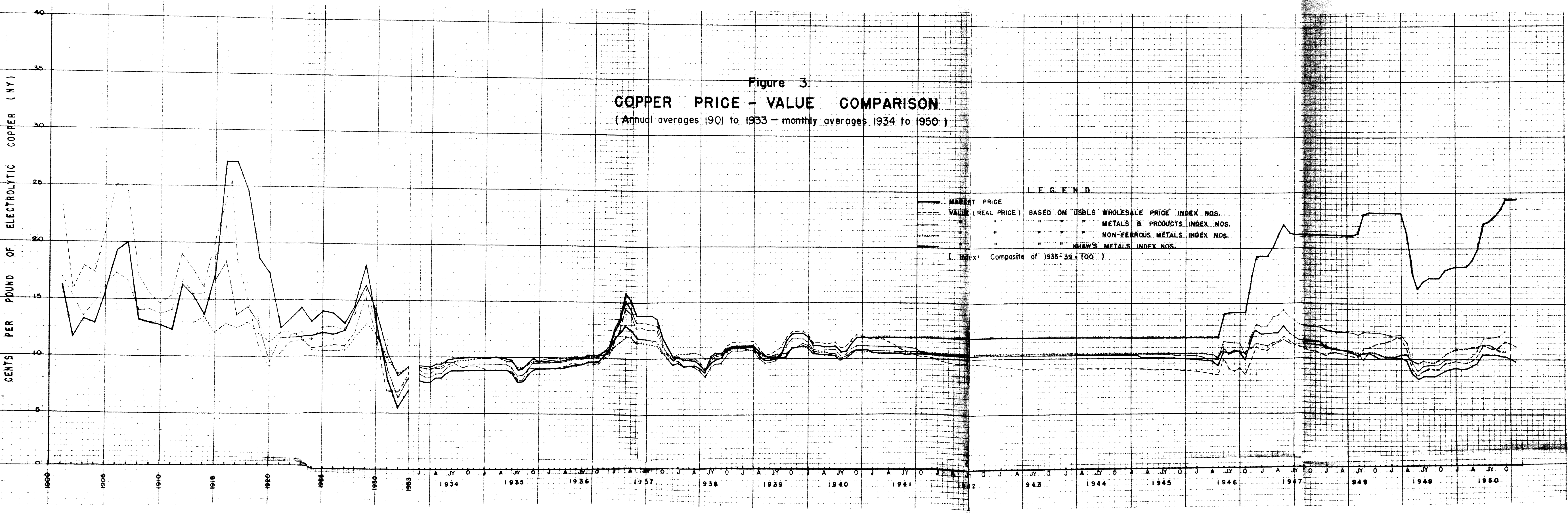
1948				
Jan	40.85	38.17	46.83	41.17
Feb	39.43	38.36	45.34	39.74
Mar	39.06	37.92	44.76	39.37
Apr	38.23	37.18	44.10	38.23
May	37.59	36.48	43.55	37.75
June	37.83	36.69	43.97	37.91
Jly	36.54	36.09	42.90	37.46
Aug	34.12	35.55	40.35	32.17
Sep	34.05	35.77	40.12	34.28
Oct	33.30	36.52	39.98	34.20
Nov	33.41	37.80	40.88	34.19
Dec	36.41	41.71	44.49	37.17
1949				
Jan	39.39	45.69	47.69	40.21
Feb	38.45	45.39	46.63	39.24
Mar	38.94	45.17	46.77	40.18
Apr	39.25	43.96	45.84	41.73
May	40.46	42.94	45.26	45.60
June	40.36	41.89	44.14	47.52
Jly	38.96	41.24	43.05	45.34
Aug	36.92	39.79	41.23	42.44
Sep	35.48	38.09	39.62	40.71
Oct	36.28	38.62	40.08	42.19
Nov	36.00	38.61	39.85	41.95
Dec	35.57	37.77	38.83	41.81
1950				
Jan	35.64	37.70	38.76	42.03
Feb	35.43	37.42	38.70	42.17
Mar	35.57	37.42	38.76	42.45
Apr	35.29	37.42	38.70	41.89
May	34.38	36.49	38.26	39.39
June	33.04	35.84	37.45	35.91
Jly	33.91	36.02	38.71	36.67
Aug	35.49	37.51	40.84	37.74
Sep	36.68	39.33	43.05	38.00
Oct	38.39	43.10	46.63	39.75
Nov	41.13	46.50		
Dec	50.49	58.07		

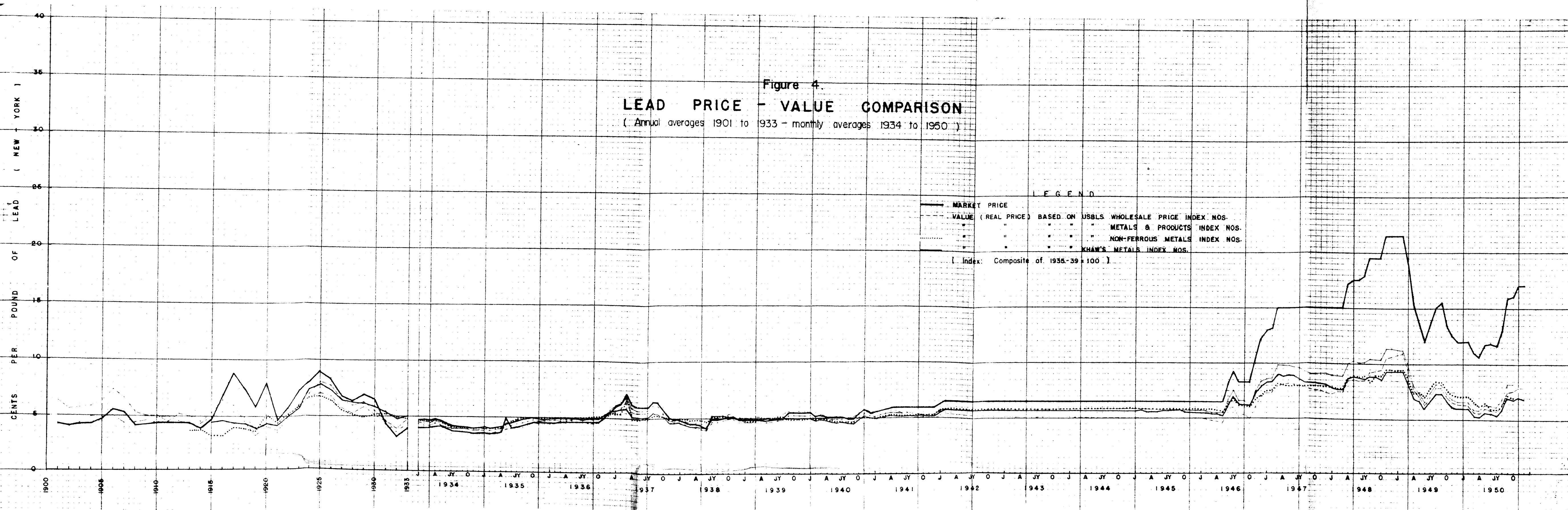
Graphs

Figure No.1 shows the comparison of the index numbers in graphical form. Figure Nos. 2 to 10 give the price-value comparison of each of the nine metals.









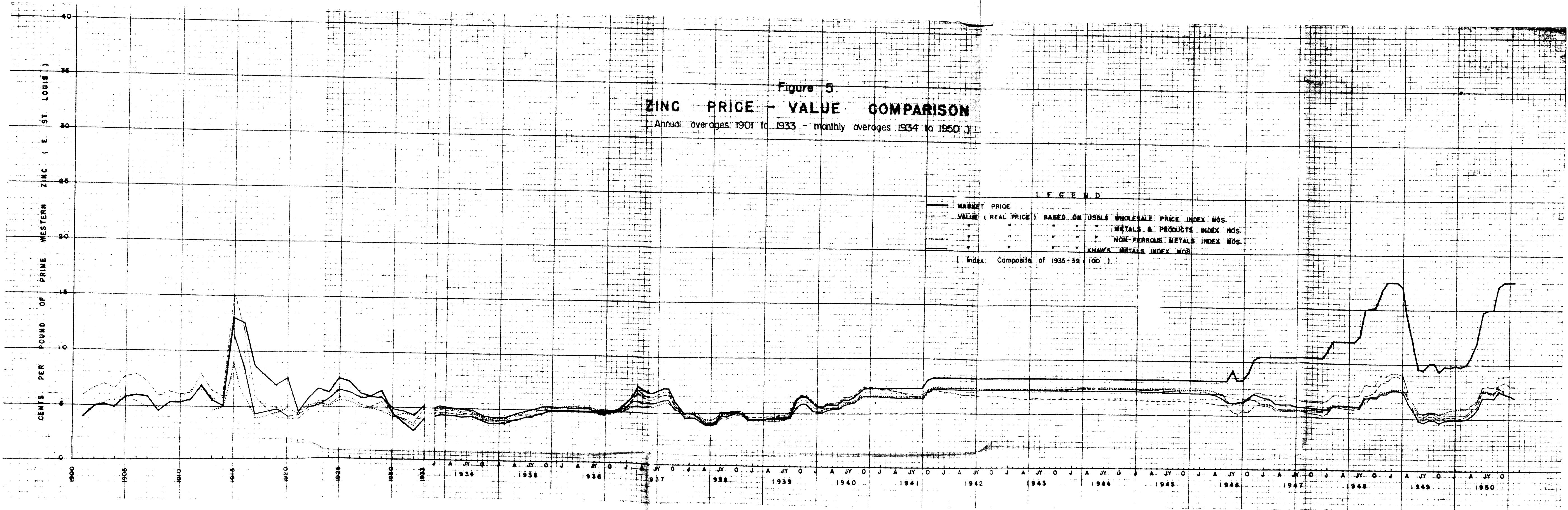
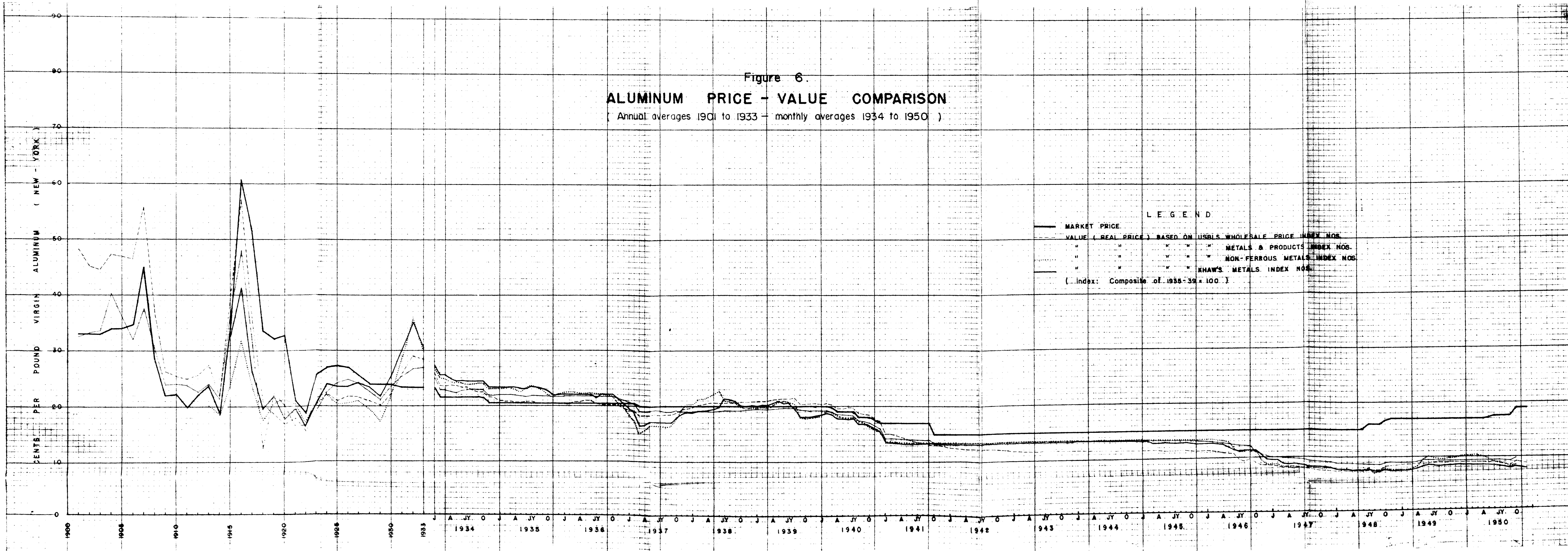
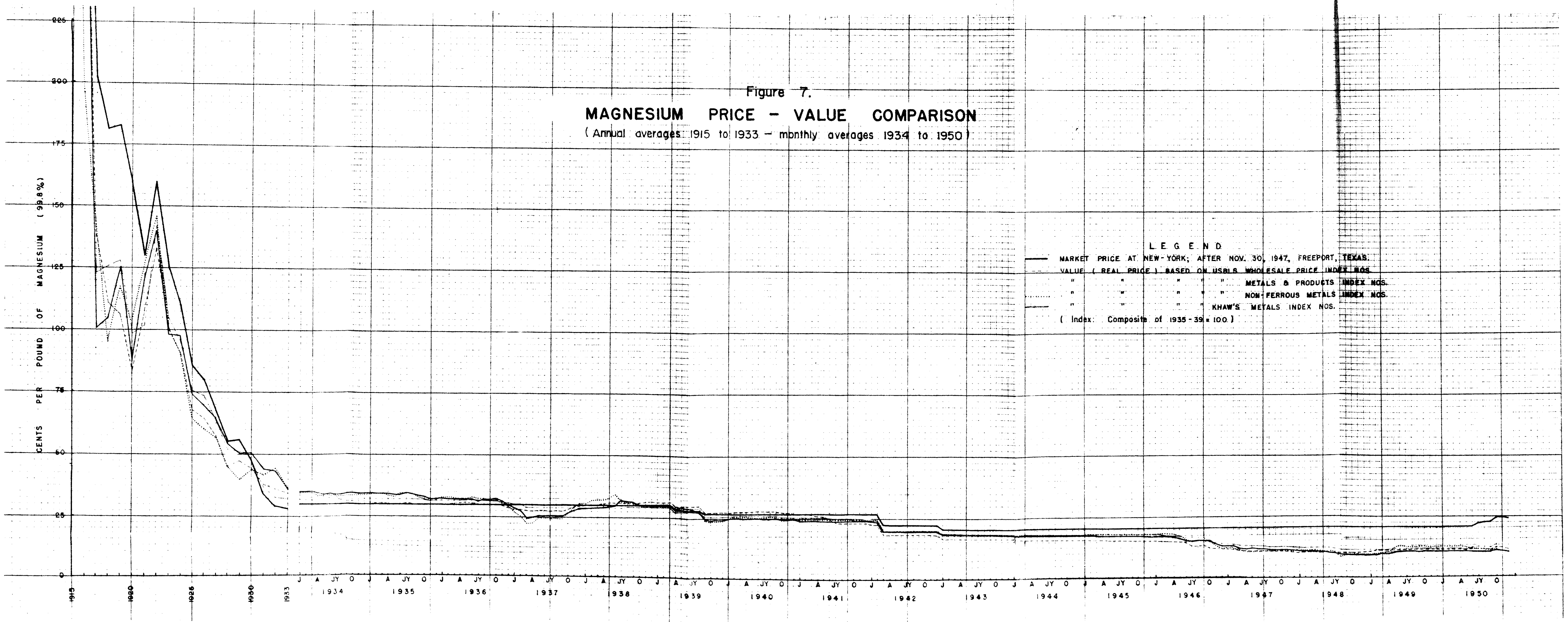


Figure 6.
ALUMINUM PRICE - VALUE COMPARISON
(Annual averages 1901 to 1933 - monthly averages 1934 to 1950)





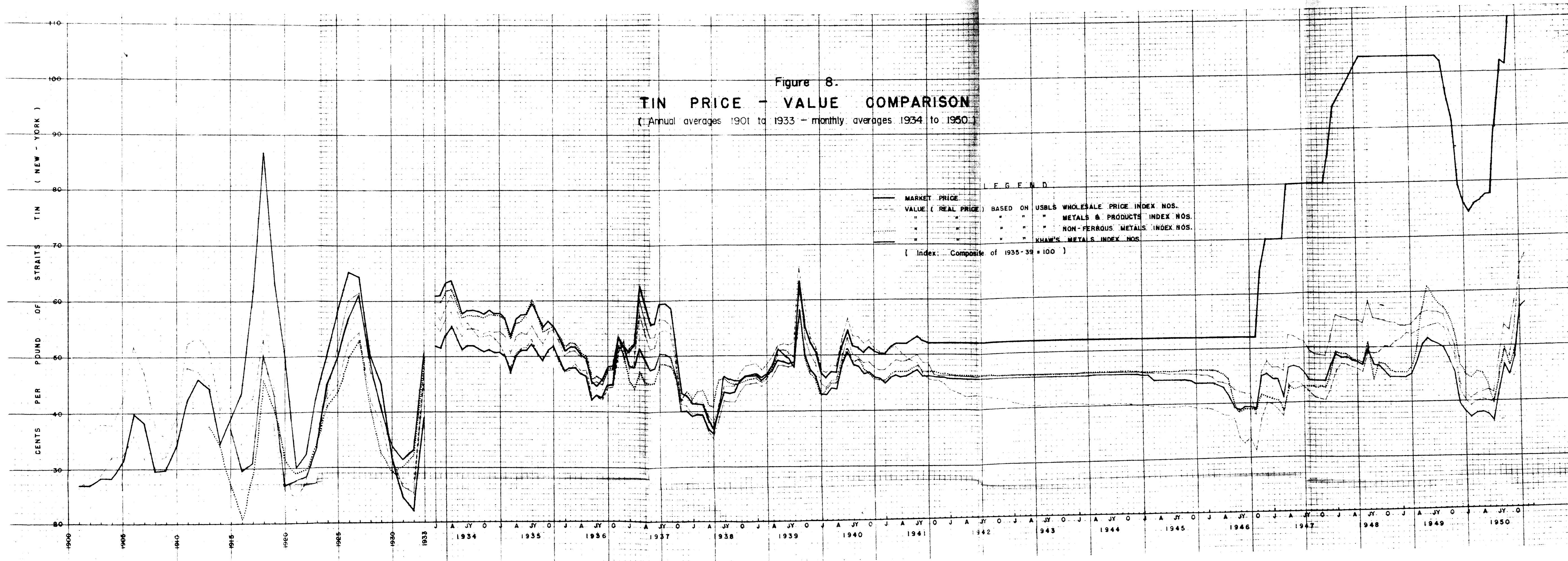
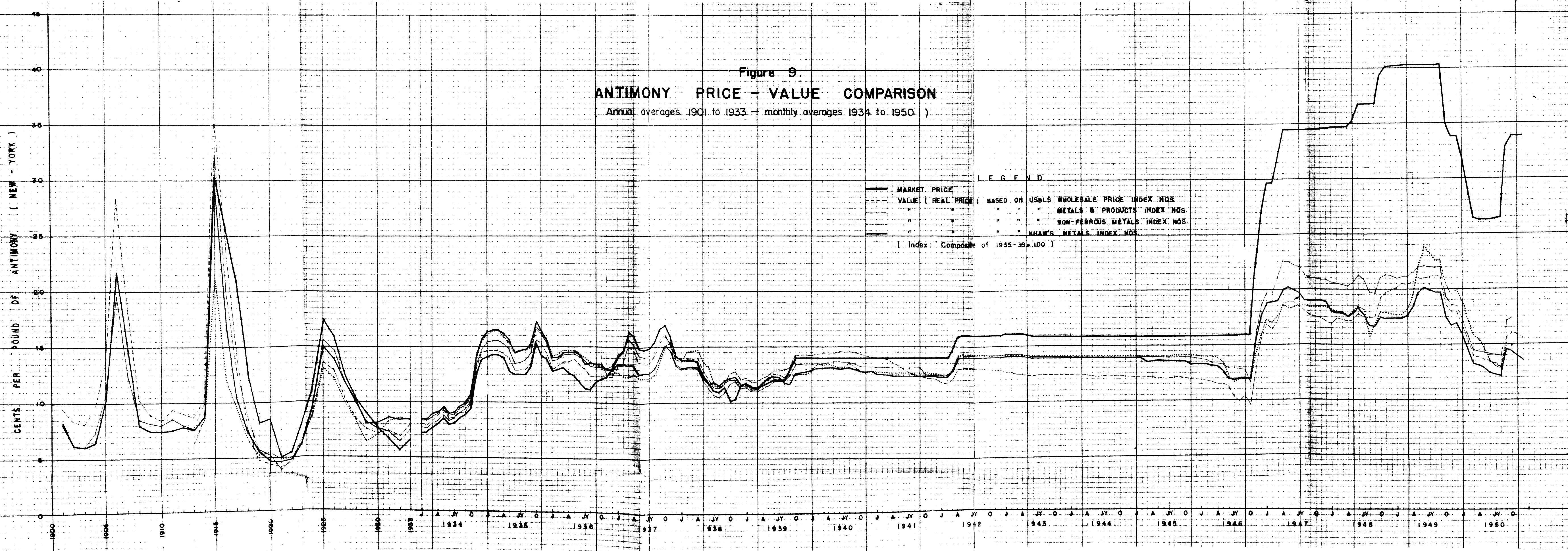


Figure 9.

ANTIMONY - PRICE - VALUE COMPARISON

(Annual averages 1901 to 1933 - monthly averages 1934 to 1950)



DISCUSSION OF THE PRICE-VALUE GRAPHS

The index numbers computed for this investigation, which have been designated as Khaw's index, are comparable to the adjusted USBLS index number for non-ferrous metals. They compare favorably also with the index numbers for wholesale prices, and metals and metal products.

The effects of wars, depression and inflation are all reflected in these index numbers. During war and inflation periods, if there is no price control, the index numbers are high. This means that the purchasing power of money is low and more money must be offered to obtain metals as well as consumer goods. However, during depressions, the index number is low, indicating that the purchasing power of money is high.

The charts comparing the value (real price) and price (market price) of each metal, Figure Nos. 2 to 10, reveal some similarities in the characteristics of the curves for certain groups of metals. These groups are:

1. Copper, lead and zinc. The common base metals in which the U. S. A. is sufficient and whose markets are competitive.
2. Tin and antimony. The minor metals in which the U. S. A. is deficient but whose markets are competitive.
3. Aluminum and magnesium. The light metals whose growth industrially is still in the youthful stage,

and whose markets are semi-monopolistic.

4. Mercury. A minor metal in which the U.S.A. is deficient and the market of which is controlled by the Spanish-Italian cartel, Mercurio-Europeo.
5. Pig-iron (composite). The curves are comparable to, but not necessarily the same as, a competitive metal.

The value (real price) curves for copper, lead, and zinc show like tendencies (Figure Nos. 3, 4, and 5). They rise and fall and follow closely the general market fluctuations. The interesting feature is that the trend of value (real price) of these metals from 1934 to date, appears to be relatively constant. The value (real price) during the post-war inflationary period is roughly the same as the average value during the base period although the market price has risen sharply.

The real price of tin and antimony, the markets of which are competitive also, indicate a trend similar to that shown by copper, lead, and zinc, especially during World War II and post-war periods. During the period 1900-1939, the real prices as well as the market price fluctuations, especially during World War I period, were violent and frequent.

The curves for pig-iron (composite), Figure No. 2, are unlike the curves for the other eight metals. The trend of values (real prices) appears to be similar to those metals which have competitive markets. The market price

during World War II was almost constant when compared with that of the World War I period. In late 1948 and early 1949 when market prices of other metals declined, the price of pig-iron (composite) levelled off and then rose again when prices of other metals recovered and the metal market, in general, continued to rise.

The behavior of price-value curves of aluminum and magnesium is characterized by the continued downward trend of the value (real price) curves. The market price of these light metals were held at a certain level and from time to time, prices were lowered because of decrease in cost of production and increase in volume of production. Although market prices remained relatively steady, the value of the dollar continued to decline. The trend of the value (real price) of the two metals is apparently downwards.

The prices of pig-iron, copper, lead, zinc, aluminum, magnesium, antimony, and tin were well stabilized by the O. P. A. during the war years (1940-1946). Unlike the metals mentioned above, the price of mercury increased up to about two and a half times its average prewar (1935-39) price during the war years. This price reflects the price level of domestic mercury in the U. S. A. The value (real price) followed the market price closely. When the authority of the O. P. A. ceased in late 1946, the market price of metals, like other commodities rose. The price of mercury, however, declined. This decline in mercury prices was probably due

to excess stocks of the liquid metal in the U. S. A. in the post-war period and to price-cutting by the Spanish-Italian cartel. As the market price declined and as the purchasing power of the dollar decreased, in this inflationary period, the value (real price) of mercury fell rapidly until mid-1950, when the demand then rose sharply.

CONCLUSIONS

The fluctuations in the market prices of metals are due to many interrelated and complex variables — either acting singly or in combination. One of the important factors is the general business cycle. Another is international politics. Those of lesser importance are supply and demand, rivalry among sellers, government legislation, secondary metals, substitutes, complementary products, production costs, and labor.

In this paper, no attempt is made to analyze the fluctuations in the market prices of metals as it is beyond the scope of this investigation. To cite an instance, the regression of 1948-49 was anticipated by economists and authorities on business cycles; but even they did not know exactly when it would start or how to prevent it. ⁽¹³⁾

(13) Dewey, E. R., and Dakin, E. F., Cycles, the science of prediction, Henry Holt and Company, New York, 1947, pp.223-24.

A comparison of market price and value (real price) of nine metals is made. It is hoped that the presentation may encourage this type of comparison as a basis for a more complete analysis of the behavior of metal prices.

The conclusions that can be drawn from this study are as follows:

1. Khaw's metals index number do not differ very much from the corrected USBLS index numbers for non-ferrous

metals, and metals and metal products.

2. The USBLS wholesale price index numbers are somewhat unsatisfactory for measuring the change in the value (real price) of metals. A comparison of the curves for index numbers (Figure No.1) shows that the wholesale price index numbers exhibit considerable divergence from the others

3. The USBLS metals and metal products or non-ferrous metals indices may be used in the future for determining the variation between real and market price of metals, as the USBLS revises them from time to time.

4. Metals whose markets are competitive have value (real price) trends which are, generally speaking, level or stable.

5. Metals, like aluminum and magnesium, whose industrial growth is in the youthful stage, show value (real price) trends that are sloping downwards, indicating that as the techniques of production improves, the price as well as real price decrease.

6. During inflationary periods, the trend of the value (real price) of a semi-monopolistic metal, such as aluminum or magnesium, declines faster than the respective trends of metals like copper, lead and zinc whose markets are of a more competitive type.

7. The value (real price) of metals is much lower than the market price during inflationary periods and is higher during depressions and business regressions.

SUMMARY

A comparison of value (real price) and market price of nine common metals was made by compiling a set of index numbers using the formula

$$I_k = \frac{\sum P_k \cdot Q_0}{\sum P_0 \cdot Q_0} \times 100$$

This index number was used to change the market price to real price. Three other index numbers, the USBLS index numbers for wholesale prices, metals and metal products, and non-ferrous metals, were also used for comparison with the index numbers compiled for this investigation.

The graphs comparing the price and value of metals were then made.

The sources of the market prices of metals are the annual issues of the Metal Statistics and the Year Book of the American Bureau of Metal Statistics.

APPENDICES

APPENDIX A

DETERMINATION OF P_0

The arithmetical mean of the average yearly prices during the period 1935-39, gives the values for P_0 for each metal.

For example:

<u>Year</u>	<u>Avg yearly price of aluminum (14)</u>
1935	20.50 ¢/#
1936	20.50 ¢/#
1937	20.08 ¢/#
1938	20.00 ¢/#
1939	20.00 ¢/#

Total = 101.08 ¢/#

Therefore P_0 for aluminum = $\frac{101.08}{5} = 20.22$ ¢/#

(14) Year Book of the American Bureau of Metal Statistics, 1949, p.109.

In a similar manner the P_0 for the other metals are calculated and the values of P_0 are as tabulated below:

<u>Metal</u>	<u>P_0</u>
Pig-iron	23.94 \$/L-ton
Copper	10.45 ¢/#
Lead	4.92 ¢/#
Zinc	5.09 ¢/#
Aluminum	20.22 ¢/#
Magnesium	29.40 ¢/#
Tin	48.76 ¢/#
Antimony	13.18 ¢/#
Mercury	84.31 \$/Flask

APPENDIX B

DETERMINATION OF Q_0

The determination of Q_0 presents some difficulties. Should its values be based upon consumption, production, or available supplies? Since complete data are not available for all cases, a compromise production figures are made. The following describes how this is done.

Pig-iron

The production figures as reported by the American Iron and Steel Institute for 1935-39 were taken and the arithmetical mean of the total for the period was used.

<u>Year</u>	<u>Pig-iron production in short tons(15)</u>
1935	23,937,423
1936	34,752,689
1937	41,582,550
1938	21,460,164
1939	<u>35,677,097</u>
Total = 157,409,923 short tons	

Therefore Q_0 for pig-iron = $\frac{157,409,923}{5} =$
31,481,985 short tons.

(15) Metal Statistics 1951, American Metal Market, New York, p.41.

Copper

The production figures for refined copper includes

copper refined from scrap metal.

<u>Year</u>	<u>Refined copper production in short tons(16)</u>
1935	712,925
1936	933,976
1937	1,237,021
1938	904,113
1939	<u>1,086,598</u>

Total = 4,874,633 short tons

Therefore Q_0 for copper = $\frac{4,874,633}{5} = 974,927$ short tons

(16) Year Book of the American Bureau of Metal Statistics, 1949, p.14.

Lead

Figures for lead are obtained by combining productions of refined lead from foreign and domestic ores, and secondary pig lead.

<u>Year</u>	<u>Refined lead production in short tons(17)</u>
1935	500,176
1936	553,156
1937	640,357
1938	517,397
1939	<u>715,763</u>

Total = 2,926,849 short tons

Therefore Q_0 for lead = $\frac{2,926,849}{5} = 585,370$ short tons

(17) Metal Statistics 1951, American Metal Market, New York, pp.473, 479.

Zinc

The production figures of slab zinc include zinc from secondary metal.

Year	Slab zinc production in short tons(18)
-----	-----
1935	449,294
1936	534,341
1937	608,458
1938	477,954
1939	557,664

Total = 2,627,701 short tons

Therefore Q_o for zinc = $\frac{2,627,701}{5}$ = 525,540 short tons

(18) Year Book of the American Bureau of Metal Statistics, 1941, p.62.

Aluminum

The production figures are obtained by adding the production figures of primary aluminum⁽¹⁹⁾ produced in the United States, with those of secondary aluminum produced as metal.⁽²⁰⁾

Year	Aluminum production in short tons
-----	-----
1935	83,147
1936	133,364
1937	175,700
1938	160,141
1939	166,445

Total = 718,797 short tons

Therefore Q_o for aluminum = $\frac{718,797}{5}$ = 143,759 short tons

(19) Metal Statistics 1951, American Metal Market, New York, p.591

(20) Ibid., p.607.

Magnesium

The production figures are for domestic metallic magnesium (all forms) produced and sold in the United States as reported by the U. S. Bureau of Mines. (21)

<u>Year</u>	<u>Metallic magnesium production in short tons</u>
1935	2,121
1936	1,952
1937	2,270
1938	2,410
1939	5,325

Total = 14,078 short tons

Therefore Q_0 for magnesium = $\frac{14,078}{5} = 2816$ short tons

(21) Ibid., p.621

Tin

The deliveries of primary tin in the United States are used to determine the value of Q_0 for tin.

<u>Year</u>	<u>Deliveries of tin in long tons (22)</u>
1935	59,110
1936	74,005
1937	83,665
1938	50,660
1939	71,896

Total = 339,336 long tons

Therefore Q_0 for tin = $\frac{339,336}{5} = 67,867$ long tons

(22) Ibid., p.443.

Antimony

To obtain the value of Q_0 for antimony, imports and
(23)
production of secondary antimony are combined.

<u>Year</u>	<u>Total antimony in short tons</u>
1935	16,787
1936	22,800
1937	27,974
1938	17,732
1939	20,530

Total = 105,823 short tons

Therefore Q_0 for antimony = $\frac{105,823}{5} = 21,165$ short tons

(23) Ibid., pp.581, 582.

Mercury

The production, import and export figures are used to
(24)
obtain the supply statistics for mercury.

<u>Year</u>	<u>Total mercury supply in flasks</u>
1935	25,200
1936	34,394
1937	34,971
1938	19,640
1939	20,924

Total = 135,129 flasks

Therefore Q_0 for mercury = $\frac{135,129}{5} = 27,026$ flasks

(24) Ibid., p.629.

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VITA

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His elementary and high school education were received in Rangoon, Burma. He was matriculated at the University of Rangoon, Rangoon, Burma, in September 1941. Because of the war in Asia, his education was interrupted from 1942 to 1946.

He came to the United States in October 1946 and enrolled as a freshman at the California Institute of Technology, Pasadena, California. There he completed the first two years of his undergraduate work. In September 1948 he transferred to the University of California, Berkeley, California, and graduated from this institution with a B. S. degree in Mining Engineering, in June 1950.

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