修正物価審議報告

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THE REVISION OF THE PRICE INDEX NUMBERS

[compiled] By **T. Sheng**

Part I. The Index Numbers of Wholesale Prices in Shanghai

Part II. The Index Numbers of Import and Export Prices in Shanghai

(With Appendices)

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修正物價指數報告

編主俊盛

(一)上海躉售物價指數

(二)上海輸出入物價指數

附錄

民國二十六年十二月

實價國幣五角

FOREWORD

The course of economic development, maintains Hildebrand, may be exemplified by the steps of evolution in the mechanism of exchange. First comes the barter stage; then the use of money as a medium of exchange; then the period of extensive use of credit which we witness today among the most highly industrialized countries of the world. While it remains to be proved that the present economic world has completely deprived itself of the color of barter system, the absolute pre-dominance of monetary and credit system in the existing economic régime is, indeed, undeniable. Modern economic life, therefore, resolves itself largely into a matter of prices.

Fluctuations in prices are subject to two sets of influences: Changes on the side of commodities affect prices relatively to one another, and those on the side of money affect the general price level. A rise in the general price level means a fall in the purchasing power of money. Conversely, a fall in the general price level is the same as a rise in the purchasing power of money. The essential purpose in the construction of index numbers is to show the relative changes in the value of money in terms of a general aggregation of commodities.

Index numbers were first conceived in the middle of the eighteenth century. It is only during the last thirty years, however, that they begin to receive public interest and recognition. This new development is of course partly due to the advance made in statistical methods within the last few decades, but mostly due to the recognition of the growing importance in the use of index numbers as a result of present-day violent changes in prices with their far-reaching consequences upon our economic system. That this is so may be clearly seen from the fact that many publications on the technique and science of the making of index numbers appear usually after the discovery of gold mines, the issue of inconvertible paper currency, or the breaking out of wars.

The price index numbers compiled by this Commission are the continuation of those originally undertaken by the former

Bureau of Markets of the Ministry of Finance. One is the wholesale price index number dated from September, 1919 and the other is the export and import price index numbers started with May, 1925. Both adopted February, 1913 as the base. While the period since the publication of these index numbers cannot be regarded as long, it has been a period of extreme fluctuations in prices, largely due to the rapid change in the relative value of gold and silver. The ratio of gold to silver was 1 to 34.19 in 1913 and advanced to 1 to 11.10 in February, 1920. But with the rapid fall in the price of silver the ratio dropped to 1 to 25.60 in 1921, then 1 to 29.38 in 1925, and finally 1 to 78.58 in February, 1931. Such rapid changes in the price of silver have never been precedented. China, being now the only important country remaining on a silver basis, has been seriously affected by this violent fluctuation in the form of rapidly advancing prices.

Thus the need for studying index numbers has been gradually realized in this country. Following the publication of our price index numbers, the Bureau of Reconstruction of Kwangtung Province has compiled an index number of wholesale prices in Canton and the Committee on Social and Economic Research of Nankai University, Tientsin, publishes a similar one for North China. The same endeavour has been undertaken by the Ministry of Industries in Nanking, Hankow and Tsingtao. Aside from these, there are also several indexes on retail prices and on the cost of living. In view of the difference in the choice of base periods, direct comparison between these index numbers is therefore well-nigh impossible. A revision of the index numbers of this Commission, with the primary object to replace the old base by a new, thus becomes imperative. This opportunity is also taken to effect the adoption of more suitable formulae, and certain improvements in the selection of commodities and the methods of classification.

Since the inception of these index numbers, assistance has been received from various eminent economists both in this country and abroad. To Professor Irving Fisher, of Yale University, Dr. L. Ho, Dr. D. K. Liu, Mr. C. Yang, and Dr. K. W. Shaw, a special debt of gratitude is due for their advice and criticism. My appreciation is due also to Mr. T. K. Pan, and Dr. J. C. Chao for their valuable services and constructive suggestions. In connection with the actual work of this revision,

Mr. T. H. Sun is responsible for the investigation and compilation of the wholesale price index numbers in Shanghai and the translation of Part I of this report, and Messrs. T. W. Loh and P. K. Jui, the investigation and compilation of the export and import price index numbers and the translation of Part II of this report.

T. SHENG

Chief of Statistical Division.

National Tariff Commission
Customs Building, Shanghai
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Part I

The Index Numbers of Wholesale Prices in Shanghai

I. Base Period

The purpose of the price index numbers is to measure the relative changes in the general price level. It is, therefore, necessary to select the prices of some definite period as the base with which to compare the price changes at different periods. The price quotations thus chosen are called the basic prices; and the period from which the basic prices are selected is termed the base period.

In the previous index numbers of wholesale prices in Shanghai, February, 1913 was adopted as the base period with the object of facilitating direct comparison with many index numbers on the 1913 base in foreign countries. Since its first appearance ten years ago, there have been considerable changes in the field of production and consumption, rendering the original base period too remote to afford accurate comparison with the present-day conditions. An added drawback lies in that, owing also to the difficulty in collecting the back quotations in constructing the previous index numbers, we were obliged to take the prices of one single month as the basic figures. It is obviously necessary, therefore, to change the base to a more recent period in order to be of more practical value and to adopt yearly average quotations as the basic prices in order to mitigate the undue influence of seasonal factors contingent to a short period.

Although 1913 is still used as the base period of many index numbers in foreign countries, the well-known index compiled by the U. S. Bureau of Labor Statistics has in September, 1927 changed its base to 1926. Following this example are the index numbers compiled by Professor Irving Fisher, by the Dominion Bureau of Statistics of Canada, and by the Department of Statistics of Finland. In this country, the 1926 base have been used in the index number of commodity prices at wholesale in

North China compiled by the Committee on Social and Economic Research of Nankai University, Tientsin, and the index number of the cost of living in Shanghai compiled by this Commission. To facilitate comparison, the revised index number of wholesale prices in Shanghai also adopts 1926 as its base and takes the yearly average of prices in 1926 as the basic prices. Just as 1913 is adopted for purpose of comparing the price changes subsequent to the World War, so the year of 1926 which is one year prior to the establishment of the capital of the National Government at Nanking, marks the transition from the old régime to the new.

II. Classification and Commodities

Commodities are generally classified either according to their nature, uses, sources of production, or stage of manufacture to suit the purpose for which the index numbers are intended. The commodities contained in the making of the wholesale price index number in Shanghai are divided into eight groups, some according to their nature, such as Metals and Chemicals, and some according to their uses, such as Cereals, Other Food Products, Textiles, Fuel and Building Materials. Except for some minor changes this classification has been retained in the present revision. However, the original heading, Industrial Materials, has been replaced by Chemicals since the commodities listed therein are practically all chemicals. The four sub-headings, Fuel, Building Materials, Industrial Materials, and Sundries originally included under Miscellaneous Goods now stand as four separate groups so as to avoid averaging of averages.[1]

Many alterations regarding to commodities included in the price table have become necessary in view of the changes in the local consumption habits and production and trade conditions. The revised table consists of 119 commodities and 155 quotations, an increase of 8 quotations over the original 147. Expressed in percentages, Cereals occupy 14.2%, Other Food Products and Provisions 20%, Textile Fibres and Manufactures thereof 24.5%, Metals 7.7%, Fuel and Lighting 8.4%, Building Materials 7.1%, Chemicals and Preparations thereof 6.5% and Miscellaneous Goods 11.6%. Should the quotations be classified

1. Franklin L. Ho: "Prices and Price Indexes in China," Chinese Economic Journal, Vol. 1, No. 5, May, 1927, pp. 423-463.

Groups		Commodities and Quotations					Quotations in the New Index				Quotations in the New Index Classified according to the *Stage of Manufacture*				Quotations in the New Index Classified according to their Sources		
		New Index			Old Index												
New Index	Old Index	No. of Commodities	No. of Quotations	Percentage	No. of Quotations	Percentage	Those also found in the Old Index	Those not found in the Old Index	Those also found in the Old Index but with different Brand or Grade	Total	Raw Materials	Producers' Goods	Consumers' Goods	Total	Domestic Goods	Imported Goods	Total
I. Cereals	I. Cereals	9	22	14.2%	14	9.5%	11	11	—	22	9	—	13	22	17	5	22
II. Other Food Products & Provisions	II. Other Food Products	27	31	20.0%	26	17.7%	17	11	3	31	4	—	27	31	20	11	31
III. Textile Fibres and Manufactures thereof	III. Textiles	24	38	24.5%	27	18.3%	14	18	6	38	8	12	18	38	23	15	38
IV. Metals	IV. Metals	12	12	7.7%	11	7.5%	5	5	2	12	4	7	1	12	2	10	12
V. Fuel and Lighting	V. Miscellaneous Fuels	9	13	8.4%	12	8.2%	4	3	6	13	6	2	5	13	4	9	13
VI. Building Materials	Building Materials	11	11	7.1%	14	9.5%	7	2	2	11	5	6	—	11	6	5	11
VII. Chemicals & Preparations thereof	Industrial Materials	10	10	6.5%	21	14.3%	5	3	2	10	—	10	—	10	1	9	10
VIII. Miscellaneous	Sundries	18	18	11.6%	22	15.0%	13	4	1	18	6	6	6	18	11	7	18
Total		119	155	100.0%	147	100.0%	76	57	22	155	42	43	70	155	84	71	155
Percentage							49.0%	36.8%	14.2%	100.0%	27.1%	27.7%	45.2%	100.0%	54.2%	45.8%	100.0%

according to the stage of manufacture, the raw materials occupy 27.1%, producers' goods 27.7% and consumers' goods 45.2%. Again, should they be grouped according to the sources of production, then domestic products occupy 54.2% while imported goods amount to 45.8%.

It has been our practice in the compilation of index numbers to use the wholesale prices ruling on the 15th of each month as the monthly quotations. The same method is still maintained under the revision. These price quotations are, as usual, obtained through special investigation undertaken by this Commission. The preceding table outlines the contents of the revised series as compared with the original.

III. Formula

The simple arithmetic average was formerly employed in computing the wholesale price index numbers in Shanghai. Under this method, the first process of computation is to express the prices of the given period as percentages of those of the base period: these percentages, known as price relatives, are then summed up and divided by the number of quotations to get the index number. Since no system of weighting based upon either production, consumption, or the trade volumes in apportioning relative importance to the various commodities has been used, this form of average is termed as simple or unweighted. Because of its simplicity and easy understanding this method is extensively used but its accuracy has been doubted by many statisticians. Hence, a more desirable one has to be sought. In measuring the general purchasing power of money, the weighted type is preferable whose computation, however, is not possible at present due to the lack of suitable materials in devising a proper system of weighting. We, therefore, have to be contented with the choice of the simple geometric average as the best for our purpose.

In computing index numbers by simple geometric average, the process for obtaining the price relatives is similar to that of simple arithmetic average, but the price relatives, instead of being added together and divided by the number of quotations, are multiplied together and the product is extracted to the nth root, n being the number of quotations contained in the index. The difference in the results thus obtained by the two methods, be it noted, is directly proportional to the difference in

the original figures. In case of small disparity between the original figures, the difference in the results arrived at by these two methods is negligible, for instance, the arithmetic average of 900 and 1,024 is 962, while their geometric average is 960 which is the square root of their product. But a great disparity obtains in case of figures having wide divergence such as 2 and 32, whose arithmetic average is 17 while their geometric average is only 8. In like manner, the results of index number obtained by the simple arithmetic and the simple geometric averages will not differ much when price changes are normal and moderate; but when prices show great upheaval and wide fluctuation, the index obtained by the simple arithmetic average, being subject to the influence of sharp-advancing prices, tends to be unduly high. The use of the simple geometric average is intended to overcome this drawback. For instance, commodity A advances in price tenfold, (from 100% to 1,000%) and commodity B drops in price to one tenth (from 100% to 10%). The proportional changes of these two commodities, being in opposite directions but to the same extent, remain the same, hence their geometric average is still $100(\sqrt{1{,}000\times10}=100)$, whereas the arithmetic average would show a result of 505 $\left(\frac{1{,}000+10}{2}=505\right)$.

The purpose in choosing a base is usually to facilitate comparison between prices of some previous period as a standard with those of a subsequent period. Conversely, one can choose the latter period as the base and compare it with the previous one. In other words, the results should show the same relative proportion by the reversal of the base periods. Suppose the price index of 1930 on the 1926 base shows a 100 per cent increase, then the 1926 price index on the 1930 base ought to show a 50 per cent drop. Consequently the index number on the 1926 base should be the reciprocal of that calculated on the 1930 base, while the product of these two indexes based on two different periods should be unity. Any formula which can stand this test is said to conform with the "time reversal test."[2] Unlike the simple geometric, the simple arithmetic average does not, however, meet this test as will be seen from the following.

If from 1926 to 1930 the price of flour increases from $4 to $6 per sack, and the price of egg advances from 2 cents to 5 cents per piece, then the index on the 1926 base by the simple

2. Irving Fisher: The Making of Index Numbers, pp. 64-65.

arithmetic average is 200 $\left(\frac{150+250}{2}=200\right)$, that is to say, the index is 100 per cent higher in 1930 than in 1926. By this plain reasoning the index for 1926 would drop by 50 per cent, if the year 1930 is taken as the base. But such is not the case and the index shows an upward bias of 3⅓ per cent $\left(\frac{66\frac{2}{3}+40}{2}=53\frac{1}{3}\right)$: The product of the indexes with their bases reversed exceeds *unity* $\left(\frac{200}{100}\times\frac{53\frac{1}{3}}{100}=\frac{106\frac{2}{3}}{100}>1\right)$. This clearly demonstrates the unsuitability of the simple arithmetic with reference to the "time reversal test."

Let us now examine the result by the simple geometric average. If 1926 is taken as the base, the index for 1930 would be $\sqrt{150\times250}=193.65$ and if 1930 is taken as the base, then the index for 1926 would be $\sqrt{66\frac{2}{3}\times40}=51.64$, which is also the reciprocal of the index on the 1926 base $\left(\frac{1}{193.65}\times100=51.64\%\right)$. Furthermore, when the two index numbers secured with the bases reversed are multiplied, their product is unity $\left(\frac{193.65}{100}\times\frac{51.64}{100}=1\right)$. It can be seen that the simple geometric average does conform with the "time reversal test."

Some other points, of course, might be cited as the merits of the simple geometric average. But its labor of computation and unfamiliarity to the public has detracted it from wide use. As we are not confined to the study of averages, the above description goes far enough for the present purpose.[3]

Let the prices of the base period be represented by Po', Po", Po"',.....Po^n and those of any given period, by P_1', P_1'', P_1''',.....P_1^n, the formulae adopted by the old and revised series are shown as follows:

1. The simple arithmetic method which was adopted by the old series.[4]

$$I=\frac{\frac{P_1'}{P_o'}+\frac{P_1''}{P_o''}+\frac{P_1'''}{P_o'''}+\ldots\ldots\frac{P_1^n}{P_o^n}}{N}=\frac{\Sigma\frac{P_1}{P_o}}{N}$$

3. Irving Fisher: The Making of Index Numbers, pp. 33-35, 62-72, 206-212.

4. Formula 1, in Fisher's: The Making of Index Numbers, Appendix V, p. 466.

2. The simple geometric method which is adopted by the revised series.[5]

$$I = \sqrt[n]{\frac{P_1'}{P_o'} \times \frac{P_1''}{P_o''} \times \frac{P_1'''}{P_o'''} \times \cdots \cdots \frac{P_1^n}{P_o^n}}$$

5. Formula 21 in Fisher's "The Making of Index Numbers," Appendix V, p. 468. In utilizing the logarithms to compute the index, the formula becomes:

$$I = \text{Anti-log} \left(\frac{\text{Log}\frac{P_1'}{P_o'} + \text{Log}\frac{P_1''}{P_o''} + \text{Log}\frac{P_1'''}{P_o'''} + \cdots \cdots \text{Log}\frac{P_1^n}{P_o^n}}{N} \right)$$

Part II

The Index Numbers of Import and Export Prices in Shanghai

I. Base Period

The index numbers of import and export prices in Shanghai were first compiled in May, 1925. Similar to our index number of wholesale prices, February, 1913 was taken as the base period, but instead of the fixed base system, the chain system was adopted. In a fixed base, the prices of the base period are set down as 100. Those of all other periods, antecedent or subsequent thereto, are expressed in precentages to the prices of the base period. These percentages are then summed up and divided by the number of commodities to get the final index number. In the chain system, the prices of a given period are expressed in percentages of those of the one immediately preceding, and the prices of base period are directly taken as 100 only in calculating the index for the first period. To compute the index numbers for the second, third period, etc., the prices of the first, second period, etc., are taken as 100 respectively. The index numbers for different periods thus obtained are called link index numbers. Like links they can be joined together to form a chain by successive multiplication. For instance, if it is desired to join the link index of the third period to the base, it can be done by multiplying it with the link indexes of the second and first period. The product is the so-called chain index number.

One of the chief merits of the chain system lies in the fact that the link index numbers enable us to make direct and accurate comparisons between two adjacent periods especially as price variations within a short time, month to month, or year to year, are more concentrated. This system, however, is not without its shortcomings. The link index numbers of different periods are accurate and reliable individually, but when they are joined to the base period, any errors which are inherent in the successive multiplication processes are likely to accumulate in the chain

index number. This accumulated error may be insignificant in the first few periods, but after one or two decades, the discrepancy between the chain index and the index directly computed from base period (i.e. the fixed-base index) might be quite considerable. Moreover, the chain index numbers usually rise more than the fixed-base index numbers when prices are rising and fall less when prices are falling. As the trend of prices is more likely to rise than to fall in a sufficiently long period, a chain index number usually gives a higher figure than a fixed-base index, even though the same commodities are included in both index numbers.

The price level in Shanghai, as shown by the old index numbers, advanced incessantly year after year. Since the adverse gold and silver exchange recently became acute, prices of imported goods jumped up by leaps and bounds. In view of the weak points of the chain system, the abnormally high figures might involve a more than ordinary amount of cumulated errors. Therefore, we decide to adopt the fixed base method. The year 1926 is taken as the base period in order to make the figures comparable to our index number of wholesale prices.

II. Classification and Commodities

The commodities in the index number of wholesale prices in Shanghai fall in eight groups as mentioned in Part I. To the readers who are interested in the study of price changes of particular groups (such as Food Products, Textile Fibres and Manufactures thereof, Chemicals and Preparations thereof, Building Materials, Fuel and Lighting, etc.), such a classication, of course, serves as a simple and convenient guide. But it fails to show clearly the causal relations between the price fluctuations of different commodities. Moreover, the purpose of a wholesale price index number measures the price level in the wholesale market of a country, whereas that of import and export index measures the changes of price level in the international market. Some other methods of classification, therefore, must be resorted to in compiling the latter.

According to the conclusions drawn by Professor W. C. Mitchell who made an exhaustive study of the wholesale prices in 1890-1913 in the United States, the commodities in an index number should be definitely grouped to show the peculiarities of their price fluctuations. To quote Professor Mitchell:

"First, the price fluctuations of a raw material are usually reflected in the prices of the manufactured products. Hence to quote in some cases both the raw material and several of its finished products, and to quote in other cases the raw material alone, assigns certain groups of related prices a larger influence upon the results than is assigned the other groups. When the aim is to secure a set of samples which fairly represent price fluctuations as a whole, the existence of these groups must be taken into account.....

"Directly opposing the relations which unite the prices of finished goods with the prices of their raw materials is a second set of influences which make the price fluctuations of manufactured goods considered as a group characteristically different from the price fluctuations of their raw materials considered as a separate group.....These several comparisons established the conclusion that manufactured goods were steadier in price than raw materials.....Further, the manufactured goods had the narrower extreme range of fluctuations, the smaller average change from year to year, and the slighter advance in price from one decade to the next..... ..

"Third, there are characteristic differences among the price fluctuations of groups consisting of mineral products, forest products, animal products, and farm crops.....Here the striking feature is the capricious behavior of the prices of farm crops under the influence of good and bad harvests..... their advance in the dull year 1904.....their failure to advance in the midst of prosperity of 1906.....are all opposed to the general trend of other prices. The prices of animal products are distinctly less affected by weather than the prices of vegetable crops, but even they behave queerly at times, for example in 1893. Forest-product prices are notable chiefly for maintaining a much higher level of fluctuation..... Finally, the prices of minerals accord better with alternation of prosperity, crisis, and depression than any of the other groups. .....An index number composed largely of quotations for annual crops, then, would be expected at irregular intervals to contradict capriciously the evidence of index numbers in which most of the articles were mineral, forest, or even animal products.

"Fourth, there are characteristic differences between the price fluctuations of manufactured commodities bought by con-

sumers for family use and the price fluctuations of manufactured commodities bought by business men for industrial or commercial use.....the consumers' goods are steadier in prices than the producers' goods, because the demand for them is less influenced by changes in business conditions.

.....

"Probably the most illuminating way of presenting an index number that aspires to cover the whole field of prices at wholesale would be to publish separate results for the groups that have characteristic differences of price fluctuations, and then to publish also a grand total including all the groups. The groups to be recognised and the distribution of commodities among them is a difficult matter to decide. But, as matters stand, the most significant arrangement seems to be (1) a division of all commodities into raw and manufactured products; (2) the subdivision of raw commodities into farm crops and animal, forest, and mineral products; (3) the subdivision of manufactured products according as they are bought mainly for personal consumption, mainly for business use, or largely for both purposes.

"This classification is based upon differences among the factors affecting the supply of and demand for commodities that belong to the several groups—that is, upon differences among the factors which determine prices."[1]

Professor Mitchell's conclusions concerning the classification of commodities in index number of prices is especially adaptable to index numbers of import and export prices. In studying statistics of external trade of a country, it has been customary to classify goods as Raw Materials, Semi-manufactured Products, and Manufactured Products.[2] As China is still in the

1. Bulletin of the United States Bureau of Labor Statistics No. 284: Index Numbers of Wholesale Prices in the United States and Foreign Countries, pp. 40-51.

2. The Statistics of External Trade may be compiled either for general or for special purpose. Statistics for General Trade may include: (1) as regards imports, all merchandise arriving from all territories external to the country to which the statistics apply, and (2) as regards exports, all merchandise leaving that country for an external destination; while statistics for Special Trade shall include (1) as regards imports, all goods declared for demestic consumption in the territory to which the statistics apply, and all goods declared for transformation, repair or supplementary treatment therein, and, (2) as regards exports, all exported goods

transitional period between the agricultural and the industrial stage, and is at present much affected by the unprecedented adverse gold and silver exchange, the causal relations between her external trade and the price fluctuations of both import and export prices will be more clearly revealed by classifying the commodities in the indexes according to their stage of manufacture.[3]

For the purpose of international comparison the United States Federal Reserve Board has constructed wholesale price indexes for the United States, the United Kingdom, Canada, France and Japan.[4] According to trade movements, three different index numbers are compiled for Goods Produced, Goods Imported, and Goods Exported. The commodities therein are further classified, according to their stage of manufacture as Raw Materials, Producers' Goods and Consumers' Goods; and Raw Materials are subdivided into Farm Crops, Animal,

produced within the territory to which the statistics apply, or nationalized therein. The Chinese Customs Returns contain only the statistics of general trade, but not the special. However, in Appendix B of Part II, both imports and exports are grouped according to the Plan for a Common Nomenclature adopted by the International Conference of Commercial Statistics held at Brussel in 1910. The groups are: (1) Living Animals; (2) Food and Beverages; (3) Materials, Raw or Prepared; (4) Manufactured Products; and (5) Gold and Silver, Unwrought, and Gold and Silver Coins. Such a classification serves, to a certain extent, as an indication of external trade, though some of the commodities are not properly grouped. Following the classification made in the external trade statistics of the United Kingdom, Mr. C. Yang has recently reconstructed our trade statistics into following groups: (1) Food, Drink, and Tobacco; (2) Raw Materials and Semi-manufactured goods; (3) Manufactured goods; and (4) Miscellaneous. See Statistics of China Foreign Trade during the Last Sixty-five Years, published by National Research Institute of Social Sciences, Academia Sinica.

3. The total value of imports to China was Hk. Tls. 570,163,000 in 1913, and Hk. Tls. 1,265,779,000 for 1929, seeming to point to an increase of our import trade by 125% in 16 years. But this is far from being the fact; the depreciation in the price of silver and the appreciation of the price of imported goods should at the same time be taken into consideration. As the import price index for 1929 stood at 178.5 (1913=100), the import value for that year should be Hk. Tls. 709,120,000 in 1913 price (Hk. Tls. 1,265,779,000 ÷178.5%), representing a substantial increase of approximately 25 per cent. over that of 1913.

4. Federal Reserve Bulletin: June, 1921; February, 1922; May, 1922.

Forest, and Mineral Products. Apparently Professor Mitchell's suggestions have been closely followed.

In both our index numbers of import and export prices the commodities are classified in the same manner as the U. S. Federal Reserve Board index.[5] But due to the lack of production statistics to weight various commodities, compilation of an index for Goods Produced is not yet permissible. Moreover, the Federal Reserve Board Index is weighted by quantities obtained through the aggregative expenditure method (i.e., the value of goods produced minus that of goods exported plus the value of goods imported), and the goods produced and imported are combined to form a general index. In our case, this general index also can not be compiled owing to the absence of statistical data for weighting. Hence the index numbers of import and export prices are separately compiled for the time being.

As to the choice of commodities, our old index numbers consisted of practically all commodities whose import or export value reached or exceeded Hk. Tls. 500,000 in 1923, with only a few exceptions. During the course of years, however, many principal commodities in the past have gradually been displaced by new ones. In this revision, the relative importance of different commodities are apportioned according to their average import or export value during the years 1925-27. A minimum value of a trade of Hk. Tls. 500,000 is again taken as the criterion. The following, however, are omitted: duck's feather, straw braid, machinery and railway sleepers whose market prices are not easy to obtain; fleece and mats whose prices are subject to seasonal variations; goat's skin, the quality of which cannot be definitely determined; and commodities which are classified as "not otherwise recorded" in the Customs Returns and their individual import or export values are unknown.

As a result, the number of quotations in the export index is 66 and that in the import index, 109, being 13 and 6 items less than in the old indexes respectively. The value of commodities listed in the index number of export prices represents 78% of

.5. Animal Products are not included in our import price index as the annual import value of the commodities under that group taken individually are less than Hk. Tls. 500,000.

Groups	EXPORT						IMPORT					
	No. of Quotations		Weights*		Percentage Distribution of Weights		No. of Quotations		Weights*		Percentage Distribution of Weights	
	New Index	Old Index	New Index	Old Index	New Index	Old Index	New Index	Old Index	New Index	Old Index	New Index	Old Index
Raw Materials	33	41	3,209	3,106	49%	51%	13	13	1,588	1,065	22%	17%
Agricultural Products	19	28	2,246	2,211	33%	36%	3	3	1,128	675	15%	11%
Animal Products	7	6	471	320	7%	5%	—	—	—	—	—	—
Forest Products	2	2	104	207	2%	4%	5	4	120	126	2%	2%
Mineral Products	5	5	448	368	7%	6%	5	6	340	264	5%	4%
Producers' Goods	12	12	2,080	1,722	31%	28%	42	36	1,406	1,576	19%	25%
Consumers' Goods	21	28	1,327	1,283	20%	21%	54	66	4,239	3,718	59%	58%
Total	66	79	6,676	6,111	100%	100%	109	115	7,233	6,359	100%	100%

*Weights of the new indexes are the average export or net import values during the years 1925—27, while those of the old indexes are the export or net import values of 1923. In both cases, values are in Hk$ 100,000.

the average total export value during the years 1925-27, while those contained in the import index represents 68% of the average total import values during the same period.

Like the wholesale price index, the compilation of both import and export indexes is based upon the wholesale market prices in Shanghai on the 15th of each month as collected by this Commission. From the theoretical point of view, to study the fluctuation of export and import prices of a country, prices in all the chief ports of origin or destination should be collected. But this is not feasible due to poor communications and lack of a uniform system of weights and measures within the country. Since, however, Shanghai commands about 40% of the foreign trade of China, it is believed that sample prices from this port alone will be fairly representative and incur no serious errors. The preceding table gives a comparison of the number of commodities and the proportion of different groups to the total for both import and export indexes.

III. Formula

The methods used for the computation of price index numbers may be mainly grouped into two categories, the simple and the weighted types. In the absence of statistics of production and consumption, the formula used in calculating our Shanghai wholesale price index number is of the simple type. Fortunately, in the compilation of the import and export price index numbers, we have trade statistics in the Chinese Customs Returns as a guide in assigning weights to individual commodities according to their relative importance in the import and export trade. For instance, we give the largest weight to soya bean as it constitutes our chief principal export and relatively smaller weights to silk and tea for they are less important than soya bean. Accordingly, a weighted formula is here adopted to compute our import and export indexes.

Formulae of weighted type now generally used for the calculation of price index numbers are the weighted aggregative and the weighted arithmetic. When the former is adopted, the weights represent the physical quantities of commodities instead of their money values. No calculation of price relatives is required and the computation involves only the division of the sum of products of the prices of individual commodities in the

given period by their respective weights (physical quantities) by that of the products of the prices in the base period by the same weights (physical quantities).

If the quantities of various commodities be represented
by Q', Q", Q"',.....Q^n,
the prices in a given period,
by P_1', P_1'', P_1''',.....P_1^n, and
the prices in the base period,
by Po', Po", Po"',.....Po^n,
then the weighted aggregative index numbers will be:[6]

$$I = \frac{P_1' Q' + P_1'' Q'' + P_1''' Q''' + \ldots\ldots P_1^n Q^n}{P_o' Q' + P_o'' Q'' + P_o''' Q''' + \ldots\ldots P_o^n Q^n}$$

$$= \frac{\Sigma (P_1 Q)}{\Sigma (P_o Q)}$$

When the weights adopted are the physical quantities of commodities during the base period, the formula becomes:[7]

$$I = \frac{\Sigma (P_1 Q_o)}{\Sigma (P_o Q_o)}$$

In the weighted arithmetic formula, the price relatives are used; the weights, therefore, should be reduced to a common denominator. As multipliers, of course, weights may be regarded as merely abstract numbers, but in studying the weights themselves it is necessary to have some common standard by which the relative importance assigned to various commodities can be accurately compared. The only common denominator for all commodities that is significant for economic ends and capable of quantitative expression is money value. To compute the index number, the individual price relatives obtained by dividing the prices in a given period by the prices in the base period are multiplied by their respective weights (values); these products when added together and divided by the sum of weights give the index number. If the weights represent the money values of various commodities in the base period, the formula is:[8]

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6. Σ Indicates the sum of .....

7. Formula 53 in Professor I. Fisher's "The Making of Index Numbers," p. 59; Appendix V, p. 471.

8. Formula 3 in Professor I. Fisher's "The Making of Index Numbers," p. 51; Appendix I, p. 379; Appendix V, p. 466.

$$I = \frac{P_o' Q_o' \left(\frac{P_1'}{P_o'}\right) + P_o'' Q_o'' \left(\frac{P_1''}{P_o''}\right) + P_o''' Q_o''' \left(\frac{P_1'''}{P_o'''}\right) + \ldots\ldots P_o^n Q_o^n \left(\frac{P_1^n}{P_o^n}\right)}{\Sigma P_o Q_o}$$

$$= \frac{P_1' Q_o' + P_1'' Q_o'' + P_1''' Q_o''' + \ldots\ldots P_1^n Q_o^n}{\Sigma P_o Q_o}$$

$$= \frac{\Sigma (P_1 Q_o)}{\Sigma (P_o Q_o)}$$

Here the two formulae, weighted arithmetic and weighted aggregative as mentioned above, are substantially identical with each other. As the value is the product of price and quantity, so the index number calculated by means of the weighted aggregative method represents the ratio of actual value of given quantities of various commodities at prices in a given period and of the same quantities of the same commodities at prices in the base period. It indicates, therefore, the changes in the money cost of a certain quantity of commodities as compared with its cost at prices in the base period. The weighted aggregative index number thus expresses more clearly the changes in the purchasing power of money than the weighted arithmetic index in which price relatives are used instead of actual prices.

Statistical data pertaining to the values and quantities of imports and exports being obtainable from the Customs Returns, it seems advisable to adopt the weighted aggregative method. But in practice there are some difficulties to be surmounted as the said index number is based upon market prices. (1) The quantity units appeared in the Customs Returns sometimes do not conform with those by which the market price is quoted; errors will ensue in the conversion from one unit into the other.[9] (2) Though goods paying specific duties form a large part of our exports or imports, goods paying *ad valorem* duties also number not a few, for which only value, but not quantities, are

9. The conversion from one unit into another of a commodity is simple and accurate if these units belong to the same class as unit of length, or unit of weight, or unit of volume, etc. For instance, we can easily convert piculs into tons, because they are both in units of weight. But trouble arises when it is to convert piculs of chinaware as given in the Customs Returns into dozens by which market prices are quoted, as the weight per dozen is uncertain, depending entirely upon the quality. Again, it is difficult to convert piculs of cattle leather as given in the Returns into square feet, because the weight per square foot varies greatly in proportion to its thickness. The conversion, if it is made at all, will naturally incur a considerable amount of error.

recorded in the Customs Returns. (3) There are many varieties in the quality of goods imported and exported while market prices chosen for each commodity usually refer to only one or two brands or grades; therefore, the product of price by quantity varies as the sample chosen is higher or lower in quality. When it is of high quality, the product thus obtained will be correspondingly high, or vice versa. This will tend to upset the original relative importance among the individual commodities in the import and export trade, and unduly affect the numerical result of their index number.

These drawbacks are present when the index number is based upon the market prices. If the Customs Returns *value* (i.e. the import or export value) is used, there will be no difficulty except that the quantities are not recorded in case of goods paying *ad valorem* duties. Since both the price and the weight (quantity) are obtained from the same source, no conversion of quantity units is necessary. As the Customs Returns *value* of a certain commodity is the quotient of its total import or export value by its corresponding quantity, the product of that value and of the same quanitity gives the original dividend, (i.e., the total import or export value of that commodity).

The Customs Returns *value* is an average of values declared by merchants or estimated by the Customs or, in other words, it is the average cost actually paid or received by a country for goods it buys or sells. For example, the value of our imports of American cotton in 1929 amounts to 43,954,084 Hk. Tls. The price, 42.715 Hk. Tls., obtained by dividing the total value of all the cotton consignments imported by their total quantity, 1,028,144 piculs, will show the average cost per picul actually paid by Chinese for various grades of American cotton in the year with more comprehensiveness than the market quotation for a single grade of cotton, say "Middling American," provided, of course, the Customs Returns values are trustworthy. But it should be noted that, the purpose of price index numbers being generally to measure price variations over a considerably longer period of time, the commodities in the index numbers must be kept uniform in quality throughout the whole period. The Customs Returns *value*, which is simply an average *value* for various grades of that commodity, however, represents no definite quality. Assuming that both the price and quantity of American cotton imported this year are just the same as those of last year, the total value and consequently the average

(Customs Returns *value*) would undoubtedly be affected if the quality changes. The index number made from the import or export *values* would measure the net resultant of two sets of changes, and one cannot tell from the published results what part of fluctuations is due to changes in prices and what part due to changes in the quality of goods bought or sold. As a matter of fact, the import or export values as recorded by Chinese Customs are not so trustworthy as those in foreign countries where valuation for statistical purposes are more strictly administered. It is believed that the export values are less reliable than the import values; and the values of goods paying specific duties to which most of the principal articles of import and export included in the index numbers belong, than those of goods paying *ad valorem* duties.[10] This explains why we prefer market prices to Customs Returns *values*. Moreover, should the Customs Returns *values* be used, the index number made therefrom would be unduly delayed in publication because of the fact that the Customs Returns are published quarterly and annually at the present time. Though the compilation of Monthly Returns is under contemplation by the Customs, yet the delay in its publication will be inevitable owing to the remoteness of certain districts. According to Professor F. Y. Edgeworth in his study of price index numbers, the discrepancies between the averages with haphazard and systematic weights seldom amount to 5 per cent of the result while those caused by the use of incorrect price data amount to as high as 25 per cent. As the Customs Returns *value* is inadequate for the purpose of compiling these index numbers, the market price is preferred.

10. Tariff rates fixed as percentages of the values of goods are said to be *ad valorem* duties while tariff rates fixed according to measurements, such as the duty on cotton at Hk. Tls. 1.20 per picul, are specific duties. The values declared on those goods of import paying specific duties are, however, not entirely trustworthy as to be seen from the following statement given in Part I of the Foreign Trade of China, published by the Maritime Customs:

> "The valuations of specific-duty-paying goods are compiled from applicants' statements, and, in the absence of the right to demand production of duly certified invoices, are published with reserve."

As our export tariff which had been put into operation since 1858, was not revised until June, 1931, it is apparent that the valuations on which the specific duties were based are much too low. The undervaluation of export, it is believed, constitutes an invisible item of our export in the international balance of trade.

When we have decided upon the use of the weighted arithmetic as the formula of the index and the values of imports and exports as weights, such difficulties as arising from the absence of quantity figures in the Customs Returns and from the difference between the quantity units by which goods are bought or sold at the market and those appeared in the Returns are automatically solved. In computing the weighted arithmetic index number, the price relatives of various commodities are multiplied by their respective values of imports or exports; the sum of the products are then divided by the total import or export values of all the commodities included to give the index number. As weights are multipliers of price relatives instead of actual prices, the influence of price changes of individual commodities upon all commodities is in proportion to their relative importance; the index number thus obtained naturally will not be affected by the quality of the samples chosen as in the case of weighted aggregative methods.

Symbolically, the formula is $I = \frac{\Sigma \frac{P_1}{P_o}(P_o Q_o)}{\Sigma P_o Q_o}$. It must be noted, however, that P in $\frac{P_1}{P_o}$ represents the market price, as the new index number is based upon market quotations; while P in PoQo represents the Customs Returns *value*, since weights (PoQo) are those of import or export values taken from the Customs Returns. When the market price does not coincide with the Customs Returns *value*, the product of the market price P and Q can not be equal to the product of the Customs Returns *value* P and Q. Consequently, the weighted arithmetic index number will not give the same result as the weighted aggregative index number.

In fact, the weights used in compiling index numbers are not necessarily consistent throughout. Sometimes weighting coefficients are used instead of values by roughly estimating the relative importance of individual commodities. For example, three price relatives such as 150, 120, 175 may be weighted by coefficients, 3, 2, 1 respectively; the weighted arithmetic index number will be:

$$I = \frac{150 \times 3 + 120 \times 2 + 175 \times 1}{6}$$

In order to discriminate weighting coefficients from PQ's in the preceding formula, we usually denote the former by W', W", W"',.....W^n. Although the weights in the import or export price index number are the average import or export values during 1925-27, and by no means arbitrary ones, there still exists a slight difference between the formula heretofore used and the above-mentioned weighted arithmetic formula. It will be clearer to substitute PQ's with W's as the weights of individual commodities. The formula hence becomes:

$$I = \frac{\frac{P_1'}{P_o'}W' + \frac{P_1''}{P_o''}W'' + \frac{P_1'''}{P_o'''}W''' + \cdots\cdots \frac{P_1^n}{P_o^n}W^n}{W' + W'' + W''' + \cdots\cdots W^n}$$

$$= \frac{\Sigma\left(\frac{P_1}{P_o}W\right)}{\Sigma W}$$

It was approved by Dun, Falkner and Young. In Professor Fisher's "The Making of Index Numbers," it is designated as Formula No. 9001.[11] The same is used in computing our index number of the cost of living in Shanghai.[12]

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11. I. Fisher: The Making of Index Numbers, Appendix V, p. 487.

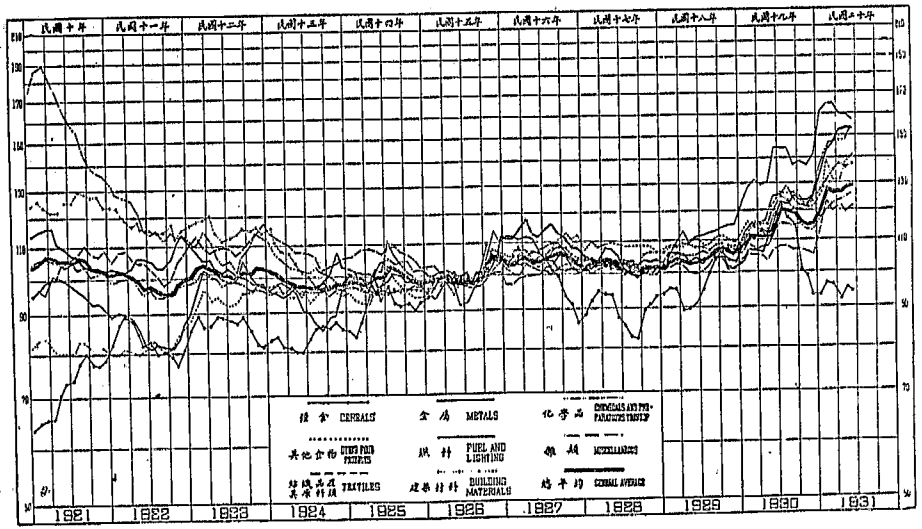
12. T. Sheng: The Index Number of the Cost of Living in Shanghai, Statistical Series No. IV, National Tariff Commission.

APPENDICES

附錄一
APPENDIX I

修正上海躉售物價指數圖
Chart of Revised Index Numbers of Wholesale Prices in Shanghai

民國十五年平均=100　　Average of 1926=100



修正上海趸售物價指數表*

The Revised Index Numbers of Wholesale Prices in Shanghai*

民國十五年平均=100　Average of 1926=100

類別 / 年別	各類指數 By Gronps								總指數 General Index
	糧食 Cereals	其他食物 Other Food Products & Provisions	紡織品及其原料 Textile Fibres & Manufactures Thereof	金屬 Metals	燃料 Fuel & Lighting	建築材料 Building Materials	化學品 Chemicals & Preparations Thereof	雜類 Miscellaneous	
民國十年 1921	72.2	81.6	103.5	96.1	108.7	125.5	101.7	104.0	104.6
十一年 1922	82.6	81.5	104.1	85.1	105.4	117.1	119.3	97.5	98.6
十二年 1923	86.3	93.9	110.6	99.3	102.8	115.5	108.9	98.5	102.0
十三年 1924	83 3	95.5	107.5	92.5	97.9	102.7	102.6	95.5	97.9
十四年 1925	91.1	95.5	106.8	96.9	99.5	96.4	101 9	101.1	99.3
十五年 1926	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
十六年 1927	100 6	108.1	100.9	109.1	112.7	105.4	102.6	102.1	104.4
十七年 1928	89.6	108.7	102.1	102.9	104.0	103.0	101.2	102 0	101.7
十八年 1929	97.2	109.5	101.9	111 0	104.1	108.1	105.8	104.2	104.5
十九年 1930	110.3	120.3	105.6	136.2	117.1	118.2	120.1	111.4	114.8
民國十年 1921									
一月 Jan.	63.6	81.6	94.6	94.3	113.6	123.9	175.1	104.5	102.9
二月 Feb.	64.7	83.2	97.1	97.6	114.4	126 2	185 9	145.6	105.5
三月 Mar.	65 6	83.6	99.0	95.1	115.4	123.3	189.6	106.0	106.2
四月 Apr.	65.7	81.1	99.9	101.3	115.6	122.2	180.2	105.6	105.9
五月 May	70.8	80.3	100.5	100.6	111.0	122 3	174.0	105.1	105.2
六月 June	72.7	80.4	104.3	99.5	109.3	125.5	165 3	103.8	105.4
七月 July	73.4	80.3	106.4	97.5	106.8	125.4	159.1	104.7	105.0
八月 Aug.	77.7	82.8	107.2	95.9	106.5	129.7	155.3	103.2	105.8
九月 Sept.	80.1	82.8	110.5	95 0	104.0	128.8	145.1	104.1	105 5
十月 Oct.	77.3	80.8	107.3	92.6	103.1	127.7	138.9	100.9	102.6
十一月 Nov.	76.6	81.8	106.9	92.8	102.5	128.0	136.9	101.7	102.5
十二月 Dec.	78.2	80.8	108.4	90.8	102.5	123.5	134.9	102.8	102.1
民國十一年 1922									
一月 Jan.	82.2	79.9	104.8	89.3	103.0	123.6	131.8	98 8	100.9
二月 Feb.	86.8	79.7	108.0	90.3	102.6	122.9	127 8	99.8	101.6
三月 Mar.	89.4	81.1	108.3	89.7	101.9	119.1	127.2	100.2	101.8
四月 Apr.	87.8	80.2	105.6	88.6	102.8	116.4	125 6	101.1	100.6
五月 May	84.5	79.7	104.4	85.8	106.2	118.3	122.1	98.4	99.2
六月 June	81.5	80.6	104.5	81.7	106.1	115.5	115.4	95.5	97.2
七月 July	82.8	83.6	103.0	81.0	105.2	115.3	114.5	96.5	97.6
八月 Aug.	79.6	81.7	101.0	82.0	103.5	114.5	115.0	94.4	96.1
九月 Sept.	80.4	80.1	98.0	81.4	103.4	114.8	111.9	94.4	95.0
十月 Oct.	79.1	80.8	99.4	81.4	105.8	117.5	114.6	96.8	96.2
十一月 Nov	76.8	84.2	105.0	83 3	110.8	112 3	113.0	96.8	97.5
十二月 Dec.	80.8	85.6	107.0	86.9	113.4	115.3	113.4	97.4	99.5
民國十二年 1923									
一月 Jan.	85.2	88.0	110.5	89.7	110.9	116.4	110.0	98.2	100.9
二月 Feb.	89.0	91.8	112.8	96.4	108.2	118.0	110.8	99.5	103.3
三月 Mar.	85.9	95.7	109.4	102.6	105.2	118.6	114.8	102.1	104.1
四月 Apr.	86.4	93.6	107.9	101.4	105.4	120.4	112.2	100.9	103.2
五月 May	88.7	94.2	108.9	101.6	103.0	114.3	105.9	100.0	102.0
六月 June	88.3	92.9	109.5	99.5	102.0	111.6	104.2	97.3	100.8
七月 July	87.8	92.1	109.2	98 5	103.0	112.5	104 9	98.7	100.8
八月 Aug.	87.1	93.1	106.7	98.9	101.1	113.4	101.4	98.7	99.9
九月 Sept.	88.9	95 9	108.3	104.9	100.4	116.1	106.1	98.1	102.1
十月 Oct.	85.1	94.9	111.4	101.0	99.1	114.9	109.4	96 3	101.7
十一月 Nov.	82.1	97.8	115.1	98.6	98 1	116.1	114.3	96.4	102.8
十二月 Dec.	81.6	97.1	117.3	98.3	97.7	113.8	113.1	96.3	102.6

修正上海躉售物價指數表 (續)

The Revised Index Numbers of Wholesale Prices in Shanghai (Cont'd.)

民國十五年平均=100　Average of 1926=100

類別 / 年別	各類指數 By Groups								總指數 General Index
	糧食 Cereals	其他食物 Other Food Products & Provision	紡織品及其原料 Textile Fibres & Manufactures Thereof	金屬 Metals	燃料 Fuel Lighting	建築材料 Building Materials	化學品 Chemicals & Preparations Thereof	雜類 Miscellaneous	
民國十三年 1924									
一月 Jan.	82.5	96.8	114.6	96.4	96.0	115.3	110.8	95.5	101.6
二月 Feb.	83.4	97.8	112.7	97.7	94.9	111.0	106.8	96.1	100.8
三月 Mar.	81.2	94.6	111.4	98.5	93.9	107.8	105.0	95.5	99.1
四月 Apr.	80.7	94.3	109.7	97.0	95.1	107.0	103.1	97.2	98.6
五月 May	79.8	94.3	107.5	95.3	97.3	104.0	102.4	93.6	97.2
六月 June	79.7	95.7	107.5	90.4	96.6	101.4	102.0	95.6	96.9
七月 July	83.1	92.4	107.2	89.4	96.4	100.2	101.5	95.3	96.4
八月 Aug.	85.5	94.3	105.8	87.0	98.3	97.1	102.9	95.3	96.7
九月 Sept.	86.0	97.3	101.8	84.9	97.8	93.3	101.8	95.4	96.4
十月 Oct.	85.5	97.7	102.8	83.4	100.3	96.5	100.1	94.2	96.5
十一月 Nov.	86.9	95.7	104.0	83.8	107.3	97.1	98.1	96.2	97.2
十二月 Dec.	85.1	94.6	105.2	85.9	102.8	95.8	97.1	96.2	96.9
民國十四年 1925									
一月 Jan.	84.6	95.0	105.5	100.8	102.0	98.0	101.3	96.6	98.2
二月 Feb	83.4	93.1	106.7	99.5	101.4	101.0	100.2	98.4	97.9
三月 Mar.	87.2	92.2	107.8	99.5	101.1	96.3	99.4	95.7	97.6
四月 Apr.	94.7	92.0	108.1	96.1	101.2	96.9	97.8	95.2	97.9
五月 May	95.6	95.7	107.4	95.0	98.9	95.0	102.1	102.3	99.9
六月 June	93.2	96.3	106.7	95.8	96.1	95.1	101.5	104.1	99.6
七月 July	96.8	103.1	108.4	95.5	98.6	95.2	111.4	105.2	103.2
八月 Aug.	92.3	99.5	109.1	95.4	100.8	96.1	107.0	104.0	101.7
九月 Sept.	91.2	96.8	107.6	96.1	100.3	95.5	103.9	104.4	100.5
十月 Oct.	91.9	94.8	106.5	95.9	98.2	95.8	101.2	104.4	99.4
十一月 Nov.	90.4	93.5	105.0	97.0	98.3	95.7	99.7	102.0	98.3
十二月 Dec.	92.3	93.6	102.5	96.4	97.2	95.7	97.1	102.4	97.6
民國十五年 1926									
一月 Jan.	93.5	95.8	102.5	98.8	94.5	95.7	98.5	99.8	97.9
二月 Feb.	96.2	98.9	102.7	97.8	92.8	99.2	99.0	99.5	99.0
三月 Mar.	99.2	98.2	100.8	98.6	97.2	97.0	98.9	101.1	99.2
四月 Apr.	100.5	97.7	100.7	98.0	97.6	98.4	99.2	101.5	99.4
五月 May	98.4	94.1	97.5	96.8	99.9	100.9	98.7	100.5	98.1
六月 June	97.5	99.0	98.6	91.5	98.5	98.8	98.3	98.0	97.9
七月 July	97.3	98.0	98.5	92.4	101.1	98.8	98.5	97.3	98.0
八月 Aug.	97.3	99.5	98.2	95.7	97.7	98.4	98.4	98.3	97.9
九月 Sept.	100.7	100.3	98.8	98.9	100.5	103.2	98.3	96.7	99.2
十月 Oct.	109.7	104.0	100.1	103.1	101.2	101.7	102.2	101.0	103.0
十一月 Nov.	105.7	107.7	100.7	113.4	106.6	104.9	105.1	103.1	105.3
十二月 Dec.	104.1	106.6	103.9	110.2	112.1	106.4	104.5	104.9	105.5
民國十六年 1927									
一月 Jan.	103.4	104.8	96.9	112.3	111.4	103.3	101.7	102.9	103.2
二月 Feb.	102.8	104.9	96.9	112.2	111.4	104.9	100.0	102.6	103.1
三月 Mar.	105.5	106.8	99.1	111.0	114.0	107.9	99.8	102.4	104.7
四月 Apr.	104.8	107.0	99.5	111.8	117.7	104.5	103.3	103.2	105.2
五月 May	106.6	102.7	99.7	111.3	113.1	103.1	104.3	102.5	104.1
六月 June	106.4	104.7	99.8	107.5	112.2	102.0	103.8	101.3	103.9
七月 July	103.9	105.4	101.8	108.4	114.4	104.1	103.8	101.1	104.5
八月 Aug.	100.8	106.8	102.3	109.6	115.9	107.4	103.6	100.0	104.8
九月 Sept.	99.6	111.1	105.6	109.7	113.1	108.3	102.0	101.5	106.2
十月 Oct.	98.2	112.5	105.1	108.4	111.5	107.6	102.4	101.0	104.9
十一月 Nov.	91.2	110.9	102.0	104.6	107.8	105.6	103.1	101.5	103.1
十二月 Dec.	86.2	112.1	100.2	103.4	107.6	104.1	102.9	101.2	101.7

修正上海躉售物價指數表 (續)

The Revised Index Numbers of Wholesale Prices in Shanghai (*Cont'd.*)

民國十五年平均=100　　Average of 1926=100

類別 / 年別	各類指數 By Groups								總指數 General Index
	糧食 Cereals	其他食物 Other Food Products & Provisions	紡織品及其原料 Textile Fibres & Manufactures Thereof	金屬 Metals	燃料 Fuel & Lighting	建築材料 Building Materials	化學品 Chemicals & Preparations Thereof	雜類 Miscellaneous	
民國十七年 1928									
一月 Jan.	88.3	107.0	101 0	103.5	104.8	103.7	102.2	101.0	101.0
二月 Feb.	92.3	109.8	101.4	104.2	103.9	103.6	100.0	101.9	102.2
三月 Mar.	94.4	108.0	102.6	103.0	103.0	101.9	101.1	102.7	102.4
四月 Apr.	93.5	108.8	102.6	107.8	104.0	102.5	101.7	102 3	102.9
五月 May	93.2	109.5	103.7	107.0	102.1	101.4	102.1	103.0	103.0
六月 June	87.2	109.0	102.4	104.8	102.7	101.2	103.2	103.6	101.7
七月 July	85.1	107.7	103.3	101.6	102.5	99.8	102.5	103.2	100.8
八月 Aug.	82.6	108.0	100.6	99.6	103.5	102.3	102.1	101.9	99.8
九月 Sept.	82.1	108 3	99.8	98.8	101.5	101.3	100.3	100.0	98.9
十月 Oct.	89.4	104.3	101.9	99.7	103.7	105.5	100.2	100.1	101.2
十一月 Nov.	91.1	107.9	101.7	101.3	103.2	106.1	99.4	100.4	101.4
十二月 Dec.	93.2	106.1	101.7	101.4	103.7	105.8	99.5	101.7	101.6
民國十八年 1929									
一月 Jan.	93.6	106.6	101.5	101.2	103.2	105.9	102.3	101.1	101.7
二月 Feb.	95.3	107.7	101.5	105.5	106.1	107.9	104.5	102.5	103.2
三月 Mar.	94.9	108.4	102.6	109.8	106.2	107.9	105.7	103.0	104.1
四月 Apr.	89.2	107.7	102.0	112.9	105.4	109.0	105.3	103.2	103.1
五月 May.	89.5	110 1	99.9	109.1	103.4	108.8	105.3	102.6	102.6
六月 June	91.2	110.7	99.7	110.7	104.2	108.1	105.2	103.1	103.0
七月 July	95.2	108 1	100.3	111.5	103.6	107.8	106.6	102.6	103.4
八月 Aug.	99.7	108.4	102.0	112.3	104.4	106.8	106.5	104.6	104.8
九月 Sept.	103.7	110.7	104.3	112.7	104.6	108.4	106.3	104.9	105.6
十月 Oct.	106.2	111.3	104.4	114.0	104.1	109.1	106 3	106.8	107.4
十一月 Nov.	103.4	109.9	102.2	114.7	101.0	108.1	107.7	107.2	106.1
十二月 Dec.	103.1	109.2	101.1	115.0	101.2	107.9	107.0	106.1	105.5
民國十九年 1930									
一月 Jan.	103.1	112.9	103.4	123.2	103.4	108.3	108.8	105.5	108.3
二月 Feb.	111.5	115.7	105.1	129.1	107.3	111.2	112.3	108.6	111.3
三月 Mar.	110.5	115.0	105.0	131.0	107.0	114.7	115.5	106.6	111.3
四月 Apr.	113.0	113.5	104.7	129.4	106.3	114.9	115.2	107.3	111.2
五月 May	112.5	111.2	103.4	130.2	112.7	115.1	116.0	107.5	111.0
六月 June	118.4	121.1	106 3	144.5	119.4	120 0	124.4	112.9	117.5
七月 July	121.7	126.6	107.8	144.4	122.7	124.7	125.0	115.2	120.4
八月 Aug.	117.6	125.8	107.6	144.2	122.1	123.1	123.7	114.7	119.6
九月 Sept.	114.8	126.3	106.5	137.2	125.5	120.5	124 9	114.5	118.4
十月 Oct.	100.8	123.7	106.6	138.5	123.6	120.0	121.6	114.6	115.4
十一月 Nov.	98.5	120.8	105 8	136.7	123.5	121.7	121.6	112.9	114.1
十二月 Dec.	93.1	121.1	104.7	141.9	125.2	123.0	123.8	112.4	113.6
民國二十年 1931									
一月 Jan.	93.1	127.1	111.9	161.1	131.9	127.8	135.5	116.3	119.7
二月 Feb.	96.5	139.1	122.7	164.1	142.5	131.0	141.3	119.9	127.4
三月 Mar.	95.8	131.3	119.8	164.3	146.3	135.1	146.0	122.1	128.1
四月 Apr.	91.9	131.0	121.4	160.2	152.4	137.2	147.3	122.7	126.9
五月 May	95.0	137.6	118.9	159.5	153.1	136.0	147.6	123.8	127.5
六月 June	94 0	141.8	121.4	157.4	152.9	137.1	153.2	126.0	129.2

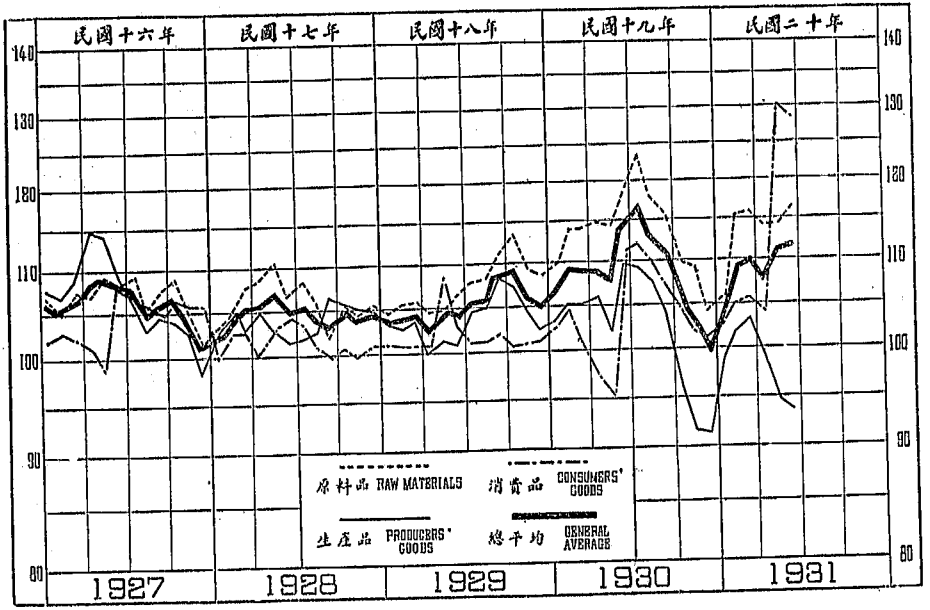
*自十六年一月起係新基期(十五年)之修正幾何平均指數。其十年一月至十五年十二月之指數，係根據各年躉物價表按舊基期(二年二月)計算幾何平均指數(參照附錄七)，而後轉換爲新基期。

* The index numbers beginning from January, 1927, are revised series on the new base (1926). Those from January, 1921 to December, 1926 are recomputed into geometric averages from the original price list on the February, 1913 base (see Appendix VII) and then converted to the new base.

附錄二
APPENDIX II

修正上海輸出物價指數圖
Chart of Revised Index Numbers of Export Prices in Shanghai

民國十五年平均=100　Average of 1926=100



修正上海輸出物價指數表

The Revised Index Numbers of Export Prices in Shanghai

民國十五年平均=100　　Average of 1926=100

類別 / 年別	原料品 Raw Materials					生產品 Producers' Goods	消費品 Consumers' Goods	總指數 General Index
	農產 Agricultural Products	動物產 Animal Products	林產 Forest Products	鑛產 Mineral Products	平均 Average			
民國十五年 1926	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
十六年 1927	105.3	102.2	109.2	119.7	108.6	106.5	104.4	106.1
十七年 1928	106.8	106.0	94.4	104.9	106.0	104.0	101.6	104.5
十八年 1929	109.6	108.3	93.1	99.2	107.5	103.6	102.0	105.2
十九年 1930	115.9	108.7	96.0	114.5	113.8	102.6	104.0	103.3
民國十六年 1927								
一月 Jan.	103.1	107.5	108.6	122.4	106.5	107.3	101.7	105.8
二月 Feb.	102.6	103.2	103.3	122.7	105.0	106.4	102.5	105.0
三月 Mar.	105.7	99.9	101.8	123.1	107.1	108.6	101.8	106.5
四月 Apr.	105.8	100.2	99.3	119.6	106.7	114.8	101.0	108.1
五月 May	106.7	102.1	99.5	129.8	109.0	113.9	98.6	108.5
六月 June	107.5	98.9	101.8	121.2	108.0	108.6	107.7	108.1
七月 July	109.1	99.4	104.4	121.5	109.2	105.8	106.1	107.5
八月 Aug.	104.6	95.4	96.4	121.4	105.3	103.1	105.3	104.7
九月 Sept.	106.9	102.9	97.9	118.1	107.6	104.5	104.5	106.0
十月 Oct.	103.2	105.8	96 5	115.9	108.6	104.1	106.6	106.8
十一月 Nov.	105.1	102.5	97.4	109.9	105.1	102.7	105.6	104.5
十二月 Dec.	97.8	111.3	98.4	110.1	101.4	98.3	105.4	101.2
民國十七年 1928								
一月 Jan.	101.1	109.8	99.0	108.2	103.2	103.1	99.8	102.5
二月 Feb.	103.7	110.8	91.3	106.0	104.6	105.0	102.9	104.4
三月 Mar.	109.0	105.4	91.8	105.9	107.5	103.2	103.0	105.3
四月 Apr.	110.3	102.6	91.8	108.3	108.3	104.9	109.0	105.6
五月 May	113.0	105.7	93.7	107.6	110.6	102.8	103.1	106.7
六月 June	107.8	104.2	93.8	106.7	105.7	101.7	104.2	104.6
七月 July	110.4	104.1	94.4	104.6	108.2	102.1	103.4	105 3
八月 Aug.	107.4	104.9	94.6	102.9	105.9	102.6	100.8	103.8
九月 Sept.	101.6	105.2	96 5	102.7	102.1	106.4	99.6	102.9
十月 Oct.	106.3	107.2	95.7	102.3	105.5	105.9	101.0	104.7
十一月 Nov.	105.1	104.4	93.8	102.1	104.2	105.1	99.6	103.6
十二月 Dec.	105.8	108.8	96.5	101.8	105.4	104.7	100.8	104.3
民國十八年 1929								
一月 Jan.	105.0	107.6	96.0	100.7	104.5	103.2	101.0	103 4
二月 Feb.	106.7	108.9	96.3	100.6	105.6	102.8	100.9	103.8
三月 Mar.	107.2	108.5	96.3	101.0	105.9	103.7	100.9	104.2
四月 Apr.	105.6	105.9	94.7	99.7	104.5	100.0	101.1	102.4
五月 May	106.4	105.3	95.2	98.3	104.8	101.5	108.5	104.5
六月 June	108.9	105.4	95.7	97 8	106.5	101.1	103.1	104.1
七月 July	110.7	108.0	90.8	97.4	107.8	104.6	101.2	105.5
八月 Aug.	111.8	105.3	89.8	97.6	108.2	105.0	101.3	105.8
九月 Sept.	115.6	106 4	92.0	98.0	111.1	107.8	101.7	108.2
十月 Oct.	117.0	115.6	89.8	98.6	113.4	107.0	100.5	103.9
十一月 Nov.	111.0	114.1	91.2	99.1	109.2	104.5	100.8	106.1
十二月 Dec.	109.1	112.2	89.8	101.3	107.9	102.3	101.1	104.8

修正上海輸出物價指數表 (續)

The Revised Index Numbers of Export Prices in Shanghai (*Cont'd*)

民國十五年平均=100 Average of 1926=100

類別 / 年別	原料品 Raw Materials					生產品 Producers' Goods	消費品 Consumers' Goods	總指數 General Index
	農產 Agricultural Products	動物產 Animal Products	林產 Forest Products	鑛產 Mineral Products	平均 Average			
民國十九年 1930								
一月 Jan.	111.1	112.5	90.4	106.8	110.1	103.2	102.4	106.4
二月 Feb.	115.8	108.4	92.9	113.5	113.7	105.2	104.5	109.2
三月 Mar.	115.8	109.4	93.9	114.2	113.9	105.2	101.1	108.7
四月 Apr.	117.8	107.4	92.4	113.0	114.8	105.9	97.1	108.5
五月 May	117.5	105.4	93.2	111.3	114.2	102.3	95.4	106.8
六月 June	120.7	108.4	96 3	118.1	117.8	109 6	111.5	114.0
七月 July	120 4	104.6	103.5	119.7	123 6	109.1	112.2	116.8
八月 Aug.	121.3	103.9	97.8	120.2	117.9	107.3	110.1	113.0
九月 Sept.	119.0	104.7	93.3	116.9	115.8	104.0	107.1	110.4
十月 Oct.	110 9	105.2	95.0	112 5	109.8	96.0	105.9	104.3
十一月 Nov.	109.8	105.2	100.9	110.3	109.0	91.6	102.0	102.2
十二月 Dec.	102.2	104.0	102.9	115.8	104.3	91.3	101.4	99.7
民國二十年 1931								
一月 Jan.	102 3	106.6	104.0	125.4	106.2	99.1	102.5	103.2
二月 Feb.	112.8	111.9	106.6	134.1	115.4	102.0	105.1	109.1
三月 Mar.	111.5	117.2	111.0	137.3	115.9	103.0	105.8	109.9
四月 Apr.	110.5	110 6	112.2	136.9	114.2	99.0	104.1	107.4
五月 May	111.2	106.9	113.8	137.2	114.2	94.6	139.1	111.3
六月 June	114 5	108.5	113.8	135.3	116.5	93.6	123.3	111.7

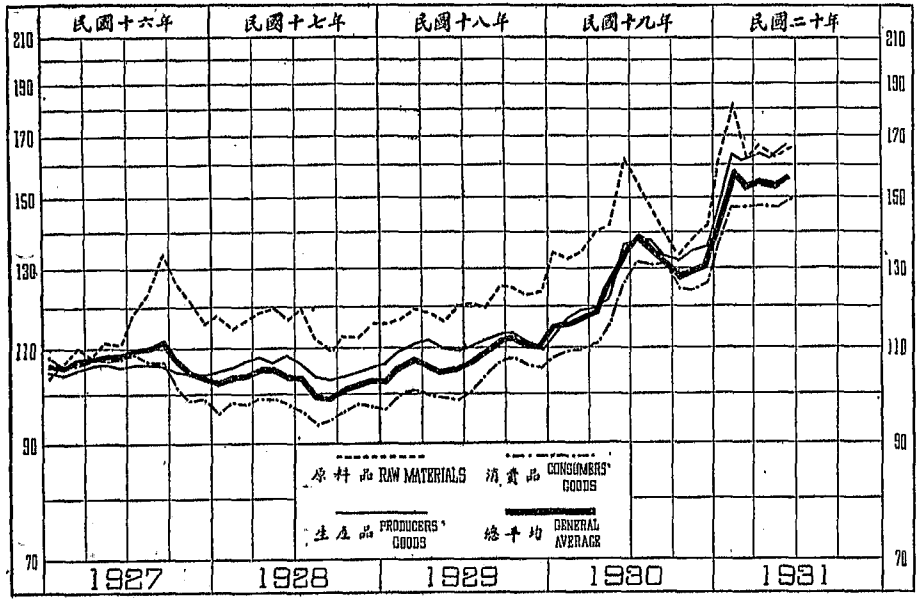
附錄三

APPENDIX III

修正上海輸入物價指數圖

Chart of Revised Index Numbers of Import Prices in Shanghai

民國十五年平均=100　Average of 1926=100



修正上海輸入物價指數表

The Revised Index Numbers of Import Prices in Shanghai

民國十五年平均=100　Average of 1926=100

類別 / 年別	原料品 Raw Materials				生產品	消費品	總指數
	農產 Agricultural Products	林產 Forest Products	鑛產 Mineral Products	平均 Average	Producers' Goods	Consumers' Goods	General Index
民國十五年 1926	100.0	100.0	100.0	100.0	100.0	100.0	100.0
十六年 1927	114.7	109.0	120.6	115.6	104.9	104.9	107.3
十七年 1928	119.9	102.8	105.2	115.5	105.4	96.8	102.6
十八年 1929	127.7	106.6	101.0	120.3	110.6	102.0	107.7
十九年 1930	151.1	121.7	116.9	141.6	128.1	120.7	126.7
民國十六年 1927							
一月 Jan.	97.6	110.1	118.4	103.0	104.3	107.7	106.0
二月 Feb.	100.4	110.9	121.5	105.7	103.8	105.8	105.4
三月 Mar.	106.5	110.2	123.0	110.3	104.9	105.6	106.5
四月 Apr.	103.6	109.1	122.1	108.0	105.8	107.4	107.2
五月 May	109.1	106.2	121.3	111.5	106.1	106.8	107.7
六月 June	109.4	108.7	116.2	110.8	105.4	107.3	107.7
七月 July	116.5	105.3	126.2	117.7	105.9	107.9	109.6
八月 Aug.	122.7	103.7	126.9	122.6	105.7	106.3	109.8
九月 Sept.	138.6	111.8	124.1	133.5	105.5	106.0	111.9
十月 Oct.	130.4	110.9	119.3	126.5	104.3	101.4	107.5
十一月 Nov.	124.2	108.9	116.3	121.3	104.0	98.4	104.5
十二月 Dec.	117.9	108.8	113.1	116.1	103.6	98.8	103.6
民國十七年 1928							
一月 Jan.	120.6	106.8	112.9	117.9	104.1	95.9	102.3
二月 Feb.	116.8	106.0	110.8	114.7	104.8	98.3	103.2
三月 Mar.	120.9	103.5	108.2	116.8	106.5	97.9	103.7
四月 Apr.	123.3	102.9	107.5	118.4	107.5	99.1	105.0
五月 May	125.2	101.7	107.5	119.7	106.4	99.0	105.0
六月 June	121.8	101.4	106.4	117.0	107.8	97.3	103.6
七月 July	126.2	100.6	104.3	119.6	106.2	96.2	103.3
八月 Aug.	118.0	100.8	103.2	112.1	103.5	93.5	99.5
九月 Sept.	112.5	100.9	101.9	109.3	102.8	94.0	99.1
十月 Oct.	117.2	101.5	100.6	112.5	103.3	96.0	101.0
十一月 Nov.	117.3	103.4	99.7	112.5	104.4	97.6	102.2
十二月 Dec.	121.7	104.3	98.7	115.4	105.2	97.1	102.7
民國十八年 1929							
一月 Jan.	121.2	107.1	99.9	115.6	106.3	96.6	102.6
二月 Feb.	122.6	109.1	100.8	116.9	109.3	100.1	105.6
三月 Mar.	126.5	110.7	100.5	119.7	111.3	101.0	107.1
四月 Apr.	123.2	108.9	103.3	117.8	111.8	99.8	106.1
五月 May	122.2	108.1	100.6	116.5	109.9	98.9	104.9
六月 June	127.5	107.5	101.1	120.3	109.7	98.5	105.4
七月 July	128.8	107.1	99.6	120.9	110.3	100.2	106.7
八月 Aug.	127.5	106.0	99.4	119.9	111.7	103.6	108.7
九月 Sept.	134.8	105.7	100.2	125.2	112.5	106.4	111.7
十月 Oct.	134.4	103.5	101.7	125.0	112.9	107.7	112.5
十一月 Nov.	131.2	102.9	101.9	122.8	111.4	105.8	110.6
十二月 Dec.	131.9	103.2	102.8	123.4	109.5	105.3	110.1

修正上海輸入物價指數表 (續)

The Revised Index Numbers of Import Prices in Shanghai (*Cont'd.*)

民國十五年平均=100　　Average of 1926=100

類別 / 年別	原料品 Raw Materials				生產品 Producers' Goods	消費品 Consumers' Goods	總指數 General Index
	農產 Agricultural Products	林產 Forest Products	鑛產 Mineral Products	平均 Average			
民國十九年 1930							
一月 Jan.	144.2	103.3	111 7	134 2	113.2	107.8	114.6
二月 Feb.	139.2	106.5	118.9	132.4	116.9	109.3	115.8
三月 Mar.	142.3	109.5	117.4	134.5	119.0	109.8	117.0
四月 Apr.	150.5	111.8	115.6	140.2	119.5	111.2	119.2
五月 May	152.9	115.7	113.0	141.6	121.4	115.5	122.3
六月 June	177.8	134 5	119.4	162.0	136 4	126.1	136.0
七月 July	165.6	139.5	122.9	154.5	137.5	131.4	137.7
八月 Aug.	155.9	134.0	122.8	147.2	137.2	130.7	135.6
九月 Sept.	147.3	120.6	115.9	139.2	133.1	131.2	133.3
十月 Oct.	139.9	127.2	113.9	133.4	131.7	124.5	127.8
十一月 Nov.	147.8	123.0	112.8	138.5	134.3	124.0	129.2
十二月 Dec.	150.6	125.7	118.2	141.8	135.7	126.0	131.3
民國二十年 1931							
一月 Jan.	173.7	135.4	124.8	160.4	150.5	138.2	145.5
二月 Feb.	200.2	143.1	135.1	182.0	163.5	146.9	157.8
三月 Mar.	170.2	150.3	140.1	162.2	161.9	146 8	153 2
四月 Apr.	175.6	150.3	139 0	165.9	163.8	147.3	154.6
五月 May	169.8	152 2	141.0	162.3	162 8	146.8	153.3
六月 June	172.0	159.6	142.0	164 6	166 0	149.6	156.1

附錄四
APPENDIX IV

修正上海躉售物價指數之基價
Commodities and Their Basic Prices in the Revised Index Numbers of Wholesale Prices in Shanghai

物品及項目 Commodities & Descriptions		單位 Unit	*基年價格 Basic Price 元
	糧食類 Cereals		
米	Rice:—		
	常河機粳 Rice, Long, Changshu	石 200 lbs.	12.165
	蘇同機粳 ,, ,, Soochow	,,	11.383
	江西機粳 ,, ,, Kiangsi	,,	9.919
	湖南米 ,, ,, Hunan	,,	9.572
	一號西貢米 ,, 1 st. quality, Saigon	,,	9.537
	緬甸米 ,, Meedong, Rangoon	,,	9.515
	常河機元 ,, Glutinous, Changshu	,,	11.919
小麥	Wheat:—		
	漢口小麥 Wheat, Hankow	担 picul	4.533
	火車小麥 ,, Tientsin-Pukow Railway	,,	4.623
	頭號美國小麥 ,, 1 st. quality, U. S. A.	,,	5.150
麵粉	Wheat Flour:—		
	綠兵船牌麵粉 Wheat Flour, "Green Battleship"	袋 sack	2.335
	老車牌麵粉 ,, ,, "Bicycle"	,,	2.336
	雙馬牌麵粉 ,, ,, "Two Horses"	,,	2.320
	金鐘牌麵粉 ,, ,, "Gold Bell"	,,	2.274
	紅日當天牌麵粉 ,, ,, "Major"	,,	2.276
黃豆	Soya Beans:—		
	大連黃豆平格 Soya Beans, Dairen	担 picul	4.576
	火車河南黃豆 ,, ,, Honan	,,	4.334
蠶豆	漢口蠶豆 Broad Beans, Hankow	,,	3.094
豌豆	浦口白豌豆 White Peas, Pukow	,,	3.894
黑豆	漢口黑豆 Black Beans, Hankow	,,	3.873
高粱	大連紅粱 Kaoliang, Dairen	,,	3.046
苞米	大連苞米 Corn, Dairen	,,	3.113

修正上海躉售物價指數之基價 (續)

Commodities and Their Basic Prices in the Revised Index Numbers of Wholesale Prices in Shanghai (*Cont'd.*)

物品及項目 Commodities & Descriptions		單位 Unit	基年價格 Basic Price 元
其他食物類 Other Food Products & Provisions			
茶	Tea:—		
珍眉綠茶屯溪上等	Tea, Green, 1st. quality, "Chun Mee"	担 picul	99.083
祁門紅茶上等	Tea, Black, 1st. quality, "Kee Mum"	,,	91.292
咖啡 二號爪哇咖啡	Coffee, 2nd. quality, Java	,,	43.583
糖	Sugar:—		
十號赤屑赤糖	Sugar, Brown, No. 10	,,	6.142
廿四號粗砂白糖	,, White, No. 24	,,	7.513
八號車白糖	,, ,, "N", Japan	,,	7.319
酒	Liquor:—		
紹加重紹酒	Liquor, Best, Shaosing	,,	8.417
上海啤酒	Beer, "U. B."	箱 case	8.642
白蘭地酒	Brandy	打 dozen	18.278
菸葉	Tobacco Leaves.—		
頭號坊子菸葉	Tobacco Leaves, 1st. quality Shangtung	担 picul	29.158
頭號美國菸葉	Tobacco Leaves, 1st. quality, U.S.A	百磅 100 lbs.	53.326
紙煙	Cigarettes:—		
金鼠牌紙煙	Cigarettes, "Gold Rat"	千支 1,000	2.453
大紅牌紙煙	,, "Ruby Queen"	,,	2.691
橘 百五十只花旗鮮橘	Oranges, Fresh, 150 pcs-case, U.S.A.	箱 case	10.932
黑棗 統手棗	Dates, Black	担 picul	10.017
花生 山東生仁	Groundnuts, Kernels, Shangtung	,,	7.853
金針菜 中貨	Lily Flowers, 2nd. quality	,,	18.679
芝麻 亳州白芝麻	Seed, Sesamum, Bohchow	,,	8.794
油	Oil:—		
大連豆油	Oil, Bean, Dairen	,,	12.963
本廠生油	,, Groundnut, Local	,,	15.510

修正上海躉售物價指數之基價 (續)

Commodities and Their Basic Prices in the Revised Index Numbers of Wholesale Prices in Shanghai (*Cont'd.*)

物品及項目 Commodities & Descriptions			單位 Unit	基年價格 Basic Price $
		其他食物類 (續) Other Food Products & Provisions (cont'd.)		
龍口粉	正號龍口粉	Vermicelli, 1st. quality, Lungkow	担 picul	19.383
豬肉		Porks, Fresh	,,	23.561
牛肉		Beef ,,	百磅 100 lbs.	12.078
羊肉		Mutton ,,	,,	15.914
火腿	金華味爾號	Ham, Kinhwa	担 picul	42.710
蛋		Eggs:—		
	大號洋鷄蛋	Eggs, Fresh, Selected	千個 1,000	15.487
	鷄蛋白 塊白 無鋅質	Egg Albumen, Crystals without Zinc	担 picul	127.083
牛乳	淡牛乳	Milk, Evaporated	箱 case	7.604
魚		Fish:—		
	北洋鹹帶魚	Fish, Salt, Native	担 picul	8.657
	座門魚	,, Salmon, Japan	,,	8.467
海參	日本大號十番參	Bicho de Mar, Black, Spiked, Japan	,,	170.833
		紡織品及其原料類 Textile Fibres & Manufactures Thereof		
棉花		Cotton, Raw:—		
	陝西棉	Cotton, Raw, Shensi	担 picul	31.074
	通州棉	,, ,, Tungchow	,,	33.117
	火機棉	,, ,, Best, Steam-ginned, Local	,,	31.667
	鹽燒棉	Cotton, Raw, Yuyao	,,	30.131
棉紗		Cotton Yarn:—		
	十支大發棉紗	Cotton Yarn, 10's, "Daifei"	包 bale	130.890
	十六支人鐘棉紗	,, ,, 16's, "Chen Tsong"	,,	138.250
	十六支寶鼎棉紗	,, ,, ,, "Pao Ding"	,,	139.083
	二十支金城棉紗	,, ,, 20's, "Grand Wall"	,,	154.115

修正上海躉售物價指數之基價 (續)

Commodities and Their Basic Prices in the Revised Index Numbers of Wholesale Prices in Shanghai (*Cont'd.*)

物品及項目 Commodities & Descriptions		單位 Unit	基年價格 Basic Price 元
	紡織品及其原料類 (續) Textile Fibres & Manufactures Thereof (cont'd.)		
	二十支水月棉紗 Cotton Yarn, 20's "Water Moon"	包 bale	151.963
	卅二支美人棉紗 „ „ 32's, "Funabijin"	„	225.067
	四十二支雙鹿雙股棉紗 „ „ 2/42's, "Two Deer"	„	275.893
棉布	Cotton Tissues:—		
	十二磅本廠本色細布 Shirtings, Grey, 12 lb., Native	疋 piece	6.532
	十二磅日本本色細布 „ „ „ Japan	„	7.297
	十一磅本色粗布 Sheetings „ 11 lb.	„	4.473
	十四磅本色粗布 „ „ 14 lb.	„	5.935
	英國漂白布 Shirtings, White, G. B.	„	9.441
	冲深色花樣 „ Printed	„	4.107
	十二磅本色粗斜 Drills, Grey, 12 lb.	„	5.035
	十二磅本色細斜 Jeans, „ „	„	6.429
	五枝緞直貢呢 Satteen Drills, 5-shaft	碼 yard	0.249
	元素羽綢 Cotton Italians, Black	疋 piece	12.501
苧蔴	Ramie:—		
	頭二號武穴白蔴 Ramie, 1st. & 2nd. quality, Hupeh	担 picul	26.292
	頭二號沅江蔴 „ „ „ „ Yuan-kiang	„	24.450
夏布	瀏陽夏布 Grasscloth, Liuyang	十六疋 16pcs.	55.417
蔴布	十一行蔴袋布 Hessian Cloth, 11 oz.	千碼 1,000 yds.	149.208
羊毛	山東縣羊毛 Sheep's Wool, Shangtung	担 picul	36.167
絨線	四股毛絨線 Woollen Yarn, Knitting Cords, 4-ply	磅 lb.	2.000

修正上海躉售物價指數之基價 (續)

Commodities and Their Basic Prices in the Revised Index Numbers of Wholesale Prices in Shanghai (Cont'd.)

物品及項目 Commodities & Descriptions			單位 Unit	基年價格 Basic Price 元
		紡織品及其原料類 (續) Textile Fibres & Manufactures Thereof (cont'd.)		
呢絨		Woollen Tissues:—		
	嘩嘰	Serges	碼 yard	2.656
	直貢呢	Venetians	,,	3.632
	麥登	Melton	,,	1.616
繭	無錫乾繭	Silk Cocoons, Wusih	担 picul	150.417
生絲		Raw Silk:—		
	高等廠里乾經	Raw Silk, White, Rereeled, Ex. 1 & 2	,,	780.417
	高等白廠經	,, ,, ,, & 2 ,, Steam-filatures, 1	,,	1292.500
	高等黃廠經	Raw Silk, Yellow	,,	1097.083
人造絲	C/150	Artificial Silk Yarn, C/150	百磅 100 lbs.	153.958
綢緞		Silk Tissues:—		
	縐紗綢	Crape de Chine	碼 yard	2.300
	六九經分白綢	Huchow Crape	兩 liang	0.836
	頭號山東府綢	Silk Pongee, 1st. quality, Shangtung	疋 piece	13.408
		金屬類 Metals		
鋼鐵		Iron & Steel:—		
	頭號漢冶萍生鐵	Pig Iron, 1st. quality, H. Y. P. Co.	噸 ton	36.208
	徑四吩圓林圓鋼	Mild Steel Round Bars, 1" in diameter	担 picul	3.360
	厚半吩船鋼板	Ship Plates, 1/16" thick	,,	4.458
	三十號鍍鋅平白鐵	Plain Sheets, Galvanized, No. 30	,,	11.614
	九十磅素馬口鐵	Tinned Plates, Plain, 90 lbs.-case.	箱 case	7.692
	二吋厘鐵管	Iron Tubes, 2" in diameter	尺 foot	0.200
	一至六吋法西釘	Wire Nails, 1"—6"	桶 barrel	4.333

修正上海躉售物價指數之基價 (續)

Commodities and Their Basic Prices in the Revised Index Numbers of Wholesale Prices in Shanghai *(Cont'd.)*

物品及項目 Commodities & Descriptions			單位 Unit	基年價格 Basic Price $
		金屬類 (續) Metals (cont'd.)		
鋼鐵		Iron & Steel:—		
	十六號鍍鋅白鉛絲	Wire, Galvanized, No. 16	担 picul	5.650
	一至九號洋針	Needles, No. 1-9	萬枝 10,000	14.000
銅	T. C. 紫銅錠	Copper Ingots, T. C.	担 picul	30.125
鉛	坎拿大大條鉛	Lead, Canada	,,	14.375
錫	雲南小餅錫	Tin, Yunan	,,	115.958
		燃料類 Fuels & Lighting		
煤		Coal:—		
	柳江白煤	Anthracite, Liukiang	噸 ton	10.427
	東京白煤	,, Hongay	,,	20.958
	三號松浦塊煤	Coal, Lump, 3rd. quality, Matsaura	,,	7.408
	頭號增田統煤	,, Mixture, 1st. ,, Masuda	,,	9.596
	二號開平屑	,, Dust, 2nd. ,, Kaiping	,,	6.885
	頭號新紅屑	,, ,, 1st. ,, Mike	,,	8.567
柴	泗安大反白柴	Firewood, Good, Sze-an	五十捆 50 bdles.	1.253
炭	溫州和炭	Charcoal, Wenchow	担 picul	1.089
礦物油		Mineral Oil:—		
	美孚煤油	Kerosene, Socony	箱 case	3.447
	汽發油	Gasoline	五加侖 5 gals.	2.976
	上等柴油	Liquid Fuel, 1st. quality	噸 ton	30.265
洋燭	十二兩洋燭	Candles, 12 oz.	箱 case	3.078
火柴	紮標安全火柴	Safety Matches	箱 chest	26.167
		建築材料類 Building Materials		
木材		Timbers:—		
	一號宇碼雙連杉木	Softwood, Fir	根 piece	3.282

修正上海躉售物價指數之基價 (續)

Commodities and Their Basic Prices in the Revised Index Numbers of Wholesale Prices in Shanghai (Cont'd.)

物品及項目 Commodities & Descriptions			單位 Unit	基年價格 Basic Price 元
		建築材料類 (續) Building Materials (Cont'd.)		
木材		Timbers:—		
	八至廿二呎花旗松經板料	Oregon Pine, Planks, 8-32 ft.	千方呎 1,000 sup. ft.	49.604
	建松板	Pine Planks, Fukien	千呎 1,000 ft.	37.667
	黃麻梁斬方料	Ash, Yellow, Hewn Log	千方呎 1,000 sup. ft.	70.208
	暹邏柚木鋸方料	Teak, Sawn Log, Siam	〃	198.750
石灰	頭號無錫坡灰	Lime, Wusih	桶 240 lbs.	1.171
水泥	啟新水泥	Cement, Native	桶 barrel	3.417
磚	三號新放黑磚	Bricks, 9"×4½"×2½"	萬塊 10,000	63.213
玻璃	三七搭四號比國原片	Window Glass, Common	百方呎 100 sq. ft.	4.263
生漆	徽州生漆	Varnish, Crude, Huichow	担 picul	113.381
漆油		Boiled Linseed Oil	五加侖 5 gals.	3.229
		化學品類 Chemicals & Preparations Thereof		
硫酸	六十六度硫酸	Acid, Sulphuric, 66° Bé	箱 case	10.709
鹼	純鹼	Soda Ash	担 picul	4.242
硫酸銨	次等硫酸銨	Ammonium Sulphate, 2nd. quality	百磅 100 lbs.	5.044
綠酸鉀	上等綠酸鉀	*Potassium Chlorate*, 1st. 〃	會 cwt.	12.021
明礬	溫州明礬	Alum, Wenchow	担 picul	3.567
石蠟	百廿五至百廿七度巴拉非尼	Paraffin, 125°-127°	〃	12.100
火酒		Alcohol	箱 case	5.017
染料		Dyes:—		
	直接靛粉	Fast Indigo, Blue	六兩 ¼ lb.	0.358
	二成靛油	Indigo Paste, 20%	担 picul	34.535
	青光元	Immedial Black, NNG	〃	33.500

修正上海躉售物價指數之基價 (續)

Commodities and Their Basic Prices in the Revised Index Numbers of Wholesale Prices in Shanghai *(Cont'd.)*

物品及項目 Commodities & Descriptions			單位 Unit	基年價格 Basic Price. 圓
		雜類 Miscellaneous		
紙		Paper:—		
	毛邊紙	Paper, "Mao Pien"	件 bundle	10.700
	25"×44"十七磅白有光紙	„ M. G. Cap, 25"×44", 17 lb.	令 ream	1.448
	31"×43"三十七磅報紙	„ Newsprinting, 31"×43", 37 lb.	„	2.598
植物油		Vegetable Oil:—		
	梭油	Vegetable Tallow	担 picul	18.950
	副洪桐油	Wood Oil, 2nd. quailty, Hungkiang.	桶 barrel	20.475
馬達油	二號馬達油	Motor Oil, 2nd. quality	英加侖 Imp. gal.	0.921
豆餅	本廠豆餅	Bean-cake, Local	片 piece	1.528
麩皮	本廠小包麩皮	Bran, *small sack, Local*	担 picul	2.671
牛皮		Hides & Leather:—		
	淡股生黃牛皮	Hides, Cow	„	36.729
	正一號生猓紅皮	Leather, Red, AI	„	48.250
猪鬃	十七號黑猪鬃	Bristles, Black	„	120.667
猪腸	一二路猪腸	Intestines, Hog's	百副 100 sets	35.732
套鞋	橡皮男套鞋	Rubber Shoe, Men's	打 dozen	13.438
肥皂	百二十塊肥皂	Laundry Soap, 60 Doublets	箱 case	4.699
電燈泡	200 V. 15-40 W.	Electric Bulb, 200 V. 15-40 W.	百只 100	22.139
磁器	三號青花人物菜碗	Chinaware, Bowl, Decorated	打 dozen	2.079
搪磁器	卅生的本廠菜盆面盆	Enamelled-ware, Basins, 30 *cm.*, Local	„	1.650
布傘	廿八吋黃綾布傘	Umbrella, 28", Cloth	„	7.825

*民國十五年全年平均價格 Average price of 1926.

附錄五
APPENDIX V

修正上海輸出物價指數之基價及權數
Commodities, Their Basic Prices and Weights in the Revised Index Numbers of Export Prices in Shanghai

物品及項目 Commodities & Descriptions			單位 Unit	* 基年價格 Basic Price $	† 權數 (關銀千兩) (1000 Hk.$)
		原料品 Raw Materials			
		農產 Agricultural Products			
小麥	漢口小麥	Wheat, Hankow	担 picul	4.533	1,099
黃豆	大連黃豆平格	Beans, Yellow, Dairen	,,	4.576	69,847
蠶豆	漢口蠶豆	,, Broad, Hankow	,,	3.094	2,144
赤豆	崇明沙赤豆	,, Red, Tsungming	,,	5.176	3,490
青豆	漢口青豆	,, Green, Hankow	,,	4.218	1,737
高粱	大連紅粱	Kaoliang, Dairen	,,	3.046	2,228
烟葉	頭等坊子烟葉	Tobacco Leaves, 1st. quality, Shangtung	,,	29.158	4,236
花生		Groundnuts:—			
	徐州花生	Groundnuts, in shells, Hsuchow	,,	5.754	4,864
	山東生仁	Groundnuts, kernels, Shangtung	,,	7.853	12,521
芝麻	亳州白芝麻	Sesamum Seed, white, Bohchow	,,	8.794	5,366
棉花	陝西棉	Cotton, Raw, Shensi	,,	31.074	35,936
苧麻	頭二號武穴白麻	Ramie, 1st. & 2nd. quality, Hupeh	,,	26.292	3,676
子餅		Seeds & Cakes:—			
	蕪湖菜子	Seed, Rape, Wuhu	,,	5.620	4,373
	通州棉子	,, Cotton, Tungchow	,,	1.978	1,747
	胡麻子	,, Linseed	,,	13.917	1,112
	本地豆餅	Bean-cake, Local	片 piece	1.523	60,085
	浙江毛菜餅	Seed-cake, Rape, Chekiang	担 picul	2.049	1,248
	棉子餅籽	,, ,, Cotton	,,	2.956	2,118
麩皮	本廠小包麩皮	Bran, small sack, Local	,,	2.671	6,998
		動物產 Animal Products			
羊毛	山東縣羊毛	Sheep's Wool, Shangtung	,,	86.167	11,060
繭	無錫乾繭	Silk Cocoons, Wusih	,,	150.417	3,500
廢絲	廢長吐	,, Wasted, Long	,,	214.833	9,177

修正上海輸出物價指數之基價及權數 (續)

Commodities, Their Basic Prices and Weights in the Revised Index Numbers of Export Prices in Shanghai (*Cont'd.*)

物品及項目 Commodities & Descriptions			單位 Unit	基年價格 Basic Price 圓	權數 (關銀千兩) (1000 Hk.圓)
		動物產 (續) Animal Products (cont'd.)			
牛皮	洪板生黃牛皮	Hides, Cow	担 picul	36.729	8,591
猪鬃	十七號黑猪鬃	Bristles, Black	„	120.667	2,772
猪腸	一二路猪腸	Intestines, Hog's	百副 100 sets	35.732	3,802
羊腸	十八至二十分羊腸	„ Goat's & Sheep's	„	29.768	1,106
		林產 Forest Products			
杉木	一錢半福建逸杉木	Softwood, Fir	根 piece	3.282	6,546
建松板		Pine Planks, Fukien	千呎 1,000 ft.	37.667	3,898
		鑛產 Mineral Products			
鐵	頭號煉冶平生鐵	Pig Iron, 1st. quality, H Y P. Co.	噸 ton	36.208	4,717
錫	雲南小碌錫	Tin, Yunnan	担 picul	115.958	9,716
鎳	湖南礵鎳	Antimony, Regulus, Hunan	噸 ton	449.417	5,183
煤		Coal:—			
	頭號撫順統煤	Coal, Mixed, 1st. quality, Fushun	„	9.579	4,008
	頭號撫順屑	Coal, Dust, 1st. quality, Fushun	„	7.648	21,195
		生產品 Producers' Goods			
油		Oil:—			
	大連豆油	Oil, Bean, Dairen	担 picul	12.963	26,021
	本廠生油	„ Groundnut, Local	„	15.510	9,601
棉紗	十六支人鐘棉紗	Cotton Yarn, 16's, "Chen Tzong"	包 bale	138.250	11,443
生絲		Raw Silk:—			
	高等白廠經	Raw Silk, White, Steam filature, 1 & 2	担 picul	1292.500	107,585
	高等黃廠經	Raw Silk, Yellow, Steam-filature, 1 & 2	„	1097.083	16,252

修正上海輸出物價指數之基價及權數 (續)

Commodities, Their Basic Prices and Weights in the Revised Index Numbers of Export Prices in Shanghai (Cont'd.)

物品及項目 Commodities & Descriptions			單位 Unit	基年價格 Basic Price 元	權數 (關銀千圓) (1000 Hk.$)
		生產品 (續) Producers' Goods (cont'd.)			
	八蠶灰經	Raw Silk, Wild, Filatures	担 picul	530.417	13,365
生漆	徽州生漆	Varnish, Crude, Huichow	,,	113.881	1,185
紙		Paper:—			
	毛邊紙	Paper, "Mao Pien"	件 bundle	10.709	1,014
	連史紙	,, "Lien Shih"	,,	16.250	1,467
糊油	平粗籽油	Vegetable Tallow	担 picul	18.950	1,012
桐油	1524° 白桐油	Wood Oil, 1st. quality, 1524°	噸 ton	351.004	18,128
五倍子		Nutgalls, Szechuen	担 picul	19.925	1,485
		消費品 Consumers' Goods			
麵粉	綠兵船牌麵粉	Wheat Flour, "Green Battleship"	袋 sack	2.335	798
茶		Tea:—			
	珍眉綠茶屯溪上等	Tea, Green, 1st. quality, "Chun Mee"	担 picul	99.033	13,133
	祁門紅茶上等	Tea, Black, 1st. quality, "Kee Mum"	,,	91.292	12,385
紙煙	金鼠牌紙煙	Cigarettes, "Gold Rat"	千支 1,000	2.453	16,144
杏仁	漢口中貨	Apricot, 2nd. quality, Hankow	担 picul	56.125	1,269
龍口粉	正號龍口粉	Vermicelli, 1st. quality, Lungkow	,,	19.383	4,080
火腿	金華味蘭腿	Ham, Kinhwa	,,	42.719	645
猪油	熟猪油	Lard, Boiled	,,	29.192	1,672
蛋		Eggs:—			
	大號鮮鷄蛋	Eggs, Fresh, Selected	千個 1,000	15.487	7,602
	鷄蛋白 塊白經鋅質	Egg Albumen, Crystals without Zinc	担 picul	127.083	7,853
	鷄蛋黃 上等飛黃	Egg Yolk, Dried, 1st. quality	,,	67.708	8,213

修正上海輸出物價指數之基價及權數 (續)

Commodities, Their Basic Prices and Weights in the Revised Index Numbers of Export Prices in Shanghai (*Cont'd.*)

物品及項目 Commodities & Descriptions		單位 Unit	基年價格 Basic Price 圓	權數 (關銀千兩) (1000 Hk.兩)
	消費品 (續) Consumers' Goods (cont'd.)			
棉布	Cotton Tissues:—			
	十一磅本色粗布 Sheetings, Grey, 11 lb.	疋 piece	4.473	3,084
	十四磅本色粗布 „ „ 14 „	„	5.905	9,963
花邊	十九格挑花機空邊 Lace, Hand-made	碼 yard	0.131	4,517
夏布	瀏陽夏布 Grass-cloth, Coarse, Liuyang	十六疋 16 pcs.	55.417	4,771
地毯	九十道梭絨地毯 Carpets, Hand-made, 90 row	方呎 sq. ft.	1.339	6,490
綢緞	Silk Tissues:—			
	六九標分白湖縐 Huchow Crape	兩 liang	0.836	18,311
	頭號山東府縐 Silk Pongee, 1st. quality' Shangtung	疋 piece	13.498	8,699
柴	泗安大反白柴 Firewood, Good, Sze An	五十捆 50 bdles.	1.253	699
炭	溫州和炭 Charcoal, Wenchow	担 picul	1.089	826
磁器	三號普花人物茶碗 China-ware, Bowl, Decorated	打 dozen	2.079	2,086

*民國十五年全年平均價格 Average price of 1926.

†民國十四,十五,十六三年平均輸出價值 Average export value of 1925-27.

附錄六
APPENDIX VI

修正上海輸入物價指數之基價及權數
Commodities, Their Basic Prices and Weights in the Revised Index Numbers of Import Prices in Shanghai

	物品及項目	Commodities & Descriptions	單位 Unit	基年價格 Basic Prices $	權數 [illegible]
	原料品	**Raw Materials**			
	農產	**Agricultural Products**			
小麥	[illegible]	Wheat, 1st. quality, U. S. A.	担 picul	6.150	9,625
菸葉	[illegible]	Tobacco Leaves, 1st. quality, U. S. A.	百磅 100 lbs.	48.329	22,411
棉花	[illegible]	Cotton, Raw, Strict Mid. Ling, U. S. A.	担 picul	39.450	41,176
	林產	**Forest Products**			
木材		Timber—			
	[illegible]	Oregon Pine, Planks, 6-32 ft.	千方呎 1,000 sup. ft.	60.691	8,007 (with next line)
	[illegible]	„ „ T. G. Flooring	„	64.667	
	[illegible]	Lauan, Plank, 6" wide	„	77.216	1,449 (with next line)
	[illegible]	Ash, Yellow, Hewn Log	„	70.296	
	[illegible]	Teak, Sawn Log, Siam	„	128.750	406
	礦產	**Mineral Products**			
銅	T. T. [illegible]	Copper Ingots, T. T.	担 picul	50.125	2,690
鉛	[illegible]	Lead, Canada	„	14.270	1,946
錫	[illegible]	Tin in Slabs, Singapore	„	127.000	6,600
煤		Coal:—			
	[illegible]	Anthracite, Hongay	噸 ton	27.198	2,155
	[illegible]	Dust Coal, 1st. quality, [illegible]	„	8.907	21,922
	生產品	**Producers' Goods**			
棉紗		Cotton Yarn:—			
	[illegible]	Cotton Yarn, 32's "[illegible]"	包 bale	[illegible]	2,[illegible] (with next line)
	[illegible]	Cotton Yarn, 32/2's, "[illegible]"	„	[illegible]	

修正上海輸入物價指數之基價及權數 (續)

Commodities, Their Basic Prices and Weights in the Revised Index Numbers of Import Prices in Shanghai (*Cont'd.*)

物品及項目 Commodities & Descriptions			單位 Unit 量	基年價格 Basic Price 零	權數 (關銀千兩) (1000 Hk.$)
		生產品 (續) Producers' Goods (cont'd.)			
棉線	30/50 六股二百碼白木紗	Sewing Thread, 30/50, 6-cord, 200yd.	羅 gross	10.776	1,690
毛線	四股毛織線	Woollen Yarn, Knitting Cords, 4-ply	磅 lb.	2.000	5,709
人造絲	C/150	Artificial Silk Yarn, C/150	百磅 100 lbs.	153.958	7,154
鋼鐵		Iron & Steel:—			
	徑四吩孟仕圓鋼	Mild Steel Round Bars, $\frac{1}{4}$" in diameter	担 picul	3.569	3,871
	寬二吋三角鐵	Angles, 2" wide	„	3.852	587
	斜淨元頭	Round Iron Shorts or Ends	„	3.250	1,830
	厚半吩船鋼板	Ship Plates 1/16 thick	„	4.458	2,304
	厚一吩船鋼板	„ „ $\frac{1}{8}$" „	„	3.783	
	三十號鍍鋅平白鐵	Plain Sheets, Galvanized, No. 30	„	11.614	3,246
	長塊剪口鐵	Plate Cuttings, Long	„	3.029	1,102
	九十磅素馬口鉄	Tinned Plates, Plain, 90lbs.-case	箱 case	7.602	5,522
	二吋黑鐵管	Iron Tubes, 2" in diameter	呎 foot	0.290	1,469
	一至六吋法四釘	Wire Nails, 1"-6"	桶 barrel	4.333	1,213
	十六號鍍鋅白鉛絲	„ Galvanized, No. 16	担 picul	5.650	817
銅		Copper & Brass:—			
	四吩至一吋黃銅條	Brass & Yellow Metal, Bars, $\frac{1}{4}$"-1"	„	30.323	459
	十二至二十二號黃銅皮	Brass & Yellow Metal, Sheets, No. 12-22	„	34.554	1,038
	十二至二十二號紫銅皮	Copper Sheets, No. 12-22	„	39.979	427
	一至二十八號紫銅綫	„ Wire, No. 1-28	„	39.646	596
礦物油		Mineral Oil:—			
	汽發油	Gasoline	五加侖 5 gals.	2.976	5,621
	上等柴油	Liquid Fuel, 1st. quality	噸 ton	39.265	3,381

修正上海輸入物價指數之基價及權數 (續)

Commodities, Their Basic Prices and Weights in the Revised Index Numbers of Import Prices in Shanghai (*Cont'd.*)

物品及項目 Commodities & Descriptions		單位 Unit	基年價格 Basic Price	權數 (國幣千兩) (1000 Hk.$)
	生產品 (續) Producers' Goods (cont'd.)			
礦物油	Mineral Oil:—			
	二號馬達油 Motor Oil, 2nd. quality	英加侖 Imp. gal.	0.921	2,153
水泥	日本水泥 Cement, Japan	桶 barrel	3.025	2,187
玻璃	三七搭四號比國原片 Window Glass, Common	百方呎 100 sq. ft.	14.263	1,049
酸	六十六度硫酸 Acid, Sulphuric, 66°	箱 case	10.709	1,103
鹼	Alkali:—			
	純鹼 Soda Ash	担 picul	4.242	2,393
	燒鹼 Caustic Soda	〃	6.490	869
硫酸銨	大等硫酸銨 Ammonium Sulphate, 2nd quality	百磅 100 lbs.	5.044	4,943
石蠟	百廿五至百廿七度巴拉非尼 Paraffin, 125°-127°	担 picul	12.190	4,882
火酒	Alcohol	箱 case	5.017	2,217
染料	Dyes:—			
	直接藍粉 Fast Indigo, Blue	六兩 ½lb.	0.358	3,987
	二成藍油 Indigo Paste, 20%	担 picul	34.833	12,660
	青光元 Immedial Black, NNG	〃	33.560	843
紙	Paper:—			
	25"×44"十七磅白有光紙 Paper, M. G. Cap, 25"×44" 17 lb.	令 ream	1.443	4.530
	31"×43"三十七磅報紙 Paper, Newsprinting, 31"×43", 37 lb.	〃	2.593	5,691
	31"×43"道林紙 Paper, M. F. Printing, 31"×43", 37 lb.	磅 lb.	0.103	2,629
	36"×48"牛皮紙 Paper, Kraft, 36"×48"	〃	0.083	1,181
	三十二糎捲菸紙 Paper, Cigarette, 32 mm.	盤 roll	1.165	1,933
椰子油	Coconut Oil	担 picul	20.067	668
熟皮	Leather:—			
	正一號生搖紅皮 Leather, Red, AI	〃	48.250	5,471
	B字黑牧皮 〃 Calf, Black, B	方呎 sq. ft.	0.655	2,415

修正上海輸入物價指數之基價及權數 (續)

Commodities, Their Basic Prices and Weights in the Revised Index Numbers of Import Prices in Shanghai (Cont'd.)

物品及項目 Commodities & Descriptions			單位 Unit	基年價格 Basic Price 圓	權數 (照銀千兩計) (1000 Tls.)
		消費品 Consumers' Goods			
米	一號西貢米	Rice, 1st. quality, Saigon	石 200 lbs.	9.537	86,070
麵粉	紅日當天牌麵粉	Wheat Flour, "Major"	袋 sack	2.276	19,975
茶	錫蘭茶	Tea, Lipton's, Yellow Label, Ceylon	箱 case	55.229	2,027
		Sugar:—			
	十號荷蘭赤糖	Sugar, Brown, No. 10, (Dutch Standard)	担 picul	6.142	11,349
	二十四號粗砂白糖	Sugar, White, No. 24 (Dutch Standard)	〃	7.513	82,222
	八號車白糖	Sugar, White, "X", Japan	〃	7.319	37,993
酒		Liquor:—			
	太陽啤酒	Beer, "Asahi"	箱 case	9.721	1,226
	白蘭地酒	Brandy	打 dozen	18.278	1,971
紙煙	大英牌紙煙	Cigarettes, "Ruby Queen"	千支 1,000	2.601	17,099
橙	百五十只花旗鮮橙	Oranges, Fresh, 150 pcs.-case U. S. A.	箱 case	10.982	1,709
洋參	二百支西洋參	Ginseng, 200 pcs.-catty	斤 catty	53.875	1,244
胡椒	黑胡椒	Pepper, Black	担 picul	46.167	713
通心粉	美國通心粉	Macaroni, U. S. A.	箱 case	3.633	952
牛乳	老牌煉乳	Milk, Condensed	〃	18.708	1,391
代乳粉		Infant Food	〃	30.500	543
奶油		Butter	〃	59.000	841
燕窩	馬來中等毛燕	Bird's Nest, Black, Malaysia	斤 catty	4.803	1,069
干貝	函館中粒	Compoy, Dried, Japan	担 picul	166.262	1,437
海參	日本大請十香參	Bicho de Mar, Black, Spiked, Japan	〃	170.833	2,301
海帶	根室海帶	Seaweed, Long, Japan	〃	4.925	2,864
棉布		Cotton Tissues:—			
	七磅本色原布	Shirtings, Grey, 7 lb.	疋 piece	4.583	30,149
	十二磅日本本色布	〃 〃 12 lb., Japan	〃	7.297	

修正上海輸入物價指數之基價及權數 (續)

Commodities, Their Basic Prices and Weights in the Revised Index Numbers of Import Prices in Shanghai *(Cont'd.)*

物品及項目 Commodities & Descriptions		單位 Unit	基年價格 Basic Price 圓	權數 (關銀千兩) (1000 Hk.$)
	消費品 (續) Consumers' Goods (cont'd.)			
棉布	Cotton Tissues:—			
	十四磅本色細布 Shirtings, Grey, 14 lb.	疋 piece	8.327	18,617
	英國漂白布 „ White, G. B.	„	9.441	
	日本漂白布 „ „ Japan	„	8.767	
	冲染色花標 „ Printed	„	4.107	9,158
	十二磅本色細斜 Jeans, Grey, 12 lb.	„	6.429	10,433
	元色細斜 „ Black	„	5.725	7,132
	五縷緞直貢呢 Sateen Drills, 5-shaft	碼 yard	0.249	23,529
	棉綫耳緞 Cotton Lastings, Dyed	„	0.528	3,754
	元素羽綢 „ Italians, Black	疋 piece	12.501	4,784
	元素春四緞 „ Venetians, Black	碼 yard	0.694	2,087
	織條府綢 „ Poplins, Striped	„	0.517	2,283
	元素尺六絨 „ Velvets, Black	„	0.638	1,220
麻布	十一行麻袋布 Hessian Cloth, 11 oz.	千碼 1,000 yards	149.208	1,057
麻袋	二磅半新粗麻袋 Gunny Bags, New, 2½ lb.	千隻 1,000 pcs.	391.667	1,337
呢絨	Woollen Tissues:—			
	綫呢嘩 Serges	碼 yard	2.656	5,330
	華達呢 Gabardines	„	3.692	796
	直貢呢 Venetians	„	3.632	3,444
	麥登 Melton	„	1.616	2,116
毛毯	四磅水蚕駝絨毯 Woollen Blankets, 4 lb.	條 piece	8.031	1,016
綢緞	Silk Tissues:—			
	元素東緞 Cotton & Silk Satin, Black Japan	碼 yard	0.484	824
	縐井綢 Crape de Chine	„	2.300	826
洋針	一至九號洋針 Needles, No. 1-9	萬枚 10,000	14.000	1,044

修正上海輸入物價指數之基價及權數 (續)

Commodities, Their Basic Prices and Weights in the Revised Index Numbers of Import Prices in Shanghai (*Cont'd.*)

物品及項目 Commodities & Descriptions			單位 Unit	基年價格 Basic Price 圓	權數 (原額千兩) (1000 Hk.圓)
		消費品 (續) Consumers' Goods (cont'd.)			
煤油		Kerosene:—			
	美孚煤油	Kerosene, Socony	箱 case	3.447	55,335
	亞細亞煤油	,, A. P. C.	,,	3.162	
火柴	瑞國安全火柴	Safety Matches	箱 chest	26.167	1,687
香皂	大寶檀香皂	Toilet Soap, Sandal	打 dozen	2.236	1,693
香水	檀香水	Perfume Water, Extract Sandal	,,	6.273	3,177
乾片	六吋乾片	Dry Plate, 6"	,,	1.393	981
電燈泡	200 V. 15-40 W.	Electric Bulb, 200 V. 15-40 W.	百只 100	22.139	1,024
磁器	七吋藍邊盆	Dinner Plate, 7", Green Edge	打 dozen	1.171	2,066
搪磁器	三十生的德國製磁面盆	Enamelled-ware, Basins, 30 cm., Germany	,,	2.026	1,031
傘	二十八吋單棉綢布傘	Umbrella, 28", Cloth	,,	7.825	1,262

* 民國十五年全年平均價格 Average price of 1926.

† 民國十四,十五,十六三年平均輸入淨價值 Average net import value of 1925-27

附錄七
APPENDIX VII

改算上海蔥售物價指數表*
Table of the Recomputed Index Numbers of Wholesale Prices in Shanghai*

民國二年二月=100　　February, 1913=100

類別 / 年別	各類指數 By Groups								總指數 General Index
	糧食 Cereals	其他食物 Other Food Products & Provisions	紡織品及其原料 Textile Fibres & Manufactures Thereof	金屬 Metals	燃料 Feel & Lighting	建築材料 Building Materials	化學品 Chemicals & Preparations Thereof	雜類 Miscellaneous	
民國十年 1921	119.4	128.1	141.5	148.8	157.7	165.7	232.3	136.2	150.8
十一年 1922	136.6	127.8	142.3	131.8	152.9	154.6	171.5	127.7	142.2
十二年 1923	142.7	147.4	151.2	153.8	149.2	152.5	156.5	129.1	147.1
十三年 1924	137.7	149.8	147.0	143.3	142.1	135.5	147.5	125.1	141.1
十四年 1925	150.6	149.8	146.0	150.1	144.4	127.2	146.4	132.4	145.2
十五年 1926	165.3	156.9	136.7	154.9	145.1	132.0	143.7	131.0	144.2
民國十年 1921									
一月 Jan.	105.2	128.0	129.3	146.1	164.8	163.5	251.6	136.9	148.4
二月 Feb.	107.0	130.5	132.7	151.2	166.0	166.6	267.1	138.3	152.2
三月 Mar.	108.4	131.2	135.4	147.3	167.4	162.8	272.5	138.8	153.1
四月 Apr.	108.6	127.3	136.6	156.9	167.7	161.3	258.9	138.4	152.7
五月 May	117.0	126.0	137.4	155.8	161 0	161.5	250.1	137.7	151.7
六月 June	120.1	126.1	142.6	154.2	158.6	165.6	237.6	136.0	152.0
七月 July	121.3	126.0	145.5	151.0	154.9	165.5	228.6	137.1	151.4
八月 Aug.	128.5	129.9	146.6	148.6	154.5	171.2	223.1	135.2	152.6
九月 Sept.	132.4	129.9	151.1	147.1	150.9	170.0	208.5	136.4	152.2
十月 Oct.	127.8	126.7	146.7	143.4	149.6	168.6	199.6	132.2	147.9
十一月 Nov.	126.7	128.3	146.1	143.8	148.8	168.9	196.7	133.2	147.8
十二月 Dec.	129.3	126.7	148.2	140.7	148.7	163.0	193.8	134.7	147.3
民國十一年 1922									
一月 Jan.	135.9	125.3	143.2	138.3	149.5	163.2	189.4	129.4	145.5
二月 Feb.	143.4	125.1	147.6	139.9	148.9	162.2	183.7	130.7	146.5
三月 Mar.	147.7	127.2	148.0	130.0	147.8	157.2	182.8	131.3	146.8
四月 Apr.	145.2	125.9	144.3	137.3	149.1	153.6	180.5	132.5	145.1
五月 May	139.6	125.1	142.7	132.2	154.1	156.2	175.5	128.9	143.1
六月 June	134.8	126.4	142.8	126.6	153.9	152.4	165.9	125.1	140.2
七月 July	136.8	131.2	140.8	125.5	152.6	152.2	164.6	126.4	140.7
八月 Aug.	131.5	128.2	138.0	127.0	150.2	151.1	165.2	123.7	138.6
九月 Sept.	132.9	125.6	134.0	126.1	150.0	151.6	160.8	123.7	137.0
十月 Oct.	130.7	126.7	135 9	126.1	153.5	155.1	164.7	126.2	138.7
十一月 Nov.	127.0	132.1	143.6	129.1	160.8	148.3	162.4	126.8	140.6
十二月 Dec.	133.6	134.3	146.3	134.6	164.6	152.2	163.0	127.6	143.5
民國十二年 1923									
一月 Jan.	140.9	138.1	151.1	139.0	160.9	153.7	158.0	128.6	145.5
二月 Feb.	147.1	144.0	154.2	149.4	157.0	155.7	159.2	130.4	148.9
三月 Mar.	142.0	150.2	149.5	158.9	152.6	156.5	165.0	133.7	150.1
四月 Apr.	142.8	146.9	147.5	157.1	152.9	158.9	161.3	132.2	148.8
五月 May	146.6	147.8	148.9	157.4	149.5	150.9	152.2	131.0	147.1
六月 June	146.0	145.8	149.7	154.2	148.0	147.8	149.7	127.4	145.3
七月 July	145.1	144.5	149.3	152.6	149.4	148.5	150.7	129.3	145.4
八月 Aug.	144.0	146.1	145.9	153.2	146.7	149.7	145.7	129.3	144.1
九月 Sept.	147.0	150.4	148.0	162.5	145.7	153.3	152.5	128.5	147.3
十月 Oct.	140.6	148.9	152.3	156.4	143.8	151.7	157.2	126.2	146.6
十一月 Nov.	135.7	153.4	157.3	152.7	142.3	153.3	164.3	126.3	148.3
十二月 Dec.	134.9	152.3	160.4	152.2	141.8	150.2	162.5	126.2	147.9

改算上海躉售物價指數表 (續)

Table of the Recomputed Index Numbers of Wholesale Prices in Shanghai (*Cont'd.*)

民國二年二月=100　　February, 1913=100

類別 / 年月	各類指數 By Groups								總指數 General Index
	糧食 Cereals	其他食物 Other Food Products & Provisions	紡織品及其原料 Textile Fibres & Manufactures Thereof	金屬 Metals	燃料 Fuel & Lighting	建築材料 Building Materials	化學品 Chemicals & Preparations Thereof	雜類 Miscellaneous	
民國十三年 1924									
一月 Jan.	136 4	151.9	156.7	149.3	139.3	152.2	159.2	125.1	146.5
二月 Feb.	137 8	153.5	154.1	151.4	137.7	146.5	153.5	125 9	145.3
三月 Mar.	134 2	148 5	152.3	152.6	136.2	142 3	150.9	125.1	142.9
四月 Apr.	133.4	148.0	150.0	150.3	138.0	141.2	148.2	127.3	142.2
五月 May	131.9	148.0	146.9	147.6	141.2	137.3	147.1	122 6	140.2
六月 June	131.8	150.1	147.0	140 1	140.2	133.8	146.6	125.3	139.8
七月 July	137.3	144.9	146.6	138.5	139.9	132 2	145 9	124.9	139.0
八月 Aug.	141.3	148 0	144.6	134 8	139 8	128.2	147.8	124.8	139.4
九月 Sept.	142.1	152.6	139.2	131.5	141.9	129.8	146.3	125.0	139.0
十月 Oct.	141.4	153.3	140.5	136.9	145.6	127.4	143.9	128.4	139.1
十一月 Nov.	143.7	150.2	142 1	137.5	155.7	128.2	140.9	126.0	140.1
十二月 Dec.	140.6	148.4	143.8	148.5	149.1	126.5	139.5	126.0	139.8
民國十四年 1925									
一月 Jan.	139.8	149.0	144.2	156.2	148.0	129.4	145.5	126.6	141.6
二月 Feb.	137.9	146.0	145.8	154.1	147.1	133.3	144.0	128.3	141.1
三月 Mar.	144.1	144.6	147.3	154.2	146.7	127.1	142.9	125.4	140.8
四月 Apr.	156.5	144.3	147.8	148.8	146.8	127.9	140.6	124.7	141.2
五月 May	158.0	150 2	146.8	147.2	148.5	125.4	146.7	134.0	144.0
六月 June	154.0	151.1	145 8	148.4	139.5	125 5	145.8	136.4	143.6
七月 July	160.0	161.7	148.2	147.9	143.0	125.6	160.1	137.8	148.8
八月 Aug.	152 6	156.1	149.1	147.8	146.2	126.9	153.8	136.3	146.7
九月 Sept.	150.8	151.9	147.1	148 9	145.6	126.1	149.3	136.7	144.9
十月 Oct.	151.9	148 7	145 6	148.6	142.5	126.5	145.4	136.8	143.4
十一月 Nov.	149.4	146.7	143.6	150.3	142.6	126.3	143 3	133.6	141.8
十二月 Dec.	152.5	146.8	149.1	149.3	141.1	126.3	139.5	134.2	140.8
民國十五年 1926									
一月 Jan.	154.6	150.3	140.1	153.0	137.1	126.3	141.5	130.7	141.2
二月 Feb.	159.1	155.2	140.4	151.5	134.6	131.0	142.2	130.4	142.7
三月 Mar.	164.6	154 0	137.8	152.7	141.1	128.6	142 1	132.4	143.0
四月 Apr.	166.1	153.3	137.7	151.8	141.6	129.9	142 6	132.9	143.4
五月 May	162.7	147.7	133.3	149.9	145.0	133.2	141.8	131.6	141.5
六月 June	161.1	155.3	134.8	141.7	142.9	130.4	141.2	128.4	141.2
七月 July	160.9	153.7	134.7	143.2	146 7	129.4	141 6	127.5	141 8
八月 Aug.	160.9	156.1	134 3	148 2	141.7	129.9	141.4	126.1	141.2
九月 Sept.	166.4	157.3	135.1	153.2	145.8	132 2	141.2	126.7	143.0
十月 Oct.	181.3	163.1	136 8	167.5	146 8	134.2	146.9	132.3	148.5
十一月 Nov.	174.8	169.0	137.7	175.7	154.7	138.5	151.1	135.1	151.8
十二月 Dec.	172.1	167.2	137 9	170.7	162.6	140.5	159.2	137.4	152.1

*按簡單算術平均之躉指數，始編於民國八年九月，此次改算簡單幾何平均因八年九月至九年九月之資料有缺漏處，故斷自民國十年一月。

* The old series started from September, 1919. For the recomputed index numbers, we have been obliged to begin from January, 1921 owing to the absence of certain price data during the intermediate period.

改算上海躉售物價指數表 (續)

Table of the Recomputed Index Numbers of Wholesale Prices in Shanghai (*Cont'd.*)

民國二年二月=100　　February, 1913=100

類別 / 年月	各類指數 By Groups								總指數 General Index
	穀食 Cereals	其他食物 Other Food Products & Provisions	紡織品及其原料 Textile Fibres & Manufactures Thereof	金屬 Metals	燃料 Fuel & Lighting	建築材料 Building Materials	化學品 Chemicals & Preparations Thereof	雜類 Miscellaneous	
民國十三年 1924									
一月 Jan.	136.4	151.9	156.7	149.3	139.3	152.2	159.2	125.1	146.5
二月 Feb.	137.8	153.5	154.1	151.4	137.7	146.5	153.5	125.9	145.3
三月 Mar.	134.2	148.5	152.3	152.6	136.2	142.3	150.9	125.1	142.9
四月 Apr.	133.4	148.9	150.0	150.3	138.0	141.2	148.2	127.3	142.2
五月 May	131.9	148.0	146.9	147.6	141.2	137.3	147.1	122.6	140.2
六月 June	131.8	150.1	147.0	140.1	140.2	133.8	146.6	125.3	139.8
七月 July	137.3	144.9	146.6	138.5	139.9	132.2	145.9	124.9	139.0
八月 Aug.	141.3	148.0	144.6	134.8	139.8	128.2	147.8	124.8	139.4
九月 Sept.	142.1	152.6	139.2	131.5	141.9	129.8	146.3	125.0	139.0
十月 Oct.	141.4	153.3	140.5	136.9	145.6	127.4	143.9	123.4	139.1
十一月 Nov.	143.7	150.2	142.1	137.5	155.7	128.2	140.9	126.0	140.1
十二月 Dec.	140.6	148.4	143.8	148.5	149.1	126.5	139.5	126.0	139.8
民國十四年 1925									
一月 Jan.	139.8	149.0	144.2	156.2	148.0	129.4	145.5	126.6	141.6
二月 Feb.	137.9	146.0	145.8	154.1	147.1	133.3	144.0	126.3	141.1
三月 Mar.	144.1	144.6	147.3	154.2	146.7	127.1	142.9	125.4	140.8
四月 Apr.	156.5	144.3	147.8	148.8	146.8	127.9	140.6	124.7	141.2
五月 May	158.0	150.2	146.8	147.2	148.5	125.4	146.7	134.0	144.0
六月 June	154.0	151.1	145.8	148.4	139.5	125.5	145.8	136.4	143.6
七月 July	160.0	161.7	148.2	147.9	143.0	125.6	160.1	137.8	148.8
八月 Aug.	152.6	156.1	149.1	147.8	146.2	126.0	153.8	136.3	146.7
九月 Sept.	150.8	151.9	147.1	148.9	145.6	126.1	149.3	136.7	144.9
十月 Oct.	151.9	148.7	145.6	148.6	142.5	126.5	145.4	136.8	143.4
十一月 Nov.	149.4	146.7	143.6	150.3	142.6	126.3	143.3	133.6	141.8
十二月 Dec.	152.5	146.8	149.1	149.3	141.1	126.3	139.5	134.2	140.8
民國十五年 1926									
一月 Jan.	154.6	150.3	149.1	153.0	137.1	126.3	141.5	130.7	141.2
二月 Feb.	150.1	155.2	149.4	151.5	134.6	131.0	142.2	130.4	142.7
三月 Mar.	164.6	154.6	137.8	152.7	141.1	128.0	142.1	132.4	143.0
四月 Apr.	166.1	153.3	137.7	151.8	141.6	129.9	142.6	132.9	143.4
五月 May	162.7	147.7	133.3	149.9	145.0	133.2	141.8	131.6	141.5
六月 June	161.1	155.3	134.8	141.7	142.9	130.4	141.2	128.4	141.2
七月 July	160.9	153.7	134.7	143.2	146.7	139.4	141.6	127.5	141.8
八月 Aug.	160.9	156.1	134.3	148.2	141.7	129.9	141.4	126.1	141.2
九月 Sept.	166.4	157.3	135.1	153.2	145.8	132.2	141.2	126.7	143.0
十月 Oct.	181.3	163.1	136.8	167.5	146.8	134.2	146.9	132.3	148.5
十一月 Nov.	174.8	169.0	137.7	175.7	154.7	133.5	151.1	135.1	151.8
十二月 Dec.	172.1	167.2	137.9	170.7	162.6	140.5	159.2	137.4	153.1

*按簡單算術平均之舊指數，始編於民國八年九月，此次改算簡單幾何平均因八年九月至九年九月之資料有缺漏處，故斷自民國十年一月。

The old series started from September, 1919. For the recomputed index numbers, we have been obliged to begin from January, 1921 owing to the absence of certain price data during the intermediate period.

附　錄

此式爲滕恩 Dun 福克納 Falkner 及楊格 Young 諸氏所贊許，本會所編上海生活費指數之公式，亦與此同（註十二），費暄教授列爲第九〇〇一公式云（註十三）。

（註十二）參閱拙著上海生活費指數第十八頁。

（註十三）參閱 Prof. I. Fisher: The Making of Index Numbers, Appendix V, p. 467.

蓋本指數之物價以市價爲根據，故 $\frac{P_1}{P_0}$ 之 P 所代表者爲市價，但本指數之權數以關册所載輸出入之價值爲根據，故 P_0Q_0 之 P 所代表者爲關價。今市價既與關價互有出入，則代表市價之 P 與 Q 相乘之積，自不能與代表關價之 P 與 Q 相乘之積彼此相等。本指數之結果，不能與加權總合比率式之結果一致者以此；所謂加權算術平均式於本指數未盡賅合者亦以此。

特事實上一般所稱爲加權算術平均式者，往往因資料之缺而不全，未必盡能如上列公式之謹嚴，亦有約略估計各種物品之輕重程度，以分配「加權係數」Weighting Coefficients者。例如有三種比價於此，一爲一五〇，次爲一二〇，又次爲一七五，其權數一爲三，次爲二，又次爲一。其加權平均應爲 $I=\frac{150\times3+120\times2+175\times1}{6}$ 此項加權係數，在公式上例以 $W',W'',W'''\cdots\cdots W^n$ 代表之，以表示與前列公式之 PQ 有大同小異之意味。本指數之加權資料，爲民國十四，十五，十六三年間輸出入之平均價值，信而有徵，雖非隨意估計者所可比擬，然既與前列加權算術平均式徵有異同，故酌量變通，亦以 W 爲權數之代表。其公式如下：

$$I=\frac{\frac{P_1'}{P_0'}W'+\frac{P_1''}{P_0''}W''+\frac{P_1'''}{P_0'''}W'''+\cdots\cdots\frac{P_1^n}{P_0^n}W^n}{W'+W''+W'''+\cdots\cdots W^n}$$

$$=\frac{\Sigma\frac{P_1}{P_0}W}{\Sigma W}$$

爾主要物品足供編製指數之用者，大概屬於從量稅品之範圍，而從價稅品却居少數，關價之凝難採用，端由於此。至於現行關册，僅有年報季報，近頃雖有刊行月報之議，而以我國關稅區域之遼闊，交通機關之不備，出版遲延，固意中事。若取材於關價，則所編指數不免明日黃花之感。安奇沃斯教授Prof. F. Y. Edgeworth曾舉一例說明權數之錯誤，所及於指數之影響，不過二十分之一，而物價之錯誤，所及於指數之影響，則有多至四分之一或五分之一者（註十二）。兩害相權，則取其輕，此我國關價所以不適於編製本指數之用也。

關價既不可用，惟有取材於市價，然取材於市價，則不能應用加權總合比率式，其可代用之公式，厥爲加權算術平均式。此式以輸出入之價值爲權數，則凡物品之數量不見於關册者，及關册所載之數量單位與市場買賣單位不同者，皆可不生問題。且計算指數時，先從實價求得比價，故指數之結果，不致因標準品品質之過高或過低有所牽動。所採爲權數者，乃輸出入之價值而非其數量，故各項物價單獨之變動，所及於一部或全部之影響，又常能保持輸出入貿易上固有之比例，使各種物品之相互關係，適如其分。此則加權算術平均式於本指數較爲適合之關鍵所在也。

惟加權算術平均之公式爲 $\frac{\Sigma\left(P_0 Q_0 \frac{P_1}{P_0}\right)}{\Sigma P_0 Q_0}$ 猶有與本指數之資料未盡脗合之處。

（註十二）參照我拙著 The Purchasing Power of Money, 2nd. edition, foot-note on p. 406.

一五厘，卽爲美棉每擔之關價。此項關價，旣從一年間對於各種品質不等之美棉所付之價格平均而得，故較諸市價之僅以一種「密特林」花色之價格爲標準者，自更賅括，所不待言。惟物價指數以測度長時期間物價之變動爲目的，故採爲標準之貨物，務求其在一定時期以內品質相同。今關價對於品質不等之各種美棉，旣屬無從區別，則縱使今年美棉之平均市價，及其輸入數量皆與去年相等，而今年輸入美棉之一般品質如高於去年，則其價値必較大，關價隨之而漲；反之，如低於去年，則其價値必較小，關價隨之而落。故由關價編製之指數，其所測度者，殆包舉兩部分之變動而言。至於孰爲物價本身上之變動部分，孰爲輸出入貨物品質上之變動部分，在指數上固無從辨別也。

然此猶指關價之確實可信者而言也。若我國之關價，較諸國外貿易統計完備之國家，猶多遜色。大抵就輸出入物品而言，則輸出品之關價尙不及輸入品較爲確實；就從量稅品與從價稅品而言，則從量稅品之關價又不及從價稅品較爲確實（註十）。然所

（註十）稅則之隨時估價征百分之幾者，爲從價稅；其以重量、容積等數量爲單位依據征稅者，則爲從量稅，如棉花每担征銀一兩二錢是。歷年關冊載有「按則征稅之貨價，僅能以貨單所開者，作爲統計標準，因商人之正確貨單，海關無法取閱，故所印貨價，未能視爲完全無缺。」等語，即指輸入物品之從量征稅者而言。至我國出口新稅則甫於今年六月一日施行，舊時所用者，猶係咸豐戊午年（一八五八）所訂稅則，年代湮遠，物價漲漲，其中從量稅品以今視昔，估價過低者，自佔多數，或謂此足構成我國國際收借上無形輸出之一項目云。

率式，亦似可能。然事實上因本指數根據市價編製，遂不無窒礙之處：其一，市價所習用之物品單位與關册之單位，不無同異（註九），輾轉折合，易滋錯誤；其二，輸出入物品中固以從量征稅者爲多，而從價征稅者，亦復不少，此類物品關册中例載價值，不載數量；其三，輸出入物品之品質，往往高下不等，而市價則僅能選擇一種或二種爲標準，其與數量相乘之結果，常隨選樣標準之高下爲轉移，標準高斯價值大，標準低斯價值小。過大過小，皆足使輸出入貿易上各品之相互關係，失其眞相，而指數之結果，亦不免爲之牽動矣。

惟此類缺點，蓋由本指數採用市價所致，如以關價爲計算指數之資料，則除從價稅品，無數量可攷外，其餘缺點，皆可一掃而空。何也？物價與權數，既皆取材於關價，自無單位不同之弊，且以數量除價值而得之關價，若復與數量相乘，其積必等於價值之原數，而不至有所出入也。

關價者，輸出入物品通過海關時，商人所報或海關所估之平均價，換言之，卽一國中在國外貿易上買賣貨物實際授受之平均價也。例如十八年我國輸入美棉之價值爲關銀四三，九五四，〇八四兩，以輸入數量一，〇二八，一四四擔除之，得四二・七

（註九）異位雖異，如同爲長度單位，或重量單位，或容積單位，折算尙易，如由担折算爲噸之類是。但如數器之期册單位爲担，而市價單位爲打，至於每打之重量，則視貨物之種類而有不同；又如牛羊皮之期册單位爲担，而市價單位爲英方尺，至於每英方尺之重量，則視皮質之厚薄，而有差差者，折算之易滋差誤，概可想見。

各項物價，而求其百分比價，一一與權數(價值)相乘，然後以權數之總和，除各項權數與各項比價諸乘積之和，而求得指數。試以基期之價值爲權數，則加權算術平均之公式如下(註八)：

$$I = \frac{P_0' Q_0' \left(\frac{P_1'}{P_0'}\right) + P_0'' Q_0'' \left(\frac{P_1''}{P_0''}\right) + P_0''' Q_0''' \left(\frac{P_1'''}{P_0'''}\right) + \cdots\cdots P_0^n Q_0^n \left(\frac{P_1^n}{P_0^n}\right)}{\Sigma P_0 Q_0}$$

$$= \frac{P_1' Q_0' + P_1'' Q_0'' + P_1''' Q_0''' + \cdots\cdots P_1^n Q_0^n}{\Sigma P_0 Q_0}$$

$$= \frac{\Sigma (P_1 Q_0)}{\Sigma (P_0 Q_0)}$$

由此觀之，以上二種公式，可謂完全一致。惟物品之價值，等於其價格乘其數量，加權總合比率式之指數，既將若干數量之各種物品，按照基期物價所得之價值，對於同一數量之同種物品，按照基期物價所得之價值，表示其比率爲幾何；則一定數量單位(例如米一石，布一碼)之物品，在計算時期所需之貨幣代價爲幾何，與其在基期所需之貨幣代價爲幾何，不難一一如示諸掌。可見由此項指數表示貨幣購買力之變動，較諸加權算術平均式之須先求比價者，其意義更爲明白曉暢，所不待論。

我國關册不僅有輸出入物品之價值統計，即其數量亦復斑斑可攷，故採用總合比

(註八) 費暄教授列爲第三公式，參照 The Making of Index Numbers, p. 51; appendix I, p. 379; appendix V, p. 495.

一一相加；次以各項權數（數量）乘計算時期之各項物價，而將其乘積亦一一相加；復次以基期各項乘積之和，除計算時期各項乘積之和，卽得所求之指數。試將各項物品之數量以Q表示之如 $Q', Q'', Q''', \ldots\ldots Q^n$，又將各項計算時期之物價以 P_1 表示之如 $P_1', P_1'', P_1''', \ldots\ldots P_1^n$，各項基期之物價以 P_0 表示之如 $P_0', P_0'', P_0''', \ldots\ldots P_0^n$，則加權總合比率式之指數如下：

$$I = \frac{P_1'Q' + P_1''Q'' + P_1'''Q''' + \ldots\ldots P_1^nQ^n}{P_0'Q' + P_0''Q'' + P_0'''Q''' + \ldots\ldots P_0^nQ^n} = \frac{\Sigma(P_1Q)}{\Sigma(P_0Q)}$$ (註六)

又如所採權數係基期中各項物品之數量時，則其公式當爲（註七）：

$$I = \frac{\Sigma(P_1Q_0)}{\Sigma(P_0Q_0)}$$

至於加權算術平均式，則須先求比價，故其權數亦須有一種共同單位。夫權數之於比價，猶諸乘數之於被乘數，可爲名數，亦可爲非名數。然各種物品之輕重程度，果欲精密比較，在權數之本身上不可無共同單位。孰爲切合於吾人經濟目的之共同單位？則以貨幣數額表示之價值也。其計算方法，先以基期之各項物價，除計算時期之

（註六）Σ 爲各項總和之符號。

（註七）——費暄教授列爲第五十三公式，參照 The Making of Index Numbers, p. 60; appendix V, p. 471.

本指數所採用之物價，與上海躉售物價指數同爲每月十五日本會所調查之上海躉售市價。夫爲窺測全國輸出入物價之變動起見，莫如各以原產地及主要銷售市場之物價爲準，但因交通之不便利，權度之未統一，室礙尙多，改進之圖，當俟異日。所幸上海之輸出入貿易，約占全國輸出入貿易百分之四十左右，亦足以窺豹一斑矣。茲將新舊指數之各類品目及其對於輸出入價值之百分數，列表如右。

三　公式

計算物價指數之公式，大別爲簡單平均公式與加權平均公式。上海躉售物價指數，以我國生產，消費及市場交易各種統計材料，殘缺不完，所可採用之公式，雖不能不限於簡單平均公式之範圍，而在輸出入物價指數則幸有關册可稽，儘可按照各項貨物在輸出入貿易上之地位，以分別權其輕重。例如黃豆爲我國近年首屈一指之輸出品，則當予以最重之權數；如絲，如茶，其地位視黃豆爲較遜，則其權數亦當視黃豆爲較輕。故輸出入物價指數之應採加權平均公式，可無疑義。

加權平均公式之應用最廣者，莫如加權總合比率式與加權算術平均式。在加權總合比率式，所採物價爲以貨幣表示之實價，故所採權數當爲物品之數量，而非物品之價值。其計算方法，極爲簡單，先以各項權數（數量）乘基期之各項物價，而將其乘積

未列名各品之非限不活者，則爲例外。綜計所選物價，輸出爲六十六項，比舊指數減少十三項；輸入爲一〇九項，比舊指數減少六項。其所占價值總數與民國十四十五十六三年間輸出入平均價值之比例，輸出爲百分之七八，輸入爲百分之六八。

	輸出						輸入					
	物價項數		權數*		權數百分數		物價項數		權數*		權數百分數	
	新表	舊表	新表	舊表	新表	舊表	新表	舊表	新表	舊表	新表	舊表
原料品	33	41	3,269	3,106	49%	51%	13	13	1,588	1,065	22%	17%
農產	19	28	2,246	2,211	33%	36%	3	3	1,128	675	15%	11%
動物產	7	6	471	320	7%	5%	—	—	—	—	—	—
林產	2	2	104	207	2%	4%	5	4	120	126	2%	2%
鑛產	5	5	448	368	7%	6%	5	6	349	264	5%	4%
生產品	12	12	2,080	1,722	31%	28%	42	36	1,496	1,576	19%	25%
消費品	21	26	1,327	1,283	20%	21%	54	66	4,239	3,718	59%	58%
合計	66	79	6,676	6,111	100%	100%	109	115	7,233	6,359	100%	100%

*新表權數係民國十四十五十六三年平均輸出價值及輸入淨價值，舊表權數係民國十二年輸出價值及輸入淨價值，單位均爲關銀十萬兩。

輸出品三種指數；一面按物品之加工程度，將以上三種指數中所包含之物品，各分爲原料品，生產品，消費品，復將原料品分爲農產，林產，動物產，礦產，蓋亦有取於密氏之說也。

本指數之分類，可謂與上述國際物價指數大體相同，惟國產品之物價指數，以我國未有生產統計，缺乏加權資料，姑付闕如。且美國聯邦銀行準備局之國際物價指數，係以總合支出額（國產總值減輸出總值，而與輸入總值相加。）爲權數，將國產與輸入兩部分之物價，彙編總指數，今亦以權數不備，分編輸出入物價指數，而不編總指數，此其相異之點也（註五）。

物品項目之選擇，舊表根據民國十二年關册，凡輸出入價值在關銀五十萬兩以上者，除有特殊情形者外，悉經採入。惟我國對外貿易，年來不無進步，輸入商品尤有日新月異之勢。曩時所認爲主要物品，今或降爲次要；而今所流行者，在曩時或視爲無足重輕，其例不少概見。故此次修正以民國十四十五十六之三年平均價值在關銀五十萬兩以上者，爲選擇之範圍。但如鴨毛，帽緞，機器，枕木之市價不易調查者，如駝絨，草蓆之市價季節變動過劇者，如羊毛皮之品質參差難定標準者，又如關冊所載

（註五）原料品中之動物產，我國輸入無多，如綿羊毛，牛骨等平均每年之輸入淨值均不足關銀五十萬兩，故輸入指數，原料品中未列動物產品，此亦本指數稍異於美國聯邦銀行準備局指數之一點也。

輸出入物價指數，尤爲貼切。研究國外貿易統計者，多有將輸出入貨物分別爲原料品，半製品，精製品，以觀察一國中產業之盛衰，與商業之消長者（註二）。我國今方在農業生產與工業生產之過程中，又遭遇今日金貴銀賤之狂潮，銀幣之對外價值，有日趨低落之勢，此中關係，尤堪注意。如輸出入物價指數，亦以物品之加工程度爲分類之標準，則於輸出入貿易之眞相，及其與物價之相互關係（註三），當更多所闡發可知也。

美國聯邦銀行準備局所編之國際物價指數（註四），包含美，法，英，坎拿大，日本五種物價指數。其分類有二種標準：一面按商業移動之方向，分編國產品，輸入品，

（註二）對外貿易統計之編製法，有一般貿易與特殊貿易之分。在一般貿易統計，係包括：（一）在輸入方面，一切貨物由該國以外之地方輸入者；（二）在輸出方面，一切貨物由該國運往其他地方者。在特殊貿易統計，則將輸入貨物分爲：（一）一切貨物，報明係爲該國消費之用者，與（二）一切貨物將在該國國形，修補或加工者；輸出貨物亦分：（一）爲該國內所生產者，（二）爲該國內所本國化者。我國則僅有一般貿易統計，而無特殊貿易統計，惟下卷附表一採用一九一〇年勃登桑耳統計會議之議決案。其類目爲：（一）動物，（二）食物及飲料，（三）生發原料，（四）製造品，（五）生金銀及金銀貨幣，於對外貿易之眞相，略有指陳，然含穢貨物之歸類，有未盡恰當者。楊端六先生著「我國海關統計改良芻議」一文，載於民國九年太平洋雜誌第二卷第八號，曾仿照美國貿易統計之分類法，分爲：（一）飲食物及烟草，（二）原料及半製造品，（三）製造品，（四）雜貨，將我國輸出入物品自一八六五年起，重行改編。參看六十五年來中國國際貿易統計，中央研究院社會科學研究所出版。

（註三）我國輸入貨值，在民國二年爲關銀五七〇，一六三，〇〇〇兩，十八年爲關銀一，二六五，七七九，〇〇〇兩。自表面觀之，輸入貿易約增加一倍又五分之一，而實際之增加率，當不及此。歷年銀價步跌，以致輸入物價總具增高，十八年之輸入物價指數爲一七八，五（民國二年作爲一〇〇），試以此項指數除十八年輸入貨值關銀一，二六五，七七九，〇〇〇兩，得數爲七〇九，一一〇，〇〇〇兩。可見十八年之輸入貨值，如以二年之輸入貨價表示，則此貿易之增加率，不過四分之一而已。

（註四）參照 U.S.Federal Reserve Bulletin, June, 1921; Feb., 1922; May, 1922.

原料，更列其若干製品，而於他種貨物，則僅有原料，而遺漏其製品，彼此分配不均，即對於物價全體變動之代表性有所不備。

原料與製品之物價變動，雖若息息相關，然以變動之程度而言，則製品之物價，却比原料爲穩定。製品與製品之物價相若，較之製品與其原料之物價相若，更有過之，猶諸嬰兒之貌似，甚於各肖其親。故物價之變動，當顧其物價之動作狀況，而將原料與製品分別部居，各成一類。

農產物價之漲落，常隨收穫之豐歉爲轉移，每與一般物價異其趨勢。動物產品所受天時之影響，雖較遜於農產品，而特殊之漲落，亦所常有。林產物價起伏殊大。礦產物價之上下，則最能與商業盛衰之循環相應和。以上四品之爲原料也同，而其物價變動之情形則稍異。故物價指數之含有大多數農產品者，往往與指數之包含多數林，礦產品者，背道而馳，或竟與包含動物產品者，亦相矛盾。

同爲製造物品，其可供直接消費之用者爲消費品，其供工業或商業上消費之用者爲生產品。消費品之需要，不若生產品之隨商業狀況爲轉移，故其物價恆比生產品爲安定。

以上所述，爲密哲爾教授對於物價指數所當採取分類方法之大意（註一），而應用於

（註一）參照Prof. W. C. Mitchell: The Making and Using of Index Numbers, Part I of Index Numbers of Wholesale Prices in the United States and Foreign Countries, Bulletin of the United States Bureau of Labor Statistics, No. 284, pp. 40-51

勢下落時，連環制指數之跌勢，小於固定制之指數；當物價上漲時，連環制指數之漲勢，大於固定制之指數。然物價之長期趨勢，漲多跌少，故所採物品雖屬相同，而連環制指數之結果，常比固定制爲大。上海物價與年俱長，自金貴銀賤之風潮以來，輸入物價尤距躍曲蹈，莫可遏止。此項累積之差誤，異日不無推波助瀾之雄。故新指數改爲固定制，且以十五年爲基期，以是年全年平均物價爲基價，以便與上海蕊售物價指數互相比較焉。

二　分類及品目

上海蕊售物價指數分爲八類，已如上述。在指數讀者所注意之純圍，或爲食物，或爲紡織品，或爲化學品，建築材料，燃料等，每因其個人之關係而有不同。此項分類雖屬便利而通俗，然於物價之變動，彼此互相關聯之現象，猶病其未能顯示。且蕊售物價指數，係從國內蕊售市場上觀察一般物價之平準；而輸出入物價指數，則係從國際貿易市場上觀察一般物價之平準。兩者作用既有不同，斯物品之分類方法亦當隨之而異，所不待論。密西爾教授曾將一八九〇年至一九一三年之美國蕊售物價，多方分析，以觀察各類物價動作之同異，而得結論如下：

原料物價之變動，常反映於其製品，如小麥之於麵粉，棉花之於棉紗，即其例也。故指數中所選取之物品，當使原料及其製品間有相當之比例。若於某種貨物，既列

上海輸出入物價指數

一　基期

上海輸出入物價指數，起編於民國十四年五月，其基期則與上海躉售物價指數同爲民國二年二月。所異者，彼爲固定基期制，此則爲連環基期制耳。所謂固定制者，基期之物價命爲一〇〇，直接除先後各時期之物價，而分別求其指數。若連環制，則僅於求第一時期之指數時，以基期之物價命爲一〇〇；至於求第二時期之指數時，則以第一時期之物價命爲一〇〇；求第三時期之指數時，則以第二時期之物價命爲一〇〇，以下類推。每期求得之指數，謂之「環比指數」Link Index Number。如由第三時期之環比指數，轉譯爲基期指數，祇須將該期之環比指數，與第二時期及第一時期之環比指數連續相乘。以其前後銜接，成一順序連環式，故曰「連環指數」Chain Index Number焉。

連環基期制之利，在於比較時間之距離較短，物價之上落程度較爲集中。故比較期間如限於前後鄰接兩時期之物價，則連環制之環比指數所表示者，較爲精確。而其弊之所在，則各環間因小數之四捨五入，或計算上之關係，不免有微小之差誤。經過一二十年之久，此項差誤，愈積愈大，易與固定基期之指數相去太遠。大抵當物價趨

簡單幾何平均之優點固不止此，且計算手續頗覺繁複，指數意義略欠通俗，亦非無瑜不掩瑕之病。惟其與簡單算術平均之異同，已可略見一斑，姑不備論（註三）。茲以 P_1 代表計算時期之物價，如 $P_1', P_1'', P_1''' \cdots\cdots\cdots P_1^n$，又以 P_0 代表基期之物價，如 $P_0', P_0'', P_0''' \cdots\cdots\cdots P_0^n$，將新舊指數之公式並列於下，以明其異同焉。

（一）簡單算術平均公式（註四），即舊指數所採之公式：

$$I = \frac{\frac{P_1'}{P_0'} + \frac{P_1''}{P_0''} + \frac{P_1'''}{P_0'''} + \cdots \frac{P_1^n}{P_0^n}}{N} = \frac{\Sigma \frac{P_1}{P_0}}{N}$$

（二）簡單幾何平均公式（註五），即新指數所採之公式：

$$I = \sqrt[n]{\frac{P_1'}{P_0'} \times \frac{P_1''}{P_0''} \times \frac{P_1'''}{P_0'''} \times \cdots\cdots \frac{P_1^n}{P_0^n}}$$

（註三）費暄著 The Making of Index Numbers, pp. 39-85, 62-72, 208-212.
郡菊之助著 物價指數論 二五一—二五五頁
趙人儁著 物價指數論提要 五一—一二頁 財政部駐滬調查貨價局印行
芮寶公著 物價指數論 一九一—一九四頁，一九八—二〇一頁 見中國經濟學社出版經濟學季刊第一卷第一期

（註四）費暄教授列為第一式，見 The Making of Index Numbers, appendix V, p. 466.

（註五）費暄教授列為第二一式，見 The Making of Index Numbers, appendix V, p. 468。計算時例用對數方法求之，其公式為：

$$I = \text{Anti-log}\left(\frac{\text{Log}\frac{P_1'}{P_0'} + \text{Log}\frac{P_1''}{P_0''} + \text{Log}\frac{P_1'''}{P_0'''} + \cdots \text{Log}\frac{P_1^n}{P_0^n}}{N}\right)$$

何也？十五年基期之指數應與十九年之基期所得指數之倒數相等，兩期指數相乘，其積應爲一也。故凡指數之公式，可轉換基期而其結果能彼此相應者，謂之合於「時間積應爲一也。故凡指數之公式，可轉換基期而其結果能彼此相應者，謂之合於「時間頭倒測驗法」Time Reversal Test (註11)，如簡單幾何平均之公式是；反之因轉換基期而其結果不能彼此相應者，謂之不合於「時間頭倒測驗法」，如簡單算術平均之公式是。試更設例以明之：

麵粉一袋十五年爲價四元，至十九年漲至六元；雞蛋一枚在十五年爲價二分，至十九年漲至五分。試用簡單算術平均法，以十五年爲基期，所求十九年之指數爲$\frac{150+250}{2}$=200，卽漲價一倍之謂。然則改取十九年爲基期，以求十五年之指數，豈非恰跌一半？但簡單算術平均之結果，乃爲$\frac{66\frac{2}{3}+40}{2}=53\frac{1}{3}$。更將$\frac{200}{100}\times53\frac{1}{3}=\frac{106\frac{2}{3}}{100}$其積亦大於一，而非等於一。此爲簡單算術平均之結果，不合於「時間頭倒測驗法」之明證。

至於幾何平均法，如以十五年爲基期，則十九年之指數爲$\sqrt{150\times250}=193.65$；如以十九年爲基期，則十五年之指數爲$\sqrt{66\frac{2}{3}\times40}=51.64$。因$\frac{1}{193.65}\times100=51.64\%$，故恰爲十九年指數之倒數；又將$\frac{193.65}{100}\times\frac{51.64}{100}=\frac{100}{100}$，於此可見簡單幾何平均之合於「時間頭倒測驗法」也。

(註11) 費暄著 The Making of Index Numbers, pp. 64-65.

表內所包含物品之項數也。

算術平均與幾何平均之結果，以原來數字比例之大小而異。如兩項數字之比例相差不多，則算術平均與幾何平均之差數亦不大。例如900與1,024之算術平均爲962，而幾何平均則爲960與1,024乘積之平方根，卽爲960，可見與算術平均頗相近。但試易以比例差數較大之兩數，例如2與32之算術平均爲34之半卽17，而幾何平均則係2與32乘積64之平方根卽8，竟比算術平均小一倍有餘矣。

算術平均與幾何平均之差數，既以其原數之比例差數而異，故將此二種平均法應用於指數，在物價變動程度和緩時，結果雖無甚出入，而在物價變動程度劇烈時，算術平均往往受上漲過鉅物價之影響，以致平均數失之過高。惟幾何平均始無此弊。例如有甲乙兩品於此，甲品之價漲至十倍（由100%漲至1,000%），乙品之價跌至十分之一（由100%跌至10%），漲跌之數，彼此相消，故幾何平均結果仍爲100（$\sqrt{1000\times10}=100$），但算術平均之結果，則爲505矣（$\frac{1,000+10}{2}=505$）。

況所謂物價指數之基期，無非採取前一時期爲標準，以與後一時期相比較；則反之，亦可採取後一時期爲標準，以與前一時期相比較。易言之，卽指數之基期前後轉換時，其所得之指數，應有相同之比例也。以民國十五年爲基期，而求十九年之物價指數，如係漲上一倍，則以十九年爲基期所求得十五年之物價指數，應爲跌落一半。

六・五％，雜類占一一・六％。計算分類指數，以此爲準。如以加工程度爲區分之標準，則原料品占二七・一％，生產品占二七・七％，消費品占四五・二％。更以產地言之，則國產品占五四・二％，輸入品占四五・八％。至本表所採物價，向爲本會直接調查上海市場每月十五日之批發市價，今仍之。茲將新表內容及其與舊表異同各點，列如右表。

三　公式

上海蒐售物價指數之計算公式，向係簡單算術平均法。所謂簡單算術平均者，即將基期中之各項物價命爲一〇〇，以除計算時期之各項物價，所得之百分率，謂之「比價」Price relatives；次將比價一一相加，然後以所有物品之項數除之，乃得所求之指數。因其對於表內若干物品，未嘗取得一種資料如生產，消費或交易數量之類，以分別權其輕重，故曰簡單算術平均或不加權算術平均。其法簡便通俗，採用雖廣，而統計學家頗多訾議，自非含短從長不可。加權算術平均於測量貨幣購買力最爲適宜，然苦於資料之不備，所謂權數無可憑藉，不得已而思其次，則簡單幾何平均斯其選矣。

簡單幾何平均之求法與簡單算術平均大致相同，惟求得各項比價之後，非一一相加，而以比價之項數除其和，乃將各項比價一一相乘，而後求其 n 次之方根，n 卽指

類別		物品項目					新表項目				新表項目按加工程度分類				新表項目按產地分類		
新表	舊表	新表 物品	新表 項目	新表 百分數	舊表 項目	舊表 百分數	仍舊	新增	改換標準	合計	原料品	半產品	消費品	合計	國產品	輸入品	合計
1. 糧食類	1. 糧食類	9	22	14.2%	14	9.5%	11	11	—	22	9	—	13	22	17	5	22
2. 其他食物類	2. 其他食物類	27	31	20.0%	23	17.7%	17	11	3	31	4	—	27	31	20	11	31
3. 紡織品及其原料類	3. 匹頭及其原料類	24	38	24.5%	27	18.3%	14	18	6	38	8	12	18	38	23	15	38
4. 金屬類	4. 金屬類	12	12	7.7%	11	7.5%	5	5	2	12	4	7	1	12	2	10	12
5. 燃料類	5. 雜貨類 燃料類	0	13	8.4%	12	8.2%	4	3	6	13	6	2	5	13	4	9	13
6. 建築材料類	5. 雜貨類 建築材料類	11	11	7.1%	14	9.5%	7	2	2	11	5	6	—	11	6	5	11
7. 化學品類	5. 雜貨類 工業用品類	10	10	6.5%	21	14.3%	5	3	2	10	—	10	—	10	1	9	10
8. 雜類	5. 雜貨類 其他物品類	18	18	11.6%	22	15.0%	13	4	1	18	6	6	6	18	11	7	18
合計		119	155	100.0%	147	100.0%	76	57	22	155	42	43	70	155	84	71	155
百分數							49.0%	36.8%	14.2%	100.0%	27.1%	27.7%	45.2%	100.0%	54.2%	45.8%	100.0%

是年係國民政府奠都南京之前一年，於此託始，蓋猶歐戰前一年之基期有取於其爲新舊遞嬗之交焉。

二　分類及品目

物品之分類，或按性質，或按用途，或按產地，或按加工程度，大抵臨指數之爲用而有異同。上海躉售物價指數分爲八類，其中有按性質者，如金屬及化學品是；有按用途者，如糧食，其他食物，紡織品，燃料及建築材料等是。此項分類方法，茲仍其舊。惟所謂工業用品大率屬於化學品之範圍，無甯改爲化學品類；又雜貨類向分列燃料，建築材料，工業用品，其他物品四小類，今則將燃料，建築材料，化學品，雜貨各自爲一類，不相隸屬，以免有重複平均之弊(註一)。

至於包含之品目，亦經參考本市生產，消費之現情與貿易之近況，酌量增減，分別訂正，以期新指數克盡其調度一般物價之任務。全表以物品計，爲一一九品；以項目計，則爲一五五項，較諸舊表之一四七項，增廣八項。各類間物品之分配，如以百分數表示之，計糧食類占一四·二%，其他食物類占二〇%，紡織品及其原料類占二四·五%，金屬類占七·七%，燃料類占八·四%，建築材料類占七·一%，化學品類占

(註一)何廉著 Prices and Price Indexes in China, Chinese Economic Journal, Vol. I, No 5, May 1927, pp. 429-433

正物價指報告之一

上海躉售物價指數

一 基期

物價指數以測量一般物價之相對的變動爲目的，故必須選取某一時期之物價作爲標準，而後按此標準以與他一時期之物價比較變動之程度。此項標準物價，謂之基價；而基價所從採取之時期，則謂之基期。上海躉售物價指數之基期係民國二年二月，蓋爲與各國以一九一三年爲基期之指數，便於比較起見。編製以來，倏經十載，生產，消費之狀況，時移歲易，固有基期，已有歷時過久之感；而當時苦於補查材料之困難，姑以一個月之物價爲基價，亦不免根據稍弱。年來物價統計漸爲社會所注意，自當舍遠就近，以切實用，且將基期酌量展爲一周年，以免基價受季節之影響有偏高或偏低之病。

各國物價指數沿用一九一三年之基期者，猶居多數。惟聲譽素著之美國勞工統計局指數已於民國十六年九月重行修正，採取一九二六即民國十五年爲基期。其躉之改正者，有費暄教授指數與坎牟大指數，芬蘭指數。我國指數取同一之基期者，有天津南開大學社會經濟研究委員會之華北批發物價指數與本會之上海生活費指數。茲爲便於比較起見，上海躉售物價指數亦取民國十五年爲基期，以其全年平均物價爲基價。

事實之一證。惟各種指數，着手編製，互有先後，基期不同，有礙難比較之憾。爰本斯意，從事修正本會所編之指數。大抵以基期之舍舊謀新爲主旨之所在，而公式之採用，物品之選擇，與夫分類之方法，亦經分別釐訂。改絃更張，事棻繁重，輾轉歲月，近始將新基期以後之指數編製告竣，其新基期以前之指數，暫由舊基期之指數改算列入，以資連貫，俟有餘力，再行補編。不揣蕪陋，謹將新舊指數之異同，及所由修正之顚末，提綱挈要，略著於篇，以備觀覽焉。

本指數編製以來，備承海內外經濟學者之指導，如費暄教授，何廉博士，楊端六先生，劉季陶大鈞博士，壽毅成鼎彝博士，尤荷時錫甫針，至深感佩。其贊助已往工作，多所啓發，足爲改進張本者，有潘更生恩甲先生，趙守愚人儁博士。此次修正工作，關於上海蔥售物價指數之調查，編製，及報告之一譯文，由孫宇羣超頎士任之；關於輸出入物價指數之調查，編製，及報告之二譯文，由陸應雷宗磨芮曉綠宬公二君任之，析疑辨難，裨益宏多。其與於計算，校勘者，爲徐君利資等，合併誌之。

盛俊　二十年六月

，斯研究者多，而指數之體用亦益備。觀於物價指數之編製方法，皆於戰役或濫發紙幣，開發金礦之後而多所闡明，名著迭出，其故可以推矣。

本會之物價指數，係繼前財政部駐滬調查貨價局之任務。一爲上海躉售物價指數，始編於民國八年九月；一爲輸出入物價指數，始編於民國十四年五月；而同以民國二年二月爲基期。編製迄今，爲時雖非甚久，然適當歐戰前後，金銀比價發生劇烈變化之際。計自二年（一九一三）之金一比銀三四．一九漲至九年（一九二〇）二月之金一比銀一一．一〇，嗣後銀價急轉直下，復自十年（一九二一）之金一比銀二五．六〇跌爲十四年（一九二五）之金一比銀二九．三八，更跌爲今年二月之金一比銀七八．五八。銀價之動搖靡定，至於此極。我爲孤立於世之銀本位國，加之以內亂，因之以水旱偏災，年來物價之繼長增高，國計民生，交受其困，蓋亦勢所必至，事有固然者矣。

然以物價指數而言，亦頗應時勢之需求而有所述作。接踵本指數而起者，有廣東建設廳之廣州批發物價指數及南開大學社會經濟研究委員會之華北批發物價指數，此外若南京若漢口若青島之批發物價指數，亦已由實業部調查公佈，而零售物價與生活費指數猶不與焉。夫以昔所視爲早晚不同，無關宏旨之物價，今則聲應氣求，不謀而合，冀於其變動不居之現象，應用共同單位，彙成長時期間可資比較之數字系列，以爲研究物價，改良幣制，及推考其他經濟上相關問題之張本。容亦爲國人捨空言而重

修正物價指數報告并言

經濟學者嘗將經濟進化之步驟分劃爲三時代：最初爲物物交易時代，次爲貨幣交易時代，復次爲信用交易時代。在工商發達之並世各國，已由貨幣交易駸駸進於信用交易。我國之邊陲腹地，猶殘存物物交易之形式，卽在通都大邑，銀行鈔券通行雖無少阻，而秤量貨幣之習慣依然存在。嚴格論之，我國固猶未能完全達於貨幣交易之境地，然與物物交易時代相去已遠。吾人生產，消費，分配之一切經濟行爲，蓋久已受物價之支配矣。

物價之變動由於物品方面者，大抵爲局部的；若其受貨幣價值之影響而變動者，時間雖有先後，但恆爲一般的。一般物價之上漲，卽貨幣購買力之減少；一般物價之下落，卽貨幣購買力之增加，不待煩言而解。惟貨幣既爲測量價值之尺度與交易之媒介，其本身之價值不易直接表現，而有賴於一般物價之平準，以間接表現其購買力，此物價指數之所由作也。

物價指數之創始，雖遠在十八世紀中葉，而其風行於世，猶爲距今三十年間之事。此固由於近代學術之進步，然昔日物價之變動爲勢緩，影響所及之範圍狹，指數之效用因以不彰；今則變動之勢猛，影響所及之範圍廣，指數之效用因以愈著。效用著