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CHAPTER II

THE PRE-RECESSION SITUATION

A SUMMARY view of the economic situation prevailing in 1929 is essential to an understanding of the changes that followed so quickly. The shift in the direction and velocity of movement was so pronounced, in that year, that it is well to survey the course of pre-recession movements and the character of the pre-recession situation before proceeding to the events of the recession itself.[1]

FACTORS AFFECTING THE PRICE STRUCTURE OF 1929

Conceiving of the price structure as a set of relations prevailing among the prices of all the commodities and services that enter into economic activity, it is useful to consider the system existing in 1929 as the resultant of the following general conditions and forces:

1. As a foundation, providing the general framework of the 1929 structure, we must note the relations that had been built up over a considerable period of gradual change before the War. The chief influences bearing upon the price system during this period, which we may say extended from 1896 to 1914, may be summarized in these terms:

a. A slow, secular rise in the price level caused aggregate commodity values to increase more rapidly than the volume of physical production, tended to keep labor and overhead costs down,

[1] A more detailed account of certain tendencies prevailing in the United States prior to the recession of 1929 is given in *Economic Tendencies in the United States* (National Bureau of Economic Research, 1932).

relatively, and contributed to certain of the changes in price relations noted below.

b. Raw materials rose more rapidly in price than manufactured goods. The price differential representing fabricational costs was steadily narrowed.

c. The real per unit value of products of American farms, in raw state, was steadily enhanced. The average real value (i.e., per unit purchasing power) of other commodities declined.

d. Consumers' goods (goods in shape for use by final consumers) and producers' goods (articles of capital equipment and goods intended for consumption, after further fabrication) advanced in price at substantially equal rates.

e. After increasing in price during the expansion that culminated in 1906 and 1907, commodities intended for use in the construction of capital equipment fell appreciably in relative value.

f. Productivity in manufacturing industries advanced notably. Labor costs in manufacturing were reduced, relatively to general prices. The real wages of manufacturing labor were barely maintained during this period of industrial expansion.

2. Superimposed upon the foundation provided by these movements were the shifts arising from the revolutionary economic changes of 1914–22, a period covering the War and the first great post-War recession. Changes in price relations during this period were in part of internal origin, reflecting the play of non-monetary forces. Perhaps more important, however, were alterations due to drastic changes in monetary values. These were transmitted with varying degrees of lag and in varying intensities to the different elements of the price system.

In summary, we note these movements:

a. The rapid price advance of 1916–20 and the recession of 1920–21 brought a sharp reversal of earlier relations between the prices of raw materials, particularly industrial raw materials,

and manufactured products. War demands, the exploitation of new territory, and the stimulation of a rapidly rising price level had caused a rapid expansion in the output of raw materials. The checking of War-time demand, the inability of raw material producers to adapt themselves promptly to the new situation, and the greater promptness of manufacturing producers in adapting production schedules to changed conditions were factors in this reversal. In 1921 raw material producers throughout the world were in a position of extreme price weakness, and manufacturers in a relatively strong price position.

b. The steady pre-War improvement of the average status of farmers was followed by War-time affluence. Then came abrupt decline in 1920–21 to a position lower than any that farmers had known in a quarter of a century.

c. Producers' goods in general were materially cheapened as a result of the price shifts of 1914–21, while the real per unit value of consumers' goods was greatly enhanced. Buying and selling prices were alike favorable to the reaping of profits in the operation of business enterprises, when the advance of 1922 started.

d. In contrast to this favorable price situation on the operating side the costs of capital equipment in general and construction costs in particular were high in 1922.

e. Although employment fell sharply in the recession of 1920–21, real wage rates were substantially advanced as a result of the War and immediate post-War shifts. Labor costs, as a consequence, were relatively high at the opening of the industrial expansion of the nineteen twenties.

3. The price structure that existed in 1922 was subject, during eight years, to a new set of influences. In brief summary:

a. The physical volume of production increased between 1922 and 1929 at a rate in excess of that which prevailed during the decade preceding the World War.

b. The productivity of manufacturing labor increased more

rapidly than during any other period for which records are available. (Acceptable records go back to 1899.)
c. In the expansion of this period an increasing proportion of the nation's productive resources was devoted to the output of durable goods and of luxury goods, both being types marked by high elasticity of demand.
d. Articles of capital equipment were being produced at a rate materially greater than that prevailing for physical goods in general.
e. Heavy foreign lending and rapid growth of the volume of export trade characterized this period. The dominant export groups consisted of goods of elastic demand.
f. The aggregate amount of capital funds available to American industry increased at a notable rate. This helped to maintain an upward swing in security prices for an exceptionally long period. It facilitated the improvement of mechanical equipment, and was thus a major factor in enhancing the productivity of labor and in contributing to technological unemployment.
g. The period as a whole was marked by an apparent loss of flexibility in certain important elements of the price structure. This loss of flexibility—a loss due in part to the steady advance of overhead costs, price regulation, trade agreements, valorization efforts—paralleled movements that tied together even more closely the various elements of the industrial structure, and made a continuing and flexible adjustment of working parts more essential to economic stability.
h. Commodity prices were marked by a slightly declining trend during the first post-War decade. A declining trend intensifies the difficulties of readjustment after a cyclical recession, and compels more thoroughgoing liquidation than is necessary when the secular push of prices is upward.

In passing now to a brief account of 1929 price relations in the United States, we deal again only with certain salient aspects of the general situation.

Prices of Raw and Processed Goods; Price Position of the Farmer

Raw materials as a class rose in price in the United States between 1922 and 1929; processed goods declined. Although these movements tended to correct the extreme disparities created during the 1920–21 recession, they left raw materials in an unfavorable position in 1929, in terms of pre-War relations. This is clearly shown by an examination of relevant index numbers of wholesale prices.[2] These measurements

	1922	*1929*	*1913*	*1922*	*1929*
Raw materials	100	106	100	133	141
Manufactured goods	100	98	100	155	152

indicate that in average per unit worth, in terms of commodities in general at wholesale, raw materials were in 1929 some 5 per cent lower than in 1913, manufactured goods 2 per cent higher. (In deriving these measurements the index numbers of wholesale prices given in the table have been divided by the corresponding index of general commodity prices, at wholesale.) In default of accurate and comprehensive records of changes in production costs we may not appraise this shift with precision. It is known that production costs of many raw materials were reduced during the decade and a half following the beginning of the War.[3] Some of the technical gains that manufacturing industries

[2] Unless otherwise noted, the index numbers presented in this monograph have been computed by the National Bureau of Economic Research from quotations compiled by the U. S. Bureau of Labor Statistics. The detailed measurements, with notations concerning the number of commodities represented, are given in Appendices III and IV.

[3] Important technical improvements occurred in the copper, lead, zinc, silver and petroleum industries, and the production of tin and wheat was marked by increasing mechanization. Cf. *Raw Material Prices and Business Conditions,* Melvin T. Copeland (Publications of the Graduate School of Business Administration, Harvard University, Vol. XX, No. 3, May 1933).

had enjoyed earlier were now realized in extractive industries. But it is doubtful that such cost reduction equaled the very substantial declines in production costs in manufacturing industries during the decade prior to 1929. The advantage brought by relative price movements to manufacturing industries during these years was probably real.

The loss that the American farmer suffered in price position in 1920–21, a loss which wiped out the gains of many years, was in part made up during the succeeding eight years. Dealing first with the situation in wholesale markets, we have the following record of changes in the wholesale

	1922	*1929*	*1913*	*1922*	*1929*
All products of American farms, raw	100	110	100	137	150
All other commodities	100	98	100	151	148

prices of raw farm products and all other commodities (including processed farm products and raw and processed nonfarm products). Between 1922 and 1929 the prices of raw farm products gained distinctly on other commodities. As is shown by the entries on the 1913 base, this gain more than corrected the 1922 disparity, putting farm products slightly above the general average in 1929.[4]

Wholesale prices, although useful as a common denominator in the comparison of changes affecting different groups of producers, do not necessarily indicate the true buying and selling position of the farmer. To define this position we compare the course of prices actually received at the farm

[4] In this, as in all other comparisons of index numbers, we must note the limitations attaching to measurements of price changes over time. Only for staples of relatively unvarying quality are these measurements accurate. Changes in quality and in design, among fabricated goods, may not be adequately translated into terms of price and are, indeed, usually ignored in the construction of index numbers. Errors due to such changes are usually slight over short periods, more serious in comparisons covering a number of years (see footnote 6, p. 45).

with changes in the prices of goods bought by farmers. The

	1922	*1929*	*1913*	*1922*	*1929*
Prices received by farmers	100	111	100	131	145
Prices paid by farmers for production and family maintenance	100	103	100	148	151

index of farm prices relates to thirty major agricultural products; the index of prices paid is based on payments by farmers, at retail, for articles used for productive purposes and for direct consumption and use.[5] Here, again, a substantial gain is shown for the years between 1922 and 1929, but the advance started from a lower relative position in 1922 than is indicated by the wholesale price quotations. In 1929 the per unit purchasing power of farm products, measured with reference to the prices paid by farmers, was lower than in 1913.

This record leaves out of consideration possible changes in production costs of farm products and changes in the quality of some articles bought by farmers. It is certain that changes of these types occurred between 1913 and 1929. While the resulting gains may not have been sufficient to offset the price disadvantage revealed by the above index numbers, there is no doubt that by 1929 farmers, as a class, had made great strides towards recovering their pre-War economic status.[6]

[5] Index numbers computed by the U. S. Bureau of Agricultural Economics. The index numbers on the pre-War base are only slightly modified if the standard of reference be the five years, August 1909 to July 1914, instead of the single year 1913.

	August 1909–July 1914	*1922*	*1929*
Prices received by farmers	100	132	146
Prices paid by farmers	100	149	153

[6] The measurements of changes in the purchasing power of farm products, cited in the text, are derived from the comparison of price changes among two groups of commodities—farm products, and commodities bought by

Margin between the Prices of Raw and Processed Goods, 1929

We have stressed in an earlier section the economic importance of the differential between the prices received for materials by primary producers and prices prevailing for finished goods at the other end of the productive-distributive process. This differential measures the cost of those activities, so characteristic of modern economic life, that intervene between the extractive processes and the final consumption of physical goods. Available data do not span the entire range of this differential, but it is possible to measure the changes over substantial portions of this important margin.

WHOLESALE PRICES

The customary comparison, in tracing changes in the manufacturing margin, is between the prices of all raw materials and all manufactured goods. This is significant, but it is not entirely appropriate to the purpose; for a considerable group of raw materials consists of products such as

farmers for use in production and in family maintenance. The first is composed of standard raw materials (wheat, cotton, hogs, cattle, etc.) subject to only minor variations in quality. The second includes diverse materials, such as farm machinery, automobiles, tractors, many of which have been marked by steady improvement in quality with the passing years. It is estimated, for example, that the quality—the productive efficiency—of farm machinery increased 70 per cent between pre-War years and 1932 (estimate cited in *Index Numbers of Prices Paid by Farmers for Commodities Bought, 1910–1934*, U. S. Department of Agriculture, September 1934). Automobiles have been marked by similar improvements in quality, over the period of their general use. It is obviously erroneous, if long periods are involved, to set against the prices of goods of unvarying quality prices of equipment that has improved so substantially in quality, without taking account of quality changes. The above measurements, therefore, certainly overstate somewhat the degree of loss in the purchasing power of farm products between 1913 and post-War years.

vegetables, eggs and milk, which are purchased in their raw form by ultimate consumers. Such raw consumers' goods are, in general, subject to price-making forces quite different from those that operate among raw materials subject to more or less complex processes of fabrication before being ready for use, either for purposes of consumption or as instruments of further production. It is the latter group of raw producers' goods that should properly be compared with manufactured commodities, if interest attaches to changes in the manufacturer's price margin.

Price tendencies prevailing among these two classes of goods during the years preceding the 1929 recession are shown by the accompanying index numbers, which define

	1922	*1929*	*1913*	*1922*	*1929*
Producers' goods, raw	100	103	100	127	131
All processed goods	100	98	100	155	152

changes in the average wholesale prices of broad classes of goods at successive stages of production.[7] (They do not relate, we should note, to precisely the same commodities at these stages.) The net effect of the eight years of expansion that began in the United States after the depression of 1921 and continued without grave interruption until 1929 was to reduce the relative margin between the prices paid by manufacturers for their raw materials and the prices, at wholesale, at which processed goods were sold. Raw producers' goods rose slightly in price, manufactured goods declined slightly on the average. If we neglect questions relating to costs, productivity and changes in degree of fabrication and in volume of output, questions that naturally affect the interpretation of the changed differential, we find an apparent tendency

[7] See Appendices II–IV for index numbers by years, with an explanation of their derivation.

towards a reduction of fabricational charges between 1922 and 1929.

But a longer view is needed if the situation in 1929 is to be properly understood. The preceding measurements indicate that in 1929, as well as in 1922, the margin was exceptionally wide, that the costs of the services of the manufacturers (and, in some degree, distributors) to which this margin relates remained high, relatively to pre-War standards, during the whole post-War period. In 1929, at the peak of the expansion of this period, the average per unit price of raw producers' goods was 31 per cent above the 1913 average; the average per unit price of manufactured goods was 52 per cent higher. In comparison with these wide differences the slight narrowing of the margin between 1922 and 1929 is not impressive. The post-War decade, it appears from this evidence, was marked by high prices for the services covered by this basic differential.[8] It is to be expected that such a change would be paralleled by notable shifts in the real incomes and in the relative economic status of different economic groups.

Measurements based upon a threefold division of commodities, which includes a representative group of semi-finished goods as well as raw materials and finished commodities, suggest that this widening of the manufacturing differential was not universal, in fabricational processes. Thus, while raw producers' goods rose 33 per cent between 1913 and 1929, and all finished goods rose 54 per cent, the group of semi-finished goods advanced only 28 per cent in

[8] The general relations between the price index numbers for raw producers' goods and manufactured goods are not altered when a broader pre-War base is used:

	1909–1913	*1922*	*1929*
Producers' goods, raw	100	127	132
All processed goods	100	158	155

price.[9] These measurements indicate that the costs that had risen, and that dominate the general index numbers previously cited, were those relating to the later stages of the manufacturing process, rather than to the simpler manufacturing processes that intervene between raw and semi-finished stages.

Further aspects of the change prior to 1929 in the major differential between prices of raw and processed goods must be studied, and possible reasons for it sought, in a more detailed examination of price differences and manufacturing costs. In the following summary we distinguish three groups of producers' raw materials and corresponding classes of manufactured goods.

	1922	*1929*	*1913*	*1922*	*1929*
Crops, raw, producers'	100	107	100	127	136
Crops, processed	100	97	100	146	142
Animal products, raw, producers'	100	108	100	130	140
Animal products, processed	100	110	100	150	165
Minerals, raw, producers'	100	97	100	140	135
Minerals, processed	100	95	100	159	151
Metals, raw, producers'	100	106	100	121	128
Metals, processed	100	108	100	151	164

The manufacturer's margin in the fabrication of farm crops appears to have been reduced rather substantially be-

[9] Following are the index numbers of wholesale prices for these three commodity groups. The entries in this table, it should be noted, do not relate to identical commodities at three different productive stages. Indeed, many classes of goods included in the 'raw' and 'finished' groups are not included in the 'semi-finished' group. But the three sets of index numbers may be taken to be generally representative of three successive stages of production.

	NO. OF COMMODITIES	*1913*	*1922*	*1929*
Producers' goods, raw	90	100	129	133
Producers' goods, semi-finished	47	100	134	128
All finished goods	319	100	156	154

tween 1922 and 1929. No significant change occurred in the other two main groups. The measurements on the pre-War base give a different picture. The manufacturing differential was distinctly wider in 1929 than in 1913 for animal products, appreciably greater among mineral products, and slightly greater for farm crops. In the subgroup metals a rise of but 28 per cent in the prices of raw materials subject to processing was accompanied by an advance of 64 per cent in the prices of manufactured goods. Our search for groups exercising preponderant influence upon the major differential leads us, then, to two important commodity groups—animal products and metals. In the fabrication of these goods, apparently, the advance in costs between 1913 and 1929 was greater than the rise in prices of raw materials, and of commodities in general.

The part played by fabrication costs in the price changes of the pre-recession period is strikingly revealed by a series of index numbers of price changes among manufactured

GROUP	NO. OF COMMODITIES	*1922*	*1929*	*1913*	*1922*	*1929*
A	99	100	108	100	129	140
B	157	100	96	100	156	149
C	87	100	95	100	185	175

goods, classified according to the degree of fabrication through which they have passed.[10] Group A is made up of

[10] Total costs of fabrication, including profits, are defined by the figures on 'value added by manufacture' in Census compilations. The percentage relations of fabrication costs to total value of product, upon which the present classification rests, are based upon figures for 1925. This is true also of the figures relating to wages and total value of product, upon which the classification in the next table is based. Some changes occur, of course, from year to year but these changes are not such as materially to affect the present classifications.

The price quotations used in constructing these index numbers are those compiled by the U. S. Bureau of Labor Statistics. The data used in the classification of commodities are drawn from the Census of Manufactures.

commodities for which fabrication costs constitute less than 25 per cent of the total value of product, group B those for which fabrication costs constitute from 25 to 50 per cent of total value of product, and group C those for which fabrication costs are 50 per cent or more of total value of product. From 1922 to 1929 slightly fabricated materials (group A) increased in price, more heavily fabricated goods declined. But this movement must be interpreted with reference to the situation in 1922. Here we find a definite relationship, slightly fabricated goods being lowest in price, relatively to 1913, more highly fabricated goods standing next in order, with most heavily fabricated goods far above the other two classes. These differences had been reduced by 1929, but the same general relations persisted. As against a relative of 140 (1913 base) for slightly fabricated goods, we have 175 for the highly fabricated articles in group C. These clear progressions, prevailing in 1929 as well as in 1922, give unmistakable evidence of the part played by manufacturing costs (including profits) in shaping post-War price differences.[11]

If we base our classification upon wages expended in the manufacturing process, instead of upon all fabrication costs, similar conclusions emerge. Below are given index numbers of wholesale prices for three groups of commodities, those for which manufacturing wages constitute less than 10 per cent of the total value of product (group D), those for which they make up from 10 to 25 per cent of total value of prod-

[11] We should avoid the implication that the chain of causal relations necessarily runs from higher fabricational costs to higher selling prices. In general, when the level of prices is rising, it is probably true that conditions in the markets for finished products allow higher fabricational costs to be incurred and higher profits to be paid. (Even at such a time, of course, the force of competition may prevent a rise in the fabricational margin.) When the level of prices is falling, the active factor in expanding the fabricational margin (relatively to general prices) is more likely to be found on the cost side. Overhead and labor costs are less flexible than material costs when business conditions necessitate a downward adjustment of prices and costs.

uct (group E), and those for which they make up 25 per cent or more of the total value of product (group F). In 1922

GROUP	NO. OF COMMODITIES	*1922*	*1929*	*1913*	*1922*	*1929*
D	123	100	106	100	131	138
E	139	100	94	100	161	152
F	81	100	96	100	187	180

goods in group D stood only 31 per cent higher in price than in 1913; goods in group F stood 87 per cent higher. Here is a striking difference. By 1929 the discrepancy had been reduced, but we still find a definite progression; those goods for which wages were a relatively small item in total value were lowest in relative price, while goods with relatively high labor costs were highest.

We have noted, in using index numbers relating to the prices of specific classes of goods at different stages of the productive-distributive process, that precisely the same commodities are not necessarily represented at these different stages. More exact (though more limited) comparisons are possible if we deal with the prices of identical commodities at different productive stages. Index numbers derived from such prices, which are given in Appendix V, show conflicting movements between 1922 and 1929, in respect of the fabricational margin. More significant for the immediate purpose are index numbers on the 1913 base. With only three exceptions in the entire list of eighteen groups of related commodities, the relative margins between the prices of primary products and of more highly processed goods were distinctly wider in 1929 than in 1913. The long-standing pre-War tendency towards a narrowing of this differential was clearly reversed, if we take account of the net change over this sixteen-year period.

FABRICATION COSTS

Some limitations attach to a study of price differentials through the comparison of price movements at different manufacturing or distributive stages. Production costs may vary with changing industrial productivity; the degree of fabrication may vary; the share of overhead costs allocated to each unit of manufactured output may vary markedly with changes in the volume of production. We may approach the same subject from a different direction, and avoid certain of the more important of these sources of possible error, by tracing changes in the costs and selling prices of American manufacturing industries.[12] As in the earlier account we devote our attention to the situation in 1929 and to the changes occurring during the years of post-War expansion and the longer period dating from 1914.

INDEX NUMBERS MEASURING CHANGES IN MATERIAL COSTS, SELLING PRICE AND FABRICATION COSTS, MANUFACTURING INDUSTRIES OF THE UNITED STATES

(All measurements relate to average price and cost changes per unit of manufactured product.)

	1923	*1929*	*1914*	*1923*	*1929*
Selling price	100	91	100	159	145
Cost of materials	100	89	100	153	136
Fabrication costs, plus profits	100	95	100	174	166
Labor costs	100	86	100	182	157
Overhead, plus profits	100	102	100	168	172

These records reflect changes of the same general character as those defined by the measurements already reviewed. Between 1923 and 1929 material costs (which here include

[12] The technical methods employed in deriving these measurements are described in *Economic Tendencies in the United States*. The measurements are derived from compilations of the Census of Manufactures, and are thus available only for Census years.

the costs of semi-manufactured goods) dropped, the selling prices of manufactured goods declined, and fabrication costs declined, though by a smaller amount. In the present analysis we may distinguish two elements of fabrication costs, labor costs and a composite of overhead costs plus profits. The decline in fabrication costs during the period of post-War expansion appears to have been the resultant of two conflicting movements—a substantial drop (14 per cent) in labor costs, a small advance (2 per cent) in overhead costs plus profits. In interpreting these movements we should recall that these years were marked by the steadily increasing mechanization of industry, and that this process tended to lower labor costs and to increase overhead costs. The capital funds at the disposal of manufacturing corporations were increasing rapidly, and if mechanization had proceeded at an equal rate the addition to current overhead charges would have been substantial. A definite tendency in this direction undoubtedly prevailed.

For a true conception of the 1929 situation a longer perspective is required. If we look back to 1914 we find that the present evidence clearly substantiates that of the earlier sections. Over the fifteen years 1914–29 the cost of materials (including semi-finished goods), per unit of manufactured product, increased 36 per cent; the selling prices of finished products advanced 45 per cent; fabrication costs, plus profits, increased no less than 66 per cent. The services of fabrication agents were definitely more expensive in 1929, by an amount materially exceeding the rise in the general price level. The two constituent items of fabrication costs both advanced more than the average selling price of manufactured products. The rise in overhead costs plus profits was the greater.[13]

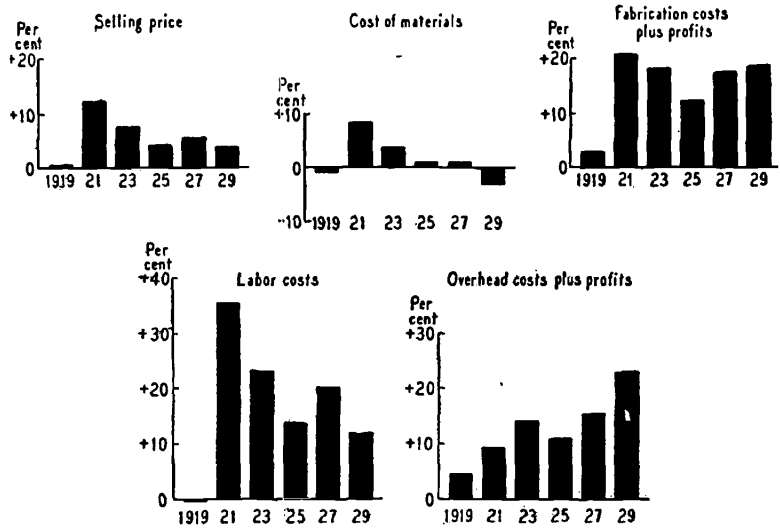
[13] These index numbers, based upon a larger group of industries, differ somewhat from those cited in *Economic Tendencies*.

FIGURE 5

CHANGES IN AVERAGE SELLING PRICE, COST OF MATERIALS AND ELEMENTS OF FABRICATION COSTS PLUS PROFITS, PER UNIT OF PRODUCT, 1914–1929

MANUFACTURING INDUSTRIES OF THE UNITED STATES

(Percentage deviations from 1914 level, in dollars of constant purchasing power at wholesale)



These general movements are shown graphically, in dollars of constant purchasing power at wholesale, in Figure 5. Supporting data appear in Appendix VI. Here, again, qualitative factors cloud the interpretation of these results. The particular 'price' that is defined by fabrication costs, per unit of product, does not relate to a standard and unchanging economic good, especially over periods a decade or more in length. As for the changes from 1914 to 1929, a detailed study of the record suggests that several important factors contributed to the notable widening of the fabricational margin

we have observed. Real advances in fabricational costs, in excess of the concurrent increases in selling prices, occurred among numerous industries turning out standardized products. There is good evidence (other than the statistical data here cited) that manufacturing labor and ownership were in positions of strategic advantage, after the World War, in their relations with producers of raw materials, and that their rewards increased correspondingly. But it is also true that the degree of fabrication to which materials of manufacture were subjected was increasing. In 1929 the actual physical contribution of fabricators to the average product of manufacture was greater than in 1914. Refinement and improvement of fabrication in the making of machine products, elaboration of fabrication in the production of food products and in their preparation for the market, were characteristic of this period. This qualitative change was unquestionably a factor in the widening of the fabricational margin that was so distinctive a feature of the years between 1914 and 1929, intensifying the influence of a substantial real rise in the price paid for the services of fabricators.[14]

The fifteen years prior to the recession of 1929 were marked by an exceptionally rapid advance in the output of durable goods, both capital equipment and durable consumers' goods. The production of durable goods increased 112 per cent, as compared with increases of 63 per cent for semi-durable goods and 71 per cent for perishable commodities. (Each reference applies to the output of manufactured goods. The measurements given are based upon index numbers constructed by the National Bureau of Economic Research.) Examination of index numbers relating to the va-

[14] In certain cases in which the degree of monopolistic or semi-monopolistic control was increased during this period the widening of the differential between material costs and final selling price may be attributed to this control, rather than to an increase in fabricational costs proper.

rious elements of production cost, for these three groups of manufactured goods, reveals substantial equality in respect of changes in material costs, between 1914 and 1929. The chief differences appear in the movements of labor costs (up 69 per cent for semi-durable goods, 54 per cent for perishable goods and 49 per cent for durable goods) and overhead costs plus profits (up 76 per cent for semi-durable goods, 75 per cent for durable goods and 66 per cent for perishable goods). The very considerable rise in overhead costs plus profits for durable and semi-durable goods is notable, the more so because of the great increase over this period in the volume of durable goods produced. Indeed, such charges for durable goods had increased no less than 13 per cent per unit of output during the period of rapid industrial expansion between 1923 and 1929. Heavier overhead charges, in the broad sense in which that term is here used, were an important element in the maintenance of a high fabricational margin during the post-War period.

Prices of Capital Equipment and Consumption Goods

In distinguishing between the prices of goods for capital equipment and of articles intended for direct human consumption or use we are setting off two major fields of economic activity. Processes of investment and of consumption, processes relating to the building up of the instruments of production and processes directed towards the satisfaction of immediate human wants, are conditioned by these prices. Proper coordination of these two central types of activity is essential to the maintenance of order in our economic life.

In a comparison of price changes among these classes of commodities we should use the prices of finished goods only. For our interest lies now not in the margin representing fabricational or distributional costs, but in the relative costs

of capital goods, finished and ready to perform their instrumental role in production, and of commodities ready for direct and final consumption. It is these prices of final products that are significant in shaping the courses of investment [15] and of consumption. But we are faced here by deficiencies of data. Available quotations on the finished instruments of production—machinery and equipment of all sorts —are few. As the best approximation to changes in such prices we shall follow changes in the prices of processed goods intended for use as capital equipment or in the construction of such equipment. Since we are interested not in absolute prices but in price changes, the approximation will be reasonably accurate. Price changes among these goods are compared, in the accompanying summary table, with changes in the prices of goods ready for use by final consumers and in the general level of wholesale prices.

	1922	*1929*	*1913*	*1922*	*1929*
Producers' goods for capital equipment, processed	100	97	100	165	160
Consumers' goods, all	100	104	100	155	160
All commodities	100	100	100	148	148

Between 1922 and 1929 prices of these two types of goods, both representing terminal stages of the productive-distributive process, diverged somewhat; goods for capital equipment fell slightly in price, consumers' goods rose. But over the longer stretch of years between 1913 and 1929 the two groups moved upward by the same relative amount—60 per cent, as compared with an advance of 48 per cent in the general price level. The high 1929 prices of both these classes stand in marked contrast to the very low prices of

[15] High prices of capital goods may, of course, be counter-balanced by low interest rates. Moreover, high prospective returns may outweigh high current costs of construction. These factors in the problem of investment and of capital goods creation are not discussed at this point.

those producers' goods which are intended for human consumption, after fabrication. (The average price of such goods, in 1929, was only 29 per cent above the 1913 average.) The wide margin between these unfinished goods and goods ready for consumption has been discussed in an earlier section.[16] Equally striking is the contrast between the low prices paid by producers for goods to be fabricated and the high prices paid for goods entering into capital equipment. On the operating side price relations were very favorable indeed to manufacturing profits. But on the investment side the situation was less pleasing. Manufacturers reached the end of the prosperous period of the 1920's with a large volume of new capital equipment, much of it constructed under conditions of exceptionally high cost. The full weight of this burden was not felt while activity remained at high levels, but after 1929 these capitalized costs became a major factor in the problem of readjustment.[17]

[16] The group of consumers' goods, the prices of which are given here, includes both raw and processed goods, although it is more heavily weighted with the latter. These two subdivisions followed different courses between 1922 and 1929. The one group of raw materials that remained relatively high in price during this post-War period, and ended the period in a position of marked price advantage, was composed of goods ready for final consumption in a raw state.

	1913	*1922*	*1929*
Consumers' goods, raw	100	154	175
Consumers' goods, processed	100	155	157

[17] Construction costs enter into the production of both capital equipment and durable consumers' goods (residences). In the following table the *Engineering News-Record's* index of construction costs, which includes wage rates of labor engaged in the building industries as well as prices of building materials, is contrasted with general wholesale prices. Costs of construction were high in 1922, some 18 per cent above wholesale prices (on the 1913 base). During the seven years following wholesale prices showed no net change, but construction costs rose to a level 40 per cent above that of

In the existence of a plateau of high prices for goods ready for use, whether by final consumers or in an instrumental way by producers, we have a very significant feature of the post-War decade. Such a condition places obvious difficulties in the way of continued movement of goods, in customary volume and in customary channels. It involves a transference of purchasing power to fabricators, a reduction in the purchasing power of primary producers and of those ultimate users (consumers and industrial users of equipment) who do not profit from the enlarged fabricational margin. Deficiencies in the aggregate purchasing power of these groups may, of course, be temporarily filled if new sources of credit (such as consumer credit) are being tapped, or if other elements of income (such as speculative profits) are swelled. It is possible, too, that equilibrium within the industrial structure may be re-attained, in the face of such a price situation, after changes in the division of national income and in the make-up of the aggregate volume of goods marketed. But a condition of the first sort (a filling of the voids in the purchasing power of adversely affected groups) would seem to be necessarily temporary, while a change of the second type (a permanent alteration in the division of aggregate purchasing power) would involve very considerable economic and social changes, if substantial price shifts were to persist. These considerations will concern us when we trace the developments of the recession that began in 1929, and of the succeeding period of recovery.

wholesale prices. Here was an important additional factor contributing to high capital costs and to high costs of consumers' goods.

	1922	*1929*	*1913*	*1922*	*1929*
Construction costs	100	119	100	174	207
Wholesale prices	100	100	100	148	148

Post-War Price Schism

There is an obvious relation between the various price phenomena described in the preceding pages. Relatively low prices of primary products and high prices of manufactured goods intended for human consumption and for use in capital equipment are concomitants of a wide fabricational margin. The evidence reviewed indicates that in the United States, prior to the recession of 1929, the margin between the prices of raw industrial materials and of manufactured goods was distinctly wider than in pre-War years. The statistical data show that this condition became pronounced, for the first time, between 1919 and 1922, although some relative weakness in raw materials developed between 1917 and 1919.[18] The gap then opened between the prices of finished goods and of raw materials intended for fabrication persisted, in the main, during the entire decade of the 'twenties. In certain industrial fields the gap was narrowed, and, indeed, in some fields no such gap existed, but for manufacturing industries in general the fabricational margin that prevailed in 1929 was significantly wider than before the War.

[18] The major shift between 1917 and 1922 may be traced in the following index numbers of wholesale prices:

	1913	*1917*	*1918*	*1919*	*1920*	*1921*	*1922*
Producers' goods, raw	100	180	194	195	201	118	127
All processed goods	100	169	198	206	240	163	155

Pertinent, also, are data showing the relations between changes in the cost of materials and in fabrication costs, per unit of product, in manufacturing industries:

	1914	*1919*	*1921*	*1923*
Cost of materials	100	202	156	153
Fabrication costs	100	209	173	174

(Costs of materials, as reported in the Census of Manufactures, include some fabrication costs, since semi-finished goods constitute 'materials' for many producers.)

The persistence of this margin constitutes one of the most striking features of the post-War economic situation. It is notable, for one thing, because its existence represents a reversal of tendencies that had prevailed in this country for many years prior to the War. The history of the quarter century prior to the War is a history of a steady cheapening of fabricated products in terms of raw materials, a steady reduction in the cost of the services of manufacturing industries. The margin is notable, again, because it was not solely a domestic phenomenon. The post-War world was marked by a wide disparity, relatively to pre-War standards, between the prices of raw materials and of manufactured goods. The terms of exchange between raw material producing areas (with certain exceptions) and manufacturing areas were altered, by the events of 1914–22, to the marked disadvantage of the former. There developed, to a degree not equaled in modern times, a price schism between raw material producing areas and manufacturing areas that materially impeded the ordinary processes of trade. Some of the economic consequences and accompaniments of this schism—depleted purchasing power and a forced draught to production in raw material producing areas, reduced volume of trade and consequent unemployment in industrial areas, uneconomic movements of short- and long-term loans—have been outstanding features of the post-War world situation.

It is desirable that we briefly summarize the factors that appear to have contributed to the development of this margin and to its persistence during the post-War decade, in direct reversal of earlier tendencies. In doing so we shall be speaking primarily of the domestic situation in the United States although certain world conditions bear upon it.

The sharp widening of the fabricational margin occurred in the price recession of 1920–21. As factors affecting this movement we may note the following:

a. The usual sensitiveness of raw material prices to the forces of economic recession, and the greater stability of the prices of finished goods. The reasons for this difference are many, including the inelasticity of demand for many primary products, the inability of primary producers to limit supply in the face of falling demand (contrasted with the high degree of control exerted over the output of most fabricated products) and the greater importance of relatively fixed costs in the production of manufactured goods.

b. The accentuation of this sensitiveness of raw material prices by an exceptionally weak position at the end of the War. A forced draught had been applied during the War to the production of raw materials throughout the world. Indeed, as we have already noted, the peak of raw material prices in the United States in relation to general prices occurred in 1917. Thereafter the prices of manufactured goods rose more sharply. This relative weakness, appearing prior to the peak of the War-time boom, is highly significant. The ending of the War left large stocks on hand, and the expansion of production by the warring countries, with the end of the fighting, intensified these difficulties.

c. The customary lag of wage rates and overhead charges, at a time of price recession. Here, again, the usual tendency towards a relative increase in fabricational costs, as a result of this lag, was accentuated by the magnitude and intensity of the general price decline. During the preceding advance of prices, from 1914 to 1920, labor shortage and War-time demands had stimulated a sharp rise in wage rates. Much of this gain was held during the sharp break of prices in 1920 and 1921.

d. The violence of the first post-War price recession and its brief duration, relatively to the magnitude of the change in the price level. In 1920–21 the average level of wholesale prices dropped 45 per cent in twenty months. This was almost three times the intensity (in rate of decline per month) of the 1929–33 decline and four times the intensity of the 1873–79 price drop. Under these conditions a rapid widening of the margin between

flexible and inflexible prices was inevitable. Time was not given for adaptation and adjustment. Subsequent readjustment was, of course, to be expected, barring the presence of factors tending to perpetuate the conditions that developed during the recession.

World conditions of supply and demand, the customary behavior of the prices of different classes of goods, the relatively strong position of agents of fabrication in 1920–21 and the intensity of the drop in general prices all contributed to the initial widening of the fabricational margin, and to the consequent depressing of raw material prices and the elevation (relatively) of the prices of finished goods. But the emergence of the margin, as a cyclical phenomenon, was in accord with experience. What was altogether exceptional was the persistence of these conditions during the succeeding eight years of economic expansion and of rapidly rising productivity in manufacturing industries. We list below certain factors that appear to have played important roles in these years:

a. The continued weak position of primary producers. The effects of the War-time stimulus to the output of raw materials did not pass over night. Large supplies from new sources, combined with the re-entry of producers in the former combatant countries, maintained price weakness among raw materials.[19]

Actual cost reductions in the production of certain raw materials, as a result of gains in productivity, served also to lower prices. This was a factor of considerable importance in the output of certain minerals and of some farm products. The post-War years witnessed considerable improvement in technical methods of mineral extraction and of agricultural production. Price declines reflecting cost reductions do not necessarily involve reduc-

[19] We should note, however, that for raw materials in general "the effects of war stocks and war expansion . . . had worn off before 1929" (Copeland, *loc. cit.*, p. 44). We must look, in the main, to other conditions for an explanation of the persistent post-War margin.

tion of incomes. However, such cost reductions are never effected uniformly, by all producers. Lowered costs by some, particularly by large producers, may change the location of the margin of production, forcing to the margin, or beyond it, producers formerly comfortably within it. In such an industry as farming, where complete retirement from production is difficult, this condition may cause real and persistent distress.

b. The persistence of a price level some 35 per cent below that of 1920. Had prices moved upwards again, to the approximate pre-recession level, wage costs and overhead costs in manufacturing industries would probably have been reduced, relatively, and earlier relationships with prices in general approximated. The customary lag of such costs would have contributed to this readjustment. But the gains scored by the agents of fabrication during recession were consolidated, in large part, because of the succeeding stability of prices at a level close to that reached in the 1921 depression.

c. The economic strength of industrial labor. The prolonged expansion that followed the first post-War depression began just when immigration restriction was curtailing the supply of industrial labor, particularly unskilled labor. Thus the bargaining position of labor was strong in these early years of expansion, and this circumstance contributed to the maintenance of the earlier gains in real wage rates. Related to this, but arising from other conditions as well, were the high living costs and high living standards of industrial labor after the War. There are, of course, circular relations here. Living standards were high, in part, because a wide manufacturing differential made it possible for high wages to be paid. But there is something more to it than this. The high standards gained during the War tended to perpetuate themselves. Wage earners, and all other consuming groups, cling tenaciously to gains in standards of living. This became a positive factor, tending to maintain the wide differential of the early post-War years.

d. The possible increase in distributional costs. During the decade of the 'twenties national advertising increased rapidly

and other forms of selling pressure received new emphasis. These costs were reflected in the prices paid by final consumers. We cannot say whether or no this selling pressure actually increased volume of sales sufficiently to reduce distributional costs per unit of product. They may well have done so in some industries. Where advertising is largely competitive, drawing business from other producers instead of promoting an increase in aggregate sales, increased advertising would add to the average per unit cost of goods sold. Some such addition was probably made during the expansion of the 1920's. Certainly the persistence of a high level of prices to consumers does not indicate that the great expansion of advertising in these years served to lower the living costs of the population at large.

e. Quality changes, representing actual increases in the degree of fabrication to which the materials of manufacture were subject. In 1929 (and in 1933) the actual physical services of fabricators constituted a larger proportion of the bundle of materials and services bought by the final consumer than in 1914. Improvements in the quality of mechanical goods and the grading and packaging of food products are obvious examples of changes of this type. Perhaps some of this extra service, as in the making of ornate containers, was not a real gain to the consumer. Nevertheless, the service was rendered and a higher fabricational margin was required to pay for it. This emphasis on quality changes, real or apparent, and the desire to give specific products special appeal through refinements of fabrication, were probably more characteristic of the years since 1914 than of the period before. If so, they help to explain the curious reversal in the relative trends of prices of raw materials and of manufactured goods that occurred after 1914.

f. Fortuitous additions to the purchasing power of consumers. It was not enough to ensure the persistence of relatively high rewards to fabricators that their bargaining position should be strong, or that the position of primary producers should be weak. It was necessary that the buyers of finished products be able to purchase, in quantity, at the relatively high price level prevailing for such goods. Low returns to primary producers, who consti-

tute an important element of the total body of consumers, would tend to lower the aggregate income and purchasing power of consumers. High returns to fabricators would tend, of course, to maintain such purchasing power, but fabricators constitute only one restricted part of the total consuming group. Something more than the boot straps of fabricators was needed to maintain the buying power of consumers at large at levels necessary to ensure the marketing of an expanding volume of consumers' goods at post-War prices. Three circumstances contributed to the enhancement of consumer purchasing power during the period of expansion that began in 1921–22. Some of the proceeds of heavy foreign loans served, directly or indirectly, to finance the purchase of consumers' goods in the United States. Many of the profits realized from speculative operations in real estate and securities found the same outlet. Not least important was the swelling of consumer purchasing power by the tapping of the new reservoirs of credit—consumer credit—through which installment selling was financed. During the expansion of such credit the additions to the total volume outstanding represented net increases in the current buying power of consumers.[20] All these

[20] These sums, while not of great magnitude in any one year, relatively to total national income, constituted a steady addition to the current income of consumers during the decade preceding the recession. The following table (based upon estimates given in Lough and Gainsbrugh, *High-Level Consumption,* McGraw-Hill, 1935, p. 312) indicates the magnitude of the annual additions to consumer income between 1919 and 1929. The debts of which account has been taken in preparing this table include those arising from purchases and from personal loans. All sums are in millions of dollars.

	TOTAL SHORT-TERM CONSUMER DEBTS	ANNUAL CHANGE IN TOTAL CONSUMER DEBTS	ANNUAL CHANGE IN CARRYING CHARGES	NET CHANGE IN CONSUMER PURCHASING POWER FROM PRECEDING YEAR
1919	5443			
1920	6006	+563	+ 1	+562
1921	6118	+112	+78	+ 34
1922	6053	— 65	—31	— 34
1923	6829	+776	+47	+729
1924	7190	+361	+14	+347
1925	7675	+485	+54	+431

(*Note* [20] *concluded on p. 68*)

elements were essentially non-recurring. They bolstered the demand for goods during the major expansion of the 'twenties, and supported the price relations we have described. There was no promise in this situation, however, that these price relations would be stable when consumer buying power was again confined to disbursements arising from the normal productive operations of the economy.

g. Favorable conditions for sellers in the markets for capital equipment. Sellers of finished goods for use in capital equipment

(*Note* 20 *concluded*)

	TOTAL SHORT-TERM CONSUMER DEBTS	ANNUAL CHANGE IN TOTAL CONSUMER DEBTS	ANNUAL CHANGE IN CARRYING CHARGES	NET CHANGE IN CONSUMER PURCHASING POWER FROM PRECEDING YEAR
1926	7914	+239	+47	+192
1927	8177	+263	+53	+210
1928	8786	+609	+55	+554
1929	9477	+691	+58	+633

The derivation of the final entries may need a word of explanation. The increment of 563 million dollars from 1919 to 1920 represents new purchasing power placed in the hands of consumers in 1920. However, carrying charges on short-term consumer debts, which had amounted to 384 million dollars in 1919, came to 385 millions in 1920. Thus the net increase in consumer purchasing power from 1919 to 1920 was 563 millions less one million, or 562 million dollars. The figures for other years were similarly derived.

With but one exception, each of these ten years was marked by a net addition (over the preceding year) to consumer buying power, as a result of increasing loans to consumers. In four of the ten years the increase exceeded 500 million dollars. These figures are the more significant if we recall that they represent increases on a continually expanding base.

The above interpretation of the consumer debt figures differs from that given by Lough and Gainsbrugh. These authors deduct the total carrying charges each year from the figures representing annual changes in total short-term consumers' debts. If the changes from one year to the next in the actual sums available to consumers for the purchase of goods are being computed, the Lough-Gainsbrugh procedure involves the assumption that no payments on account of carrying charges were made during the first year. This is obviously faulty. If the amount of consumer debts and annual carrying charges were constant from year to year, there would clearly be no change, from one year to the next, in the sums available to consumers for purchasing goods.

were favored by similar fortunate circumstances during the expansion of the 'twenties. Low rates for capital funds, high profits, which facilitated the growth of corporate surpluses, and a spirit of optimism, which inspired business men to expand their plants and add to equipment without severe scrutiny of costs, stimulated heavy sales of capital equipment. Under the circumstances, relatively high prices for such equipment did not dampen sales.

These, then, were important factors contributing to the creation and persistence of the exceptionally wide post-War margin between the prices of raw materials and manufactured goods and to the high price level of finished goods. It may, indeed, be argued that the persistence of these conditions was due to the incompleteness of the liquidation and readjustment effected between 1920 and 1922. That violent world-wide price recession would be considered a first stage in a necessary process of readjustment; thereafter fortuitous conditions made possible a recovery in the United States before readjustment was completed. But we do not know enough about the conditions essential to economic stability to be sure that this was the case. The relations revealed by a study of post-War prices and their comparison with pre-War relations would not be inconsistent with such an hypothesis, however.

We have noted certain conditions on the operating side which bear upon this post-War price differential. Quality changes, reflecting more intensive fabrication, occurred in many manufacturing industries. Where the finished product thus represented a greater relative contribution on the part of fabricators and increased utility to consumers, some expansion in the manufacturing differential and some rise in the price of the finished goods were to be expected. Yet this cannot be looked upon as the sole or indeed as the chief factor in the widening of the differential. A detailed study, by industries, reveals increased costs of fabrication as a typ-

ical post-War condition, prevailing where quality changes are known not to have occurred, as well as where they did occur.

On the other hand, as against increased contributions of fabricators, industrial productivity increased notably during the decade 1919–29. Output per wage earner employed in manufacturing industries increased 15 per cent from 1921 to 1923. This followed a gain of 1 per cent, from 1919 to 1921, and was followed by a gain of 8 per cent, from 1923 to 1925. In part, these gains in productivity were due to heavier capital investment, and the installation of better equipment. But the actual reduction of production costs, it is fair to assume, more than offset the average gain in quality, among manufactured products. That the increase of productivity occurred concurrently with a widening, instead of a contracting, fabricational margin is noteworthy. We shall be concerned at a later point with some economic consequences of enhanced industrial productivity accompanied by a wide fabricational margin.

Purchasing Power of Major Producing Groups, 1929

The significance of changes among the various elements of the price structure is not always readily apparent to the economic agents involved. Of immediate concern to these agents are the shifts in actual command over goods that follow directly upon changes in the relations among prices. We turn now to a brief survey of the changes in the relative status of different economic groups, in respect of aggregate purchasing power prior to 1929. We deal here only with general movements, for the available data do not make possible a high degree of accuracy in the measurement of purchasing power changes.

Three factors affect the direction and degree of change in

the aggregate purchasing power of a given economic group over a stated period: changes in the average per unit price of its products (or services), changes in the quantity produced and sold, and changes in the average price of the commodities and services for which its money income is expended. Obviously, records of these changes are not to be had for all important economic groups. Indeed, they are not available, in detail and with a high degree of accuracy, for any economic group. For a few major groups, however, we may approximate the changes in these factors with sufficient accuracy to obtain fairly reliable indications of the changes in their aggregate purchasing power. In picturing the general situation prevailing in 1929 we take 1914 as a standard of reference.

In 1929 the aggregate physical volume of production in the United States (excluding construction) was approximately 64 per cent greater than in 1914. If the net gains of these fifteen years had been divided equally among all producing groups an increase of this amount would have been recorded in the total volume of goods commanded by each group, that is, in its aggregate purchasing power, as that term is here used. Actually, of course, no such equality is found. Following is a summary of the changes among certain important producing groups:

PRODUCERS OF RAW MATERIALS

Farmers

Aggregate purchasing power in 1929 some 20 per cent greater than in 1914, in wholesale markets, 10 per cent greater in the markets in which farmers actually spent their money. The advance in farmers' purchasing power was due primarily to increased farm output, which was 11 per cent greater in 1929 than in 1914. The per unit purchasing power of farm products advanced in wholesale markets, declined somewhat in the markets in which farmers buy.

Producers of raw mineral products

Aggregate purchasing power in wholesale markets in 1929 approximately twice that of 1914. This gain was the net resultant of an increase of about 70 per cent in volume of production and of about 20 per cent in the purchasing power of each unit produced.

Producers of raw forest products

Aggregate purchasing power in wholesale markets in 1929 about 18 per cent greater than in 1914. This gain was the net resultant of a drop of some 6 per cent in number of units produced, an advance of about 25 per cent in average purchasing power per unit.

AGENTS OF FABRICATION

All agents

Aggregate purchasing power of all agents of fabrication (i.e., those whose rewards are secured from the differential between costs of materials to manufacturers and the selling price of manufactured goods) in 1929 in wholesale markets approximately 120 per cent greater than in 1914. This gain resulted from an increase in output of some 84 per cent and in per unit purchasing power of about 20 per cent.

Manufacturing labor

Aggregate purchasing power in 1929 about 71 per cent greater than in 1914, owing chiefly to an increase of 77 per cent in the physical output of manufacturing labor. The actual purchasing power of the pay received for each unit of goods produced declined about 8 per cent, with reference to the items included in the budget of the average industrial worker. (If purchasing power changes in wholesale markets be measured, for comparison with similar measurements for other groups, we have advances of 100 per cent in aggregate purchasing power, 12 per cent in per unit purchasing power.) The change in rewards per unit of goods produced is to be interpreted with reference to a gain of approximately 49 per cent in output

per wage earner in manufacturing industries between 1914 and 1929.

Ownership and management in manufacturing industries

Aggregate purchasing power in wholesale markets in 1929 approximately 135 per cent greater than in 1914. The gain was due to an increase in output of about 90 per cent, in per unit purchasing power of approximately 23 per cent.[21]

These several estimates of changes in the aggregate purchasing power of important producing groups are not perfectly comparable, and indeed, in default of accurate index numbers of the prices prevailing in the markets in which these groups spend their money incomes, it is impossible to secure comparable measurements. With this important qualification, we may use these measurements as indications of certain major changes in the distribution of purchasing power between 1914 and 1929. We should note, in so using them, that we do not have here measurements of net income distribution, either personal or by functional groups. No account is taken of the deductions from gross returns necessary for the determination of net incomes, nor is attention given to changes in amount of investment or in the numbers of income recipients in the several groups named. But as indexes of movements over a fifteen-year period in certain broad divisions of gross income, in physical terms, the measurements throw light on important phases of economic change.

Among the three major groups, farmers, mineral extractors and those engaged in manufacture, the last-mentioned

[21] See *Economic Tendencies in the United States*, pp. 505–13, for an explanation of the procedure employed in deriving these measurements, and for a fuller explanation of their significance. Because of revisions in the original sources the present measurements differ in some respects from those in *Economic Tendencies*.

scored the major gain. With a total output some 80 per cent greater than in 1914, their aggregate physical rewards more than doubled. Mineral producers gained only slightly less, while the aggregate gains of farmers approximated 10 per cent. Among manufacturing producers labor gained about 70 per cent, in aggregate purchasing power; the residual share going to ownership and management advanced about 135 per cent.

These figures represent the resultants of mixed forces, indistinguishably blended. In part they reflect cyclical changes in the real incomes of farmers, mineral producers, manufacturing labor, and owners and investors in manufacturing enterprises. In part they define deep-seated and enduring shifts in the relative importance of these elements of the national economy. The expansion of manufacturing plant with the growing industrialization of the country would of itself lead to permanent alterations in the division of aggregate physical output among producing groups. Similar fundamental changes affected other groups.

We should note the particularly striking gains of those engaged in manufacturing, which accompanied a notable increase in industrial productivity. The advance in output per worker between 1914 and 1929 was about 49 per cent; in the ten years 1919–29 it exceeded 40 per cent. Over the manufacturing field as a whole this striking increase in efficiency was not reflected in lower selling prices. The immediate benefits accrued to agents of fabrication—labor, management, ownership, and the service agencies whose compensation is included in the 'value added' by manufacture. Some of the economic consequences of the increase in productivity and the division of the resulting gains during the post-War decade will concern us at a later point, after the record of the recession and the recovery has been surveyed.

The World Price Structure in 1929

The function performed within national boundaries by a domestic price structure is performed for the world economy by a world-wide system of related prices. The flow of raw materials from colonial to industrial areas, the reverse movement of manufactured goods, the interchange of manufactured goods among industrial nations are all directed with reference to price relations. More broadly, the productive activities of different economies are coordinated and capital movements and short-term lending are directed in terms of these same relations. Through this mechanism the elements of production costs are in some degree controlled and the various parts of the world economy are held in some sort of equilibrium.

But the system of world prices is not a perfect agency for the coordination of international economic processes. In even greater degree than the domestic structure it is subject to the play of disturbing forces, which prevent the proper performance of the functions suggested. These disturbing forces were especially strong between 1914 and 1929; as a result the world price system of 1929 differed from that of 1914 not only in internal structure but, as well, in its efficiency as a coordinating agent.

The price structure of 1914 constituted a fairly satisfactory instrument for the regulation of international economic activities. The gold standard extended over the industrial world, and its operation held international price movements in reasonable balance. The general price advance of the twenty years preceding had affected different domestic price structures in much the same way. Differences in standards of living and in production costs prevailed, of course, and tariff barriers existed. In part, these differences were compensated by corresponding differences in industrial produc-

tivity; to the degree that this was not true there had been adaptation to them over the several decades of fairly undisturbed relations that had previously prevailed. After 1914, however, a number of forces were at work, tending to alter price relations and to affect the efficiency of the world price system. The factors and conditions of major importance to an understanding of the 1929 structure of world prices may be discussed under three general headings.

ECONOMIC NON-INTERCOURSE AND THE WORLD PRICE STRUCTURE

From 1914 to 1918 the War set barriers to free economic intercourse between important elements of the world economy. Even where no definite barriers were set up, the channels and the character of trade were so fundamentally altered by the exigencies of war as substantially to modify the economic relations of certain countries and, in effect, to isolate important elements of their economic life, so far as international competition was concerned. Severe currency disturbances, some of which persisted for seven or eight years after the Armistice, combined with the general disruption of the gold standard to prolong this period of non-intercourse, so that in all over a decade passed before the way was open to the resumption of earlier relations among important trading countries. During this period the usual checks to the continuance of divergent tendencies among different elements of the world economy were inoperative. The continual adjustments customarily made among economies closely bound by trade and financial ties were prevented, and extreme divergencies persisted. The full force of these accumulated results of non-intercourse was felt when trading relations were again established. The different elements of the world economy were no longer in gear, as parts of a working

world order. Economic disharmonies and inconsistencies abounded.

It would be far from accurate to say that all these disharmonies originated in disparate price changes. For the origins of the unbalanced and discrepant conditions that appeared during the era of non-intercourse were to be found, in the main, in the general economic systems of the various nations. Trade was over-developed in one region, in relation to the needs of a reconstructed world order; population was excessive in another, in relation to the world situation that existed when trading relations were generally re-established; production costs in given industries might be entirely out of line with those of competitors, once the period of non-intercourse was terminated. Yet, whether the price structure occupied a primary or secondary place with respect to the origins of these economic discrepancies, it is true that the inequalities, as direct obstacles to the resumption of trade relations, found expression most directly through the price system.

Evidence of such faulty adjustments is especially difficult to obtain. Trade between countries is not conducted on the basis of relations between price levels, as measured by the familiar index numbers of prices. Trade proceeds on the basis of innumerable specific relations among prices, wages and costs of production; these specific relations were broken or distorted during the disturbed years following 1914. Information on these numerous individual relations is not generally available, and we are forced to lean heavily on the less pertinent index numbers. Some conclusions of value may be drawn from their study. Gold prices are used, since international relations are in question.

In measuring the divergence of price levels in different countries between 1913 and 1929 we suffer from lack of perfect comparability of the available measurements. Index

numbers differ in respect of content and technical methods of construction. It is probable, however, that the general picture would not be materially changed if fully comparable index numbers were available.

WHOLESALE PRICES IN GOLD, THIRTY COUNTRIES

	INDEX NUMBERS	
	1913	*1929*
Australia	100	166
India (Calcutta)	100[1]	158
Peru	100	156
Japan	100	155
Denmark	100	150
Canada	100	149
Norway	100	149
Dutch East Indies	100	148
New Zealand	100	147
Bulgaria	100[1]	145
Netherlands	100	142
Switzerland	100	141
Sweden	100	140
Indo-China	100	139
Germany	100	137
United States	100	137
Spain	100	136
United Kingdom	100	136
Italy	100	131
France	100	127
Argentina	100	125
Belgium	100[1]	124
Greece	100	121
Latvia	100	120
Chile	100	118
Estonia	100	117
Union of South Africa	100	116
Egypt (Cairo)	100[1]	116
Hungary	100[1]	104
Austria	100[1]	93

SOURCES: League of Nations, *Statistical Year-Book, 1934–1935,* pp. 227–29; Handbook of Foreign Currency and Exchange, U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce, Trade Promotion Series No. 102, Washington, D. C., 1930

[1] 1914=100.

The differences among wholesale price levels, ranging from a fall of 7 per cent for Austria to a rise of 66 per cent for Australia, are fairly wide, though not excessive in terms of pre-War experience. The single averages do not, of course, convey any accurate picture of the status of the various national price structures. It was within and among the elements of these price structures—among production costs, wages, costs of capital equipment, and all the prices of individual commodities and services entering into international trade—that faulty adjustments prevailed, serving as barriers to free economic intercourse.

DISPARITIES IN PRODUCTION COSTS

In periods not marked by extreme disturbances in international economic relations production costs in different trading countries stand in certain rather definite relationships. Through the play of competition import and export trade is adapted, in respect of content and price, to differing production costs in different countries. The elements of fabrication cost (i.e., wages, interest charges and other overhead expenses, and the related factor of industrial productivity) do not ordinarily suffer violent change, so that trading relations based upon established conditions of cost are not subject to sudden alteration. In the post-War price structure, however, elements of cost, in different producing countries, were widely diverse and their relations were quite different from those existing before the War.

Differences in price levels would be expected to lead to differences of this sort, but many of the inequalities of cost actually prevailing could not be thus explained. For two countries may have identical gold price levels, with reference to a given base, but the internal relations among elements of their domestic price structure may be quite different, as a

result of recent inflationary or deflationary movements. Deflation, with the characteristic lagging of wages and of all fixed charges, leaves production costs high, relatively to other elements in the price structure, while inflation, accompanied by the same lags, creates a price structure in which production costs are relatively low. Such cost differences were of particular importance after the stabilization efforts of the middle 'twenties, for the restoration of the gold standard offered wide opportunities for variation in the relation of old and new parities, and such variations were reflected in disparate cost conditions.

Direct information concerning production costs is difficult if not impossible to obtain, for most industrial countries. We may get some evidence on this important point by comparing wholesale prices and living costs in certain countries. These two sets of index numbers are not directly comparable, for they are composed of quite different items, but the relations between them are significant. Living costs, a highly important factor in determining the purchasing power of wages, are directly related to production costs. Where living costs are relatively high, the cost of labor tends to be high; the reverse is true where living costs are low, in relation to a standard prevailing in a base period not too far removed in time. As has been noted, living costs lag behind wholesale prices during periods of changing price levels. They tend, thus, to be relatively high after a deflationary movement of the price level and relatively low after an inflationary movement. Index numbers of wholesale prices and living costs for seven important industrial countries are given in Table 3.

We find a considerable range of difference among these seven countries, with respect to the ratio of living costs to wholesale prices. Czechoslovakia and France stood at the lower end of the scale, as countries with relatively low production costs in 1929, in terms of this standard, while the

TABLE 3

WHOLESALE PRICES AND LIVING COSTS, 1914–1929

SEVEN INDUSTRIAL COUNTRIES

	INDEX NUMBERS				RATIOS OF COST OF LIVING INDEX TO INDEX OF WHOLESALE PRICES, AS RELATIVES	
	WHOLESALE PRICES		LIVING COSTS			
	1914	*1929*	*1914*	*1929*	*1914*	*1929*
Czechoslovakia	100	913	100	763	100	84
France	100	615	100	556	100	90
Japan	100	175	100	181	100	103
Germany	100[1]	137	100[1]	154	100[1]	112
Italy	100[1]	481	100	545	100[2]	113
United Kingdom	100	136	100	164	100	121
United States	100	140	100	170	100	121

SOURCE: League of Nations, *Statistical Year-Book, 1935–1936,* pp. 239–44.

[1] 1913=100.

[2] Wholesale price index, 1913; living costs index, 1914.

United States and the United Kingdom stood at the upper end. There is no clear division into inflationary and deflationary countries here. The relations between wholesale prices and living costs were affected, of course, by the terms of stabilization, largely completed between 1924 and 1926, as well as by the inflationary or deflationary experiences of the early years of the decade. Tentative and approximate as this ratio is, the range of 50 per cent between the two extremes may be taken to represent a real difference in production costs, relatively to the 1914 situation.[22] Higher efficiency might, of course, make possible the maintenance of higher living costs and living standards, without increasing production costs. But variation in respect of productivity changes over these fifteen years could hardly be as great as the differences indicated.

[22] No assumption is here made that production costs in these countries were equal in 1914. The relations of 1914 were modified, in the degree indicated.

DISPARITIES BETWEEN PRICES OF RAW MATERIALS AND MANUFACTURED GOODS

In discussing the post-War price structure of the United States attention has been called to the disparity, world-wide in scope, between the prices of materials intended for industrial use and the prices of finished goods. Here and there, special conditions made it possible for certain groups of raw material producers to exchange their goods on relatively favorable terms for manufactured products, but in general the post-War status of raw material producers the world over was distinctly less favorable than before the War. Although the situation in this respect was somewhat better in 1929 than in 1921, disparities persisted. Their effects were far reaching, influencing the major economic movements of the period and coloring the whole post-War epoch.

The existence of this disparity has been noted by various observers, and the fact of its persistence beyond the period of the usual cyclical divergence of prices of raw and processed goods has been emphasized. One of its phases is rather strikingly revealed by the measurements in Table 4. For each of twenty-one raw materials, as priced in various world markets, Table 4 defines changes in purchasing power for manufactured goods in three important industrial countries. Thus a bushel of wheat, as quoted in the central world market at Liverpool, had in 1929 a purchasing power for manufactured goods in the United States 12 per cent below that of 1913. The worth of a bushel of wheat in Liverpool in terms of goods exported from the United Kingdom (mainly manufactured goods) was 16 per cent less in 1929 than in 1913. The same commodity had a 1929 value in terms of manufactured goods in Germany 16 per cent less than in 1913. But the table tells its own story. In 1929 only coffee, tobacco and, for certain markets, tea, wool and lead,

TABLE 4

CHANGES IN THE PER UNIT PURCHASING POWER OF IMPORTANT RAW MATERIALS, 1913–1929

	PURCHASING POWER OF GIVEN COMMODITY FOR VARIOUS CLASSES OF GOODS							
	FOR MANUFACTURED GOODS, UNITED STATES			FOR EXPORTED GOODS, UNITED KINGDOM			FOR MANUFACTURED GOODS, GERMANY	
	1913	*1922*	*1929*	*1913*	*1922*	*1929*	*1913*	*1929*
Wheat								
England, Liverpool	100	88	88	100	76	84	100	84
Canada, Winnipeg	100	90	100	100	77	95	100	96
U. S., Chicago	100	81	87	100	69	83	100	84
Australia, Melbourne	100	91	87	100	77	83	100	84
Rice								
France, Marseilles	100	69	66	100	59	63	100	63
U. S., New Orleans	100	75	66	100	64	63	100	64
Sugar								
England, London	100	84	55	100	72	53	100	53
U. S., New York	100	87	72	100	74	68	100	69
Coffee								
Netherlands, Amsterdam	100	69	106	100	59	101	100	102
U. S., New York	100	70	110	100	60	105	100	106
Tea								
England, London	100	84	93	100	80	89	100	90
Netherlands, Amsterdam	100	97	110	100	83	105	100	106
U. S., New York	100	79	85	100	67	81	100	81
Cocoa								
England, London	100	48	51	100	41	48	100	49
Netherlands, Amsterdam	100	88	92	100	75	88	100	89
U. S., New York	100	49	67	100	42	64	100	64
Tobacco								
Netherlands, Amsterdam	100	145	275	100	124	262	100	264
U. S., Louisville	100	105	124	100	90	118	100	119
Lard								
U. S., New York	100	68	72	100	58	69	100	69
Nitrate of Soda								
U. S., New York	100	66	58	100	57	55	100	56
France, Dunkerque	100	77	61	100	66	58	100	59
Cotton								
England, London	100	101	97	100	87	93	100	94
U. S., New Orleans	100	104	97	100	89	92	100	93

TABLE 4 (*cont.*)

CHANGES IN THE PER UNIT PURCHASING POWER OF IMPORTANT RAW MATERIALS, 1913–1929

	PURCHASING POWER OF GIVEN COMMODITY FOR VARIOUS CLASSES OF GOODS							
	FOR MANUFACTURED GOODS, UNITED STATES			FOR EXPORTED GOODS, UNITED KINGDOM			FOR MANUFACTURED GOODS, GERMANY	
Wool	*1913*	*1922*	*1929*	*1913*	*1922*	*1929*	*1913*	*1929*
England, London	100	122	102	100	105	97	100	98
U. S., Boston	100	142	116	100	122	110	100	112
Australia, Melbourne	100	92	102	100	79	97	100	98
Silk								
U. S., New York	100	128	89	100	110	85	100	86
France, Lyon	100	124	83	100	106	79	100	79
Japan, Yokohama	100	153	90	100	130	86	100	87
Hides, cattle								
England, London	100	66	65	100	56	62	100	62
U. S., Chicago	100	64	61	100	54	58	100	59
Pig iron								
Germany, Essen	100		74	100		71	100	72
England, London	100	91	79	100	78	75	100	76
Copper								
England, London	100	54	73	100	46	69	100	70
Germany, Berlin	100		78	100		75	100	76
U. S.	100	55	76	100	47	73	100	73
Lead								
England, London	100	76	84	100	65	80	100	81
U. S., New York	100	85	102	100	73	97	100	98
Germany, Berlin	100		80	100		76	100	77
France, Paris	100	76	80	100	65	77	100	77
Zinc								
England, London	100	77	72	100	66	69	100	69
U. S., New York	100	68	77	100	58	74	100	74
Germany, Hamburg	100		72	100		68	100	69
France, Paris	100	76	72	100	65	69	100	70
Tin								
England, London	100	46	67	100	40	64	100	64
U. S., New York	100	47	66	100	40	63	100	64
Rubber								
England, London	100	16	18	100	13	17	100	18
U. S., New York	100	14	17	100	12	16	100	16

TABLE 4 (*cont.*)

CHANGES IN THE PER UNIT PURCHASING POWER OF IMPORTANT RAW MATERIALS, 1913–1929

	PURCHASING POWER OF GIVEN COMMODITY FOR VARIOUS CLASSES OF GOODS							
	FOR MANUFACTURED GOODS, UNITED STATES			FOR EXPORTED GOODS, UNITED KINGDOM			FOR MANUFACTURED GOODS, GERMANY	
	1913	*1922*	*1929*	*1913*	*1922*	*1929*	*1913*	*1929*
Newsprint								
Canada, Ottawa	100	103	82	100	88	78	100	79
Sweden	100	89	78	100	76	74	100	75
Woodpulp								
Canada	100	81	87	100	69	83	100	84

SOURCE: The original price series are given in the *Bulletin Mensuel de l'Office Permanent,* Institute International de Statistique, La Haye. The prices have been converted to a gold basis.

had real exchange values, in terms of the products of these three industrial countries, exceeding those of 1913. The real worth, per unit, of each of the other sixteen commodities fell below the 1913 level, far below for some commodities.

If we pass from the records of individual commodity prices to index numbers purporting to measure changes in the average prices of raw and of processed goods, we face difficulties in securing adequate and unambiguous statistics. Satisfactory index numbers of the prices of raw and of processed goods are available for only a few countries, and even these are not designed to meet the purposes of the present inquiry. Thus the indexes of raw material prices usually include raw consumers' goods as well as raw producers' goods, a combination not altogether appropriate to this comparison. However, the records of the prices of raw and manufactured goods in various countries are pertinent and require investigation, even though some reservations must be made with respect to them. The comparison is shown in Table 5.

TABLE 5

INDEX NUMBERS OF WHOLESALE PRICES OF RAW MATERIALS AND MANUFACTURED GOODS IN VARIOUS COUNTRIES, 1913–1929

COUNTRY AND COMMODITY GROUP	*1913*	*1922*	*1929*
Belgium			
Raw materials	100[1]		834
Finished products	100[1]		905
Canada			
Raw and semi-manufactured goods	100	149	153
Fully and chiefly manufactured goods	100	155	144
Denmark			
Raw and semi-manufactured goods	100		133
Consumers' goods	100		169
Germany			
Industrial raw materials and semi-manufactured goods	100		132
Raw materials[2]	100		138
Finished goods	100		157
Italy			
Raw materials	100		464
Semi-manufactured goods	100		450
Finished goods	100		514
Sweden			
Raw materials	100	147	135
Semi-manufactured goods	100	155	141
Finished products	100	196	142
United States			
Raw materials	100	133	141
Manufactured goods	100	155	152

SOURCES: The original index numbers appear in *Memorandum on Production and Trade, 1923 to 1928/29*, League of Nations, 1930, p. 64, and *Review of World Production, 1931*, League of Nations, 1932, p. 103.

[1] 1914=100.

[2] Producers' goods only; consumers' goods are omitted.

The records of Canada, Sweden and the United States for the period 1922–29 indicate a progressive cheapening of manufactured goods, in relation to raw materials. The manufacturing margin was narrowed in the 'twenties. But in each of these countries, 1922 was marked by a manufacturing margin exceeding that of pre-War years. The degree of ex-

cess ranged from the Canadian figure of some 4 per cent to the Swedish figure of approximately 33 per cent. Subsequent events reduced this excess and, for Canada, carried the margin to a point lower than that of 1913. But in all the other countries listed the relative price differential, out of which the costs of fabrication are met, was greater in 1929 than in 1913.

The margins here indicated are of necessity measured roughly. The indexes of raw material prices include in at least four instances goods ready for consumption, such as fruits, vegetables, and coal. Yet only products used as raw materials in processing may be compared in price with manufactured commodities, if the margin available for payment to agents of fabrication is in question. It is probable that the margins indicated understate the true differentials, if the situation in the United States be taken as representative. For here, while all raw materials in 1929 were 41 per cent higher in price than in 1913, raw materials used in production were only 31 per cent higher.

A variety of forces combined, then, to create a world price structure in 1929 quite different from that of 1913. Many of the articulations of pre-War days, articulations which were never perfect but which made it possible for international economic intercourse to proceed in a reasonably efficient manner, were broken. The pre-War equilibrium of the world economic structure, which was maintained through price relations of fairly long standing, was seriously disturbed, though the magnitude of this disturbance was partly concealed by certain necessarily temporary developments of the first post-War decade.

We have noted three outstanding characteristics of world prices, as they affected international economic relations.

A definite price schism existed between raw material produc-

ing and industrial areas. This schism was in part international, in part domestic. On the international side it served to divide the countries of the world into two broad groups, comprehending colonial or raw material producing areas on the one hand, industrial areas on the other.

Industrial countries differed considerably with respect to the level of production costs. Countries that had passed through periods of inflation, and that had restored the gold standard on such terms that domestic prices and costs were low, in relation to foreign currencies, constituted one general class. Czechoslovakia and France exemplify this group. The domestic price and cost structures of other industrial countries, the chief of which were the United Kingdom and the United States, were built upon values relatively high, with reference to the general post-War level of gold prices. But there was no sharp line of division in this respect, for many factors affected costs. Thus costs were relatively high in Italy, after stabilization, which was effected at a level above those at which other countries passing through post-War inflation had stabilized.

As a result of the accumulated differences of the period of international non-intercourse or of definitely restricted intercourse which began in 1914 and which extended, for some countries, well into the first post-War decade, numerous other disparities existed among national price structures. Chief of these were the differences in the levels of gold prices prevailing after the general restoration of the gold standard in the middle 'twenties. These general differences translated themselves into a very large number of concrete disparities among the elements of the various national price structures, and economic relations among nations were correspondingly impeded. Many such detailed disparities had arisen as a result of more specific causes, operating during the years of non-intercourse, or of restricted intercourse. The coordination of elements of the world price structure usually effected from day to day and month to month when trade relations are free had been prevented for many years. When free relations were restored, in whole or in part, with the monetary

adjustments of the middle 'twenties, the elements of national price structures were out of gear. Costs, buying and selling prices, the prices of different categories of goods—all the elements that are usually adapted one to another through the play of trade competition—required readjustment on an international scale. The forced draughts that maintained international trade from 1925 to 1929 did not effect lasting readjustments, so we come to 1929 with great discrepancies of this sort still existing. A going world economy had not been reconstituted by that date.

Disparities in Post-War Price Relations

The world price structure, as it existed in 1929, was marked by disparate national price levels, disparate production costs, and by a world-wide disparity between the prices of the raw materials of industry and finished industrial products. The pre-recession history of the domestic price structure of the United States was characterized, similarly, by extensive changes in the relations among different elements of the price system, changes especially pronounced in the relations between raw and processed goods. These various shifts in price relations worked in their several spheres to alter the terms on which goods and services might be exchanged, internationally and domestically. Some of the alterations were sufficiently great to serve as effective barriers to the movement of goods. In other instances exchanges were still made, but the relative positions of the trading groups concerned were radically different from those that had prevailed earlier. The distribution of purchasing power, domestically and internationally, had been substantially altered.

Such alterations in the distribution of purchasing power are usual accompaniments of economic change. During the course of any decade in economic history buying power is shifted from group to group. The world's total output of eco-

nomic goods is never divided in exactly the same proportions from one year to the next. What is notable, however, is that the shifts here in question had not been accompanied by corresponding changes in the techniques or costs of production, and that standards of living had not been adapted in any permanent sense to the purchasing power changes. Certain of the shifts in purchasing power were due to the play of non-economic factors (i.e., to post-War political conditions and relations); in others they were due to faults in the mechanism of exchange; in still others they were due to alterations in international economic relations to which adaptation had not yet been effected. The pre-War economic relations of the nations of the world had been permanently altered, in important respects. Certain conditions, which in retrospect we now know to have been temporary, prevented for a time a realization of the full effects of these economic difficulties, but the faults persisted.

One aspect of these world-wide disparities has special relevance to the economic situation in the United States. Between 1919 and 1921 a gap, world-wide in scope, was opened between the prices of raw materials and processed goods. In magnitude, duration and scope, this gap was without counterpart in recent economic history. Cyclical recessions and depressions have always brought some such price inequalities. But no previous recession of which we have record opened up a gap of such magnitude, which affected so many commodities, over such a wide geographical range, and which persisted for so many years after the original difficulties developed.

For highly industrialized countries and raw material producing countries the gap thus opened was an external schism, a break that tended to separate the whole economy from other (complementary) economic systems. The impact of the break, in respect of purchasing power or employment, would

not necessarily be precisely the same upon all economic groups, but in general the whole economy would be affected in somewhat the same way. Thus in a typical raw material producing area such as the Dutch East Indies, persistent economic difficulties with generally reduced purchasing power would be expected among most elements of the economy, whether engaged directly in the output of raw materials or not. A typical industrial area such as the United Kingdom would feel the effects of low material costs, low purchasing power of important foreign markets and a depressed state of business accompanied by extensive unemployment. (It is true that protected trades and protected labor forces did not suffer, in the United Kingdom, as severely as did competitive trades producing directly for foreign markets. These differences were in part attributable to rigidities within the British national economy.)

Of a different order would be the effects of such a schism on an economy that included both highly industrialized and raw material producing areas, neither type being dominant. A more pronounced internal cleavage would here result, with a clear conflict of interests and of economic fortunes within the economy. Raw material producers suffering from low prices of their products would find their aggregate purchasing power seriously impaired, unless price deficiencies were compensated by heavy output or, temporarily, by borrowing. Industrial producers would find themselves in a favorable price position, being able to buy materials at relatively low prices and to sell manufactured goods at high prices. Concrete results of this advantage might not be realized if the purchasing power of consumers at large were seriously reduced because of the plight of those drawing their incomes from the sale of raw materials. If, however, the reduced purchasing power of primary producers were offset by enhanced purchasing power of other consumers, or by the

acquisition of new markets, the state of industrial producers might be very happy. In this case the contrast of economic fortunes within the economy might be very pronounced indeed.

To some extent this internal schism affected a number of national economies, for no countries of economic importance are exclusively industrial or exclusively devoted to the production of raw materials. But the schism was present in most pronounced form in the United States, where highly industrialized areas co-exist with extensive regions devoted exclusively to the output of raw materials. In the economy of the United States, therefore, we find the clearest example of a cleavage sharply separating two major economic groups. The economic history of the entire post-War decade in the United States is deeply affected by it, and many of the distinctive characteristics of the period of expansion and of the subsequent depression are attributable to the divergence of the fortunes of the two groups thus distinguished.

The development of this situation in the United States between 1919 and 1921 [23] altered sharply the internal distribution of purchasing power and the conditions under which the national economy functioned. The persistence of the situation and the concurrent development of a high state of industrial prosperity present one of the most striking paradoxes of economic history. And the aggravation of the situation during the recession of 1929 raised economic issues of great complexity in the succeeding years.

Aspects of this cleavage, in the aggravated form that developed with the recession, will engage us in later pages. We here summarize certain of its pre-recession aspects.

Raw material producers in the United States faced the same

[23] See *Economic Tendencies*, Chs. VII, VIII, IX, for a discussion of conditions giving rise to this situation.

three alternatives that confronted such producers in the world at large: they could expand production in the attempt to offset the effects of the price loss; they could maintain purchasing power by borrowing; they could suffer a reduction in their standard of living. Their actual fortunes during this period reflected elements of all three alternatives. A pressure to expand, or at least to maintain, output kept the supply of raw materials at a high level and served to impede what might have been a normal tendency towards price readjustment. (Inelasticity of demand for many of the products in question accentuated this difficulty.) Heavy borrowing, both in the form of mortgage indebtedness and of installment buying, supported their inadequate purchasing power. But these devices failed to offset the unfavorable marketing situation, and raw material producers as a class suffered a substantial loss of purchasing power with a corresponding decline in their standards of living, relative to pre-War standards and to the fortunes of other economic groups.

In the face of the reduced purchasing power of raw material producers, both domestic and foreign, industrial producers were confronted by the possibility of a considerable reduction in the volume of their sales, with resulting unemployment and scant profits, unless the deficiency of buying power on the part of material producers, due to the price schism, could be offset by gains elsewhere. In large degree it was offset, giving rise to the paradoxical situation noted—industrial prosperity co-existing with low purchasing power and, in some degree, real distress among raw material producers as a class. Various factors contributed to the persistence of this situation in the United States. These included, in brief:

The gaining of new foreign markets, as a result of the War and post-War disturbance.

Heavy lending to foreign buyers, on both long and short term.

The temporary offsetting of part of the reduced purchasing power of raw material producers at home through borrowing and installment buying.

The swelling of the purchasing power of industrial producers as a result of their advantageous economic position.

A general increase in the purchasing power of consumers through the rapid development of installment buying.

The enhancement of purchasing power throughout the nation through speculative profits, reaped from real estate and security speculation.

Increasing industrial productivity, which made possible large profits and high wages without further advance in selling prices.

Obviously, many of the elements that made possible the simultaneous continuance of industrial prosperity and of subnormal purchasing power and living standards on the part of some groups of raw material producers were necessarily temporary. Some of the new elements of purchasing power through which industrial sales were maintained were clearly of a non-recurring nature, and plant expansion based upon these was doomed to certain difficulty. Yet so long as these conditions made it possible for industrial production and sales to be kept at high levels, industrial prosperity, high wages and high profits might co-exist with economic distress among some primary producers. As we have seen, the degree of divergence between the economic fortunes of these two great groups within the economy of the United States had been substantially reduced by 1929, but elements of the fundamental cleavage still existed.

Highly important, as a condition concurrent with the widening of the fabricational margin in the early post-War years, was a notable increase in industrial productivity. In manufacturing industries the gain in output per wage earner exceeded 40 per cent from 1919 to 1929. The striking feature of this situation, as we have seen, was that the benefits of higher productivity during this decade were reaped largely by agents of fabrication. The rewards of primary producers remained relatively low, and prices to buyers of finished goods remained relatively high. We shall return, in the final chapter, to a further consideration and interpretation of this situation and its economic consequences.