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Chapter Title: Some Historical Comparisons

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The evidence here reviewed points to some general conclusions concerning the present state of manufacturing industries:

1) Between 1939 and 1947 labor costs, material costs, and profits, per unit of manufactured product, rose by approximately the same relative amounts. (Profits from rising values of inventories are here added to operating profits.)

2) One important factor contributing to profits in 1947 was the relatively modest advance of overhead costs. Such costs declined substantially as a fractional part of the value of product. Large volume combined with the lagging advance of fixed charges made high profits possible in 1947.

3) A stepping up of depreciation charges on the basis of present cost levels will increase overhead charges and correspondingly reduce profit margins. Advances in overhead charges are to be expected when depreciation charges, rents, and other lagging items have been adjusted to present price levels.

4) The present cost and price structure of manufacturing industries is heavily dependent on large volume. A situation in which material costs, labor costs, and profits, per unit of goods produced, are all higher than selling prices (relatively to the 1939 base) seems anomalous. It would be so, of course, without the great increase (about 75 percent) in the number of units of goods produced and sold. The present industrial system, while highly productive, is more exposed to strain when sales and output decline than was the cost and price structure of the years immediately preceding the war. (In those years the level of output at which profitable operation was possible was, for many plants, lower than it now is.)

IV Some Historical Comparisons

Major Changes in the Structure of Prices, 1924-27 to 1948

The reference of measurements of price, wage, and cost changes to 1939 is desirable if we are concerned with shifts during the eight years after the outbreak of war in Europe. But such comparisons are affected by the relations among elements of the price system that prevailed in 1939. These relations, in part fortuitous, in part reflecting cyclical conditions of the base period, in part reflecting established cost structures and established terms of exchange, do not necessarily constitute a 'normal' state of affairs to which the price system may be expected to return. Any base period suffers from

similar defects in that it reflects transitory relations as well as those of more enduring type. To get a different perspective on the relations prevailing in 1948 among major elements of the price system we refer them to a more distant base, as we did in the preceding section in discussing manufacturing margins. For present purposes we shall employ the same four years in the middle 1920's, a period mid-way in the general upward movement of that decade. The years 1924 to 1927 span one business cycle; temporary cyclical conditions will thus not affect base-period relations.

Table 11 and Chart 6 contain measures of movements in major elements of the price system between 1924-27 and 1948. The relatives for February 1948 on the 1924-27 base are, in general, lower than those in Table 2 on the 1938-39 base; for most elements of the system we are studying prices of 1938-39 were below those of 1924-27. The two exceptions are stock prices, which were some 10 percent higher in 1938-39 than in 1924-27, and the hourly earnings of manufacturing labor, which were about 20 percent higher.

TABLE 11

Prices and Wages, 1924-27 to 1948

	1924-27	*9/1938-8/1939*	*Feb. 1948*
Hourly earnings, mfg. labor	100	121[a]	249
Per capita weekly earnings, mfg. labor	100	89[a]	201
Farm prices	100	64	190
Construction costs	100	99	188
Wholesale prices	100	77	162
Food prices, retail	100	73	156
Prices paid by farmers	100	74	148
Industrial stock prices	100	111	140
Consumers' price index	100	80	134
Rent	100	69	77

For definitions and sources see notes to Table 2.

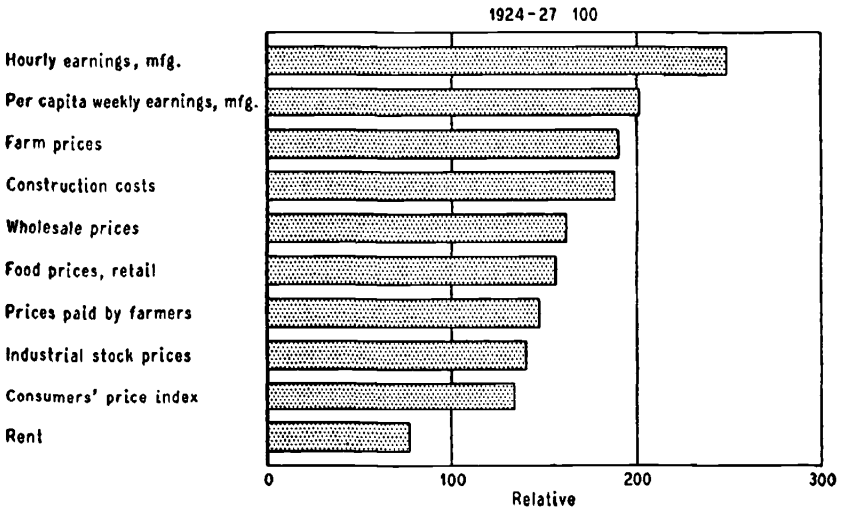
[a] January-August 1939.

The reference of 1948 price relations to a base twenty years earlier, rather than to 1938-39, changes the general ranking of elements somewhat. Food prices are lower on the earlier base, construction costs higher. The most notable shift relates to wages. The hourly earnings of manufacturing labor outrank all other elements in the gains made since 1924-27. For the rest, we find farm prices and the per capita weekly earnings of workers in manufacturing industries near the top in both listings (Tables 2 and 11); rents, industrial stock prices, and the consumers' price index are at the bottom. Wholesale prices occupy a middle place.

The general agreement of the two tables confirms the conclu-

CHART 6

Relations among Elements of the Price Structure 1924-27 to February 1948



sions previously drawn about the nature of the 1948 price structure. During the twenty years, as during the eight years that span the war, the net shifts in price relations were such as to improve materially the exchange position of farmers and manufacturing labor, and to reduce the relative worth of rented properties, of equity shares, and of commodities and services entering into the consumers' price index (of which rent is an important element, it will be recalled).[20] The recent advances in farm prices offset net losses between 1924-27 and 1939; the recent advances in hourly earnings of manufacturing labor were superimposed upon earlier gains. (Substantial advances were made in industrial productivity between 1924-27 and 1948. The benefits of these accrued more immediately to manufacturing labor than to most other producing or consuming groups.) The gain in weekly earnings was lower because of a marked reduction, during the twenty years, in the length of the working week. The extraordinary divergence of construction costs and rents is one of the most significant features of this record. Industrial stock prices gained, relatively, between 1924-27 and 1938-39, and have lost, relatively, since 1939.

[20] As the reader will note, although the various indexes in Table 11 relate to exchange values, the units employed differ. Wage earnings are on an hourly and on an (over-all) per capita basis, physical goods on a commodity unit basis, industrial stock prices on an equity share basis. These are not, of course, precise and perfectly comparable indexes of relative well-being.

Reference to a still earlier base reveals the character of some long-period changes in economic relations. Indexes for February 1948 on the 1912-14 base are given in Table 12. Among all the goods and services represented in this table an hour of manufacturing labor has gained most, relatively, since 1912-14. The weekly earnings of manufacturing labor and construction costs stood next in order. The rise in farm prices exceeded the advance in the living costs of industrial wage earners and in wholesale prices. Measurements on a base more than thirty years removed in time are, of course, less accurate in a dynamic economy than are measurements on more recent bases, but they are useful indicators of the long period shifts that have marked our economic development since the outbreak of the first World War.

TABLE 12

Prices and Wages, 1912-14 to 1948

	1912-14	*1924-27*	*9/1938-8/1939*	*Feb. 1948*
Hourly earnings, mfg. labor	100	229	278[b]	568
Per capita weekly earnings, mfg. labor	100	226	201[b]	455
Construction costs	100	215	211	403
Industrial stock prices	100	204	227	287
Farm prices	100	146	94	277
Food prices, retail	100	164	119	256
Prices paid by farmers	100	165	122	245
Consumers' price index	100	177	141	238
Wholesale prices	100	144	111	233
Rent	100[a]	163	113	126

For definitions and sources see notes to Table 2.

[a] 1913-14.

[b] January-August 1939.

We turn to the system of wholesale prices. The commodity groups distinguished by the Bureau of Labor Statistics are shown, on the 1924-27 base, in Table 13. The indexes for February 1948 are lower, for all groups, than those on the 1938-39 base (Table 3), but the general ranking is not widely different. The forces that dominated the recent advance shaped also the net changes during the twenty years. Farm products, building materials, and foods advanced in relative worth; fuel and light, housefurnishings, chemicals, and metals lost, relatively to all commodities at wholesale. Textiles gained during the shorter period, lost somewhat during the longer period.

Other categories of goods at wholesale are ranked on the 1924-27 base in Table 14. Here, too, the array is of the same general character as that on the 1938-39 base. Farm products, raw materials, foods

TABLE 13

Wholesale Prices, Commodity Classes of the Bureau of Labor Statistics, 1924-27 to 1948

	1924-27	*9/1938-8/1939*	*Feb. 1948*
Building materials	100	90	193
Hides and leather products	100	89	186
Farm products	100	64	181
Foods	100	73	178
All commodities	*100*	77	*162*
Metals and metal products	100	93	153
Textile products	100	65	144
Housefurnishing goods	100	85	140
Fuel and lighting materials	100	79	139
Chemicals and allied products	100	76	136
Miscellaneous	100	75	122

(notably foods at the producer goods stage) stand near the top on both bases. Minerals, manufactured goods, nonfarm products stand in the lower halves of the two arrays. Building materials stand relatively higher on the earlier basis than on the later; so also does the general class of producer goods. On both bases the advance in producer goods prices reflects very sharp rises in producer goods intended for human consumption. Relative prices for the heavy materials that enter into capital equipment are low on both bases.

The evidence we have here reviewed, utilizing bases respectively eight years and twenty years removed from the present situation,

TABLE 14

Wholesale Prices, Commodity Classes of the National Bureau of Economic Research, 1924-27 to 1948

	1924-27	*9/1938-8/1939*	*Feb. 1948*
Producer goods for human consumption, foods	100	71	210
Animal products	100	75	184
Foods	100	72	182
American farm products	100	72	179
Raw materials	100	71	179
Building materials	100[a]	88	179
Producer goods for human consumption, all	100	66	177
Consumer, processed foods	100	77	170
Producer goods, all	100	77	170
Crops	100	65	165
Nondurable goods	100[a]	71	165
All commodities	*100*	77	*165*
Durable goods	100[a]	92	164
Human consumption goods	100	71	164
Consumer goods	100	77	161
Manufactured goods	100	81	157
Consumer, processed nonfoods	100	83	155
American nonfarm products	100	83	154
Metals	100	92	153
Producer goods for human consumption, nonfoods	100	62	152
Nonmetallic minerals	100	85	145
Goods entering into capital equipment	100[a]	88	140

[a] 1926.

points to a tilting of the price structure that has elevated soft goods —farm products, nondurables, food products in finished form and, still more, food products in unprocessed or semiprocessed form. Metals and other minerals, nonfarm products, goods entering into capital equipment (other than building materials) have lagged behind. The general conformity of the results obtained from measurements on the two bases indicates that these findings are not materially affected by transitory conditions in any one base period. Although the 1938-39 situation differed from that of 1924-27, the general rankings of the elements of the price system are much the same whether the base of reference be eight or twenty years distant. Movements from 1924-27 to 1938-39 were not always in the same direction as those from 1938-39 to 1948, but recent changes have been of a magnitude to dominate the record of changes within the system of wholesale prices and largely to determine the relative status of the producing groups here represented.

Records for retail prices are less comprehensive for the twenty-year comparison than for more recent years. Changes since 1924-27 in the chief categories of goods and services for which we have quotations are shown in Table 15. The general index of consumers' prices in February 1948 stands 34 percent above the base period average—an advance much smaller than the rise of 68 percent between 1938-39 and February 1948. The distribution of the groups is much the same, whether the base of reference be 1924-27 or 1938-39. The present structure of retail prices, as set forth in Tables 5 and 15, reflects rather fundamental shifts which have modified the relations of 1924-27 as well as those of 1938-39. Advances in cost to the consumer have been relatively less for living quarters, for fuel, for electricity than for other major items entering into his budget. Increases have been relatively large for food, for apparel,

TABLE 15

Retail Prices by Commodity and Service Classes, 1924-27 to 1948

	1924-27	*9/1938-8/1939*	*Feb. 1948*
Apparel	100	84	164
Housefurnishings	100	84	161
Food	100	73	156
Bituminous coal	100[a]	88	146
Miscellaneous	100	99	143
Consumers' price index	100	80	134
Anthracite coal	100[a]	79	132
Fuel, electricity, and ice	100	86	113
Rent	100	69	77

Source: Bureau of Labor Statistics.

[a] October 1922-September 1925.

for housefurnishings. In appraising these changes in unit costs account may be taken of changes in consumer incomes and of changes in the distribution of consumer expenditures among various classes of goods and services. Shifts in aggregate consumer expenditures are shown in Appendix Table 7.[21]

Three Periods of Economic Expansion

We may learn something about the particular features of the most recent inflationary rise by comparing volume and value changes of this period with those of two earlier periods (Table 16 and Chart 7). One covers 1914-20, when inflationary advances were clear to all observers; the other covers 1921-29, a period of notable economic expansion, but with price advances of restricted scope. For the purposes of this comparison we use annual data, and measure the movements of recent years against 1938 as base, rather than 1939. The year 1938, a cyclical low, is comparable with 1914 and 1921, the bases of relatives measuring changes during the two earlier periods. (The reader should note, however, that these dates do not relate to cyclical depressions of equal severity.)

Between 1914 and 1920 the aggregate output of physical goods in the United States increased some 17 percent. Manufacturing and mining scored advances of about one-third, in production; for agriculture the gain was about 7 percent. But the aggregate value of agricultural products more than doubled; that of manufactured goods trebled. In the markets for securities the volume of transactions expanded greatly but unit prices for stocks, in contrast to major commodity groups which more than doubled, were in 1920 only slightly above their 1914 level.[22] Farm realty prices increased 65 percent from 1915 to 1920.[23] These were substantial gains in a

[21] Detailed expenditure records are given in National Income, *Survey of Current Business*, Supplement, July 1947, pp. 41-4.

[22] Stock prices reached their high in July 1919; the average price was lower in 1920 than in 1919. For commodity prices, which were affected later by forces of recession, the reverse was true. In 1920 industrial stock prices (Standard and Poor's index) were 52 percent higher than in 1914, but utilities and rails were 25 percent lower. The use in this index of weights based on total shares outstanding gives industrials relatively less weight in this period than public utility and railroad stocks.

Quantity figures for securities (i.e., number of shares traded) are not of the same order as those for the other elements in Table 16, which relate to the current flow of goods or services. Nevertheless, the comparisons are useful for the light they throw on relative activity at different periods in different sectors of the national economy.

[23] From estimates of the Bureau of Agricultural Economics on average price per acre of farm real estate.

TABLE 16

Changes in Quantities, Unit Prices, and in Aggregate Values during Three Periods of Economic Expansion[a]

	1914	*1920*	*1921*	*1929*	*1938*	*1947*
Total production[b]						
quantity	100	117	100	170	100	189
price	100	235	100	100	100	201
value	100	275	100	170	100	380
Agriculture[c]						
quantity	100	107	100	119	100	131
price	100	209	100	120	100	287
value	100	224	100	143	100	376
Mining[d]						
quantity	100	134	100	175	100	154
price	100	217	100	96	100	160
value	100	291	100	168	100	246
Manufacturing[e]						
quantity	100	130	100	188	100	223
price	100	241	100	92	100	179
value	100	313	100	173	100	399
Construction[f]						
quantity	100	65	100	174	100	145
price	100	265	100	103	100	176
value	100	171	100	179	100	256
Manufacturing employment and wages[g]						
total employment	100	118	100	131	100	192
average hourly earnings	100	263	100	111	100	198
payrolls	100	310	100	146	100	381
Securities[h]						
quantity	100	313	100	658	100	84
price	100	101	100	345	100	139
value, derived	100	316	100	2,270	100	117
value, actual					*100*	*88*

[a] The periods compared are not expansion phases of business cycles.

[b] Quantity and unit price measures are weighted averages of indexes of agriculture, mining, manufacturing, and construction. The weights, averages of 1927 and 1931 estimates of value added, are agriculture 22, mining 7, manufacturing 59, and construction 12. Value indexes are derived from quantity and unit price measures.

[c] Agricultural production is estimated by the Bureau of Agricultural Economics. Unit price is an average of farm prices. Value of agricultural production is derived from quantity and price measurements.

[d] Mineral production is estimated by Harold Barger and Sam Schurr for 1914-29; for 1938-47 the index of the Board of Governors of the Federal Reserve System is used. The index of wholesale prices of raw minerals is that of the National Bureau of Economic Research. Value indexes are derived from quantity and price measures.

[e] Manufacturing production 1914-29 is estimated by Solomon Fabricant; for 1938-47 the production index of the Board of Governors of the Federal Reserve System is used. The index of wholesale prices of manufactured goods is that of the National Bureau of Economic Research. Value indexes are derived from quantity and price measures.

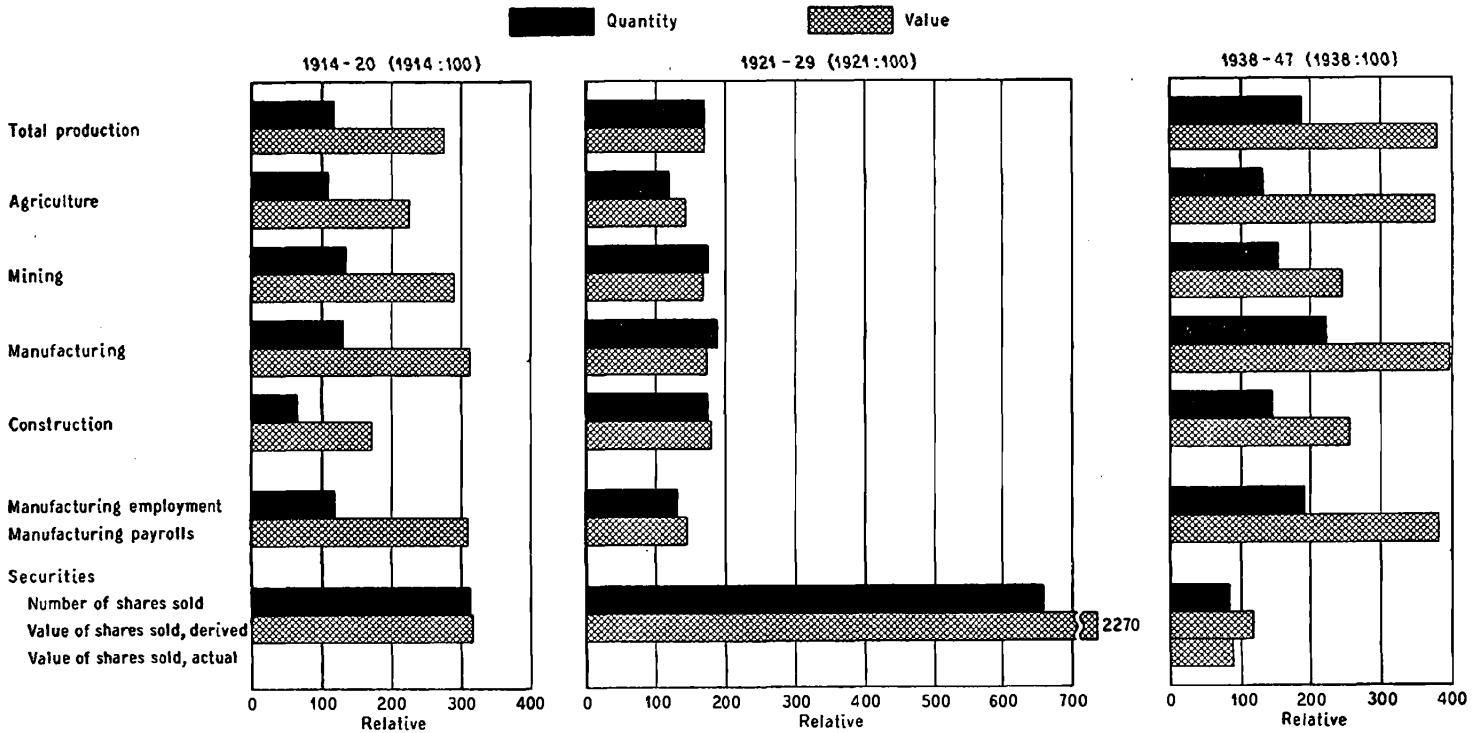
[f] Bradstreet's value of contracts awarded is used for 1914-20; for 1921-47 the value of new construction activity is computed by the Department of Commerce. Unit price is a composite of construction cost indexes of Aberthaw Construction Company, American Appraisal Company, Associated General Contractors of America, and *Engineering News-Record*. Volume of construction is derived from value and unit price measures.

[g] Total employment, an index of manhours worked in manufacturing industries 1914-29, is computed by Solomon Fabricant; for 1938-47 indexes of number employed and hours worked are those of the Bureau of Labor Statistics. Payroll data for 1914-29 are from the Census of Manufactures; for 1938-47 the Bureau of Labor Statistics index is used. Average hourly earnings are derived from payroll and employment measures.

Notes to Table 16 are concluded on page 36.

CHART 7

Changes in Quantities and in Aggregate Values during Three Periods of Economic Expansion



market normally sluggish. The advances in the labor market were greater. Manufacturing employment, measured in aggregate manhours, was 18 percent higher in 1920 than in 1914; payrolls were 210 percent larger. Here, again, unit prices advanced; average hourly earnings of manufacturing labor were 163 percent higher in 1920 than in 1914. Clearly the inflationary pressure of 1914-20 impinged most sharply on commodities—agricultural and mineral, raw and manufactured—and on the services of labor.

Between 1921 and 1929 we turned out goods in a stream that swelled steadily, with only minor interruptions. The production of commodities increased about 70 percent, as against 17, percent between 1914 and 1920. Yet their aggregate value increased only 70 percent, materially less than the gain of 175 percent in the earlier period. The explanation, of course, lies in average unit commodity prices, which rose sharply from 1914 to 1920 and remained level during the 'twenties. We find a similar contrast in the labor market. Total employment in manufacturing (aggregate manhours worked) was 31 percent higher in 1929 than in 1921. This exceeded the 1914-20 increase of 18 percent. But payrolls increased only 46 percent, as against 210 percent in the earlier period. The price of a unit of labor (one manhour) increased only 11 percent from 1921 to 1929, as against 163 percent from 1914 to 1920. It was not in commodity or in labor markets that the pressures of credit expansion were felt.[24]

Notes to Table 16 concluded:

[h] For 1914-29 the quantity index measures the number of shares sold on the New York Stock Exchange, excluding odd lots and stopped sales, as computed by the *New York Times*. For 1938-47 the quantity index measures the number of shares sold on the New York Stock Exchange, as compiled by the Securities and Exchange Commission. The price index is the combined index of 402 stocks computed by Standard and Poor's Corporation. The segment for 1914-18 was computed by the Cowles Commission for Research in Economics and spliced to Standard and Poor's index.

For each period the value series is derived from the price and quantity measures. The record of value changes, thus derived, would coincide with the actual change in the aggregate value of shares traded only if the composition of the volume of shares traded remained unchanged. If there is a shift in composition (such as would result from a swing to low-priced shares) the quantity, price, and value measures would not be mutually consistent. Such shifts undoubtedly occurred in all three periods here covered. For the final period actual value figures are shown in italics below the derived measures of value changes. Since in this period there was a definite shift to low-priced shares, the actual value relative is well below the derived figure. Although the derived value figures are formal, they are given here as indications of the degree to which changes in the prices of securities cause divergent movements of quantities and values in securities markets.

[24] This statement and the figures do not tell the whole story of monetary movements and commodity production between 1921 and 1929. Manufacturing productivity increased greatly in this period (output per manhour went up about 43 percent), but there was no corresponding reduction in prices. (The average unit selling price of manufactured goods went down about 8 percent. The average cost, per unit of product, of the services

Yet pressure was manifest in two major areas in the 'twenties—urban real estate values and the values of securities. For the first we have no systematic measures of comprehensive coverage.[25] For securities, as represented by common stocks, we have records that indicate the dimensions of the expansion between 1921 and 1929. Trading in 1929, as measured by the number of shares sold, was six and one-half times as great as in 1921; the aggregate value of shares sold increased more than twenty-fold. Chart 7 gives an inadequate picture of this gain, for the horizontal scale has to be broken if changes in other elements are to be appreciated. The index of average unit prices, the direct measure of the volume-value differential, was 345 in 1929 (1921:100).

The expanding force of purchasing power that could not be constrained within the limits of available physical quantities was felt primarily in commodity and labor markets between 1914 and 1920, and within these markets its influence was pervasive. In the 1920's similar pressures were not directly manifest in commodity markets (although we should note that commodity prices did not reflect the great productivity advances of this decade). Upward pressures were strong, however, in the markets for equity shares. Realty values in special areas (e.g., Florida) were also affected. With these two experiences of the fairly recent past we compare the records of 1938-47.

The over-all gain in physical output in the most recent period exceeds that recorded in either earlier period. (The most recent period is longer than the other two; on an average annual basis recent gains were about equal to those of the 'twenties.) Manufacturing industries were the major factor in the dominance of recent gains; increases in construction volume from 1938 to 1947 were well below those of the 'twenties; and mineral output, although gaining notably, advanced less than in 1921-29. The increase in em-

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of agents of fabrication fell only 4 percent.) In good part advancing fabricational costs and profits absorbed the productivity gains.

[25] Statistics on the assessed valuation of real property (land and improvements) provide some evidence on changes in the value of real estate, which increased 62 percent from the fiscal year ending June 30, 1922 to the fiscal year ending June 30, 1930 (*Financial Statistics of States,* Department of Commerce). In some degree this gain represents new structures, but increased unit prices of existing property contributed substantially to the advance in total values. This is a very considerable increase, occurring over an eight-year period during which commodity prices held level.

The average price per acre of farm real estate declined 32 percent between 1920 and 1930.

ployment in manufacturing (here measured in total manhours worked) was materially bigger than in either earlier period. Activity in the securities markets (measured by shares traded) declined from 1938 to 1947, in contrast to the notable gains of 1914-20 and of 1921-29.

In the differentials between volume and value changes—the most immediate indicators of inflation (or of deflation)—1938-47 stands, of course, much closer to 1914-20 than to 1921-29. In the 'twenties substantial volume increases were accompanied by modest price advances, or by none; volume and value movements were of the same general order of magnitude. But in the last nine years volume increases were outrun by needs and by purchasing power. The pressures that generate price advances were strongest in the markets for agricultural products. For the services of labor, manufactured goods, mineral products, and the products of the construction industry price advances were lower, but still considerable. Realty prices lagged in the early stages of this expansion, but both urban and farm land prices moved rapidly forward in the later stages.[26] Equity shares rose some 40 percent in price between 1938 and 1947—an appreciable gain, but far below the extraordinary advances of the 'twenties.

In the expansion that spanned the first World War physical volume gained moderately, and price advances swelled total values quite disproportionately to the volume gains. For equity shares alone were the net price advances from 1914 to 1920 low. The expansion of the 'twenties was marked by notable gains in physical volume, by slight advances, or no advances, in commodity prices. Prices of securities and realty values in certain areas reflected strong speculative pressures. The last nine years resemble the 'twenties in respect of gains in output (except in construction); they resemble the years covering the first World War in the general character of inflation in commodity and labor markets. The years spanning World Wars I and II were, of course, marked by rapidly expanding demands, both domestic and foreign. Output increased much more in the later period, but supplies still fell far short of effective demand; price advances were an inevitable consequence.

The absence, in the latest period, of advances in equity values at all corresponding to those of the 'twenties is another distinctive feature of the recent record. Changes in unit prices and in the vol-

[26] Estimated price per acre of farm land increased 69 percent from 1940 to 1946.

ume and aggregate value of shares traded were small in comparison with other economic developments of these years.

In the three periods here reviewed we have one case of commodity inflation with small advances in physical volume, one of substantial increases in the volume of commodities without inflation, one of large advances in volume with inflation. Monetary factors and fundamental needs, which immediately determine the pressures upon available supplies, differed, of course, in the three periods; output alone provides but one of the strands in the developing record. The story of the latest expansion is unfinished. If further considerable increases in the over-all output of the economy are to be recorded, substantial advances in manhour output must occur; however, the mere maintenance of production at present levels would represent a major accomplishment in the absence of such productivity gains. There was no net increase in general wholesale prices after the middle of January 1948, although there have been some indications that industrial prices may take the leadership from agricultural prices in a new advance.

Prices during Two World Wars

Historical analogies are as dangerous in dealing with economic phenomena as they are in appraising other aspects of human behavior, but they are often illuminating and suggestive. The comparison of price movements during and immediately following the two great wars of recent times is too inviting to neglect. There are interesting and revealing resemblances between these periods, although fundamental underlying differences bar the facile drawing of analogies. With these limitations in mind it will be helpful to compare the patterns of price change during these two periods.

Direct comparison is difficult because the periods of actual fighting were of unequal length. The earlier war lasted slightly more than four years, the later slightly less than six years. For present purposes we shall modify the time scales so that the four years between 1914 and 1918 are made equal to the six years between 1939 and 1945. This treatment of the two periods of actual warfare as though they were equal time intervals puts the price movements in suitable perspective, and facilitates the comparison of postwar changes.

Changes in the general level of wholesale prices and in living costs are shown in Chart 8, the indexes in Table 17. During the first halves of the periods of fighting, average prices at wholesale

TABLE 17

Prices during Two World Wars

	WORLD WAR I							
	1914	*1915*	*1916*	*1917*	*1918*	*1919*	*1920*	*1921*
Wholesale prices (BLS)	100	102	126	173	193	204	227	143
Consumers' prices (BLS)	100	101	108	127	150	172	199	178
Farm prices (BAE)	100	98	117	173	202	213	209	123
Nonagr. products, wholesale (NBER)	100	107	143	176	193	195	237	166
Goods entering into capital equip., wholesale (NBER)	100	108	146	189	203	205	255	178
Human consumption goods, wholesale (NBER)	100	103	126	169	198	209	224	144

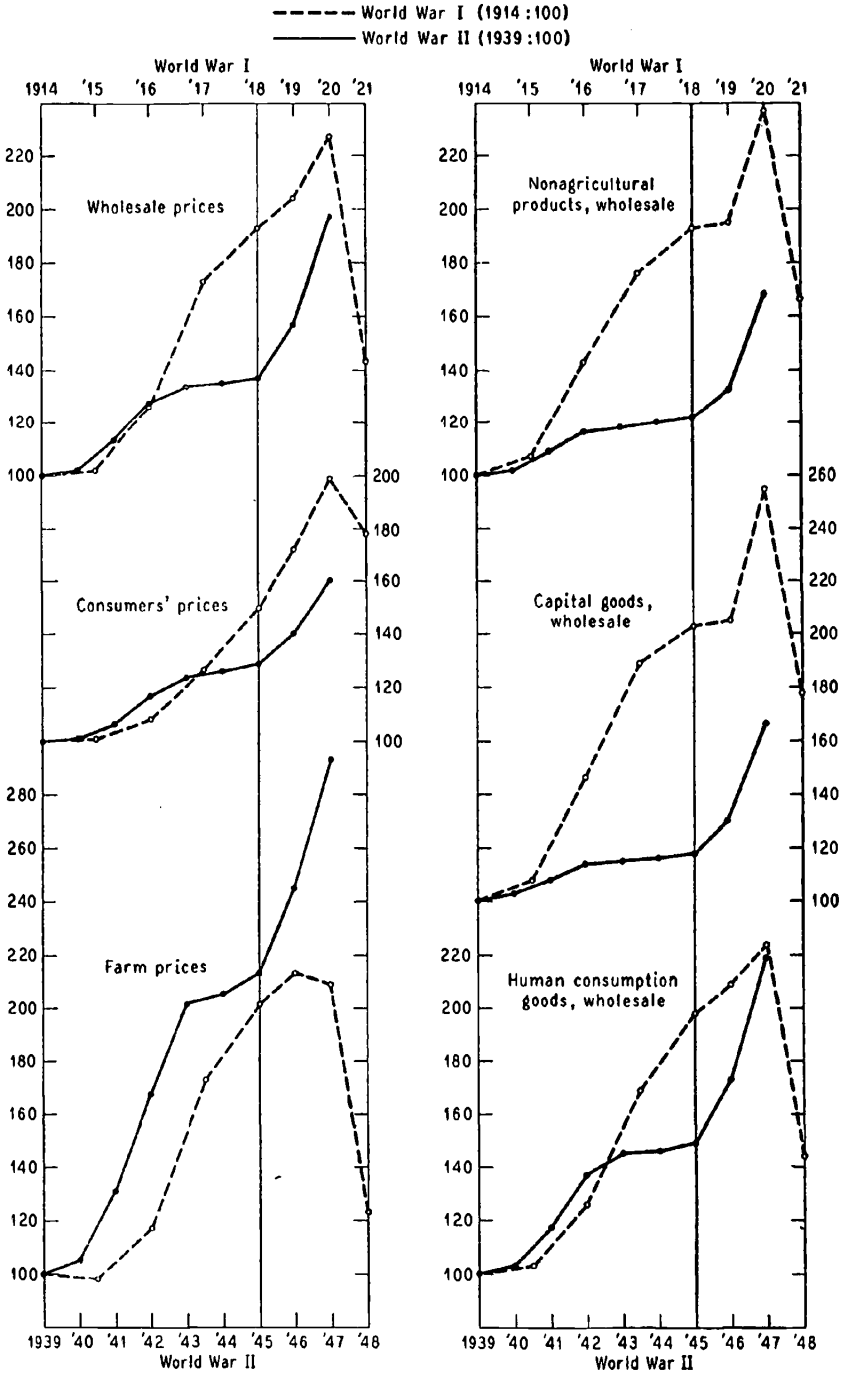
	WORLD WAR II								
	1939	*1940*	*1941*	*1942*	*1943*	*1944*	*1945*	*1946*	*1947*
Wholesale prices (BLS)	100	102	113	128	134	135	137	157	197
Consumers' prices (BLS)	100	101	106	117	124	126	129	140	160
Farm prices (BAE)	100	105	131	167	202	205	213	245	293
Nonagr. products, wholesale (NBER)	100	102	109	116	118	120	122	133	168
Goods entering into capital equip., wholesale (NBER)	100	103	108	114	115	116	118	130	166
Human consumption goods, wholesale (NBER)	100	103	117	137	145	146	149	173	219

rose about 26 percent in both wars. They diverged sharply in the second halves. Between 1916 and 1918 average annual prices rose 53 percent; between 1942 and 1945, only 7 percent. Effective price control in the second World War is, of course, reflected in the stability of the price level during the last three years of fighting, stability that is the more notable because of the much more extensive mobilization of resources in this war. The two years following the end of fighting in both wars were marked by advances, but the increases were distinctly greater in the second war. An explosive postwar advance is the outstanding feature of the 1945-47 record. The general drop in wholesale prices after 1920 has, as yet, no counterpart in the record for the recent period.

Living costs followed much the same path during the first three-quarters of the two periods of fighting. Over-all increases amounted to something less than 30 percent. Thereafter there was divergence, less sharp than for wholesale prices and with the important difference that from 1918 to 1920 living cost advances were greater than from 1945 to 1947. The retention of rent controls in the recent period was the chief reason for this difference; foods rose more sharply in price from 1945 to 1947 than from 1918 to 1920. For living costs, as for wholesale prices, the force of the rise generated during the first World War had spent itself by 1920. Early 1948 witnessed a check to living cost increases, but more recent months have brought an additional advance.

CHART 8

Prices during Two World Wars



When farm price movements in the two wars are compared on a time scale thus modified to equalize the two periods of actual fighting (Chart 8), striking differences are revealed. The rise came earlier in World War II; it was at a more rapid rate during the first two-thirds of World War II; the sharp postwar advance from 1945 to 1947 departed significantly from the pattern of change between 1918 and 1920. The fact that farm prices were relatively depressed in 1939 while 1914 was a year of good prices has a bearing, of course, on the behavior of farm prices during the early parts of the two wars; the postwar divergence reflects the persistence of fundamental world shortages in recent years and the sustained, high-level demand of domestic consumers. Recovering world production of farm products promises to alleviate the former condition. Anticipations of this improvement have already affected the level of farm prices in the United States.

Differences of another sort are revealed when the behavior of farm prices is contrasted with the behavior of the prices, at wholesale, of all goods of nonfarm origin. In the first World War the course of the latter did not diverge greatly from that of farm prices, although the initial advance was a little sharper for nonfarm products, and the ultimate peak came somewhat later. The pattern for World War II diverges, early in the period of fighting, from that for the first war. Prices of the heavier goods that predominate in the nonfarm group rose little until 1945. Only belatedly, after the close of fighting and the end of controls, did they join in the general advance.

This contrast is brought out markedly when the movements of capital goods and of human consumption goods are compared (Chart 8). Except for a lag during the era of price control, movements of the prices of consumption goods followed similar paths in the two periods. By 1947 the level, with respect to the prewar base, was about equal to that of 1920. Capital goods felt the impact of inflationary forces later. The rise in these prices became rapid only with the end of general price controls in 1946. It is, indeed, in the markets for these goods that the immediately critical problems appear to be. Better world crop prospects were in early 1948 lessening tensions in farm markets. The prices of heavy goods may play a decisive role in the economic developments of the next twelve months.

Patterns of Price Expansions and Contractions

We may illuminate some of the characteristic features of the price expansion that came with the second World War and its aftermath by comparing the patterns of this advance with those occurring in peacetime cycles, and in two earlier war periods. It is clear that the period 1939-48 does not span the precise interval between cyclical turning points in wholesale prices; the date of the peak is still to be determined. But if we treat the rise from August 1939 to January 1948 as a phase of expansion, and set off stages similar to those employed in analyzing the expansion phase of a business cycle,[27] important characteristics of the rise are revealed (Table 18 and Chart 9).

Price expansion during a peacetime specific cycle is typically marked by a relatively sharp initial advance in average wholesale prices; the rate is close to 1 percent a month (the base of the percentage is the average monthly value of the price index for the cycle in question). The typical pattern is marked by deceleration from period E1 to E2, then constancy of rate of change.

Price increases in war periods have been distinctly greater; moreover, they have followed a markedly different pattern. The initial rise was at a lower rate than the succeeding rises. In the Civil War and World War I there was sharp acceleration in the second interstage period (E2), no acceleration in World War II. The acceleration continued into period E3 in the Civil War; was checked in E3 in World War I; continued in World War II, but at a modest rate.

[27] The National Bureau procedure for specific cycle analysis involves the identification of cyclical turning points in given economic series. The date of the initial low point in a given specific cycle is stage I, the date of the high stage V, and the date of the terminal low stage IX. Observations covering three months centering at each turning point are averaged to obtain measures of the standing of the series at each stage. Standings at stages II, III, and IV are obtained by dividing the expansion into thirds, and averaging corresponding monthly figures. Standings at stages VI, VII, and VIII are similarly obtained for three subdivisions of the contraction. The final measures of stage standings are relative numbers, the base of the relatives being the average of all monthly observations for the specific cycle in question.

For convenience, the four interstage periods (i.e., intervals between midpoints of successive stages) making up the expansion are designated E1, E2, E3, and E4 (the first relating to interstage period I-II, the second to period II-III, etc.); the four interstage periods making up the contraction are designated C1, C2, C3, and C4.

In getting the base of the relatives used in determining interstage rates of change in the index of wholesale prices in the rise from 1939 to 1948, all monthly indexes from April 1937 to January 1948 were averaged. This is an approximation to an average of monthly figures extending from high to high of a given specific cycle, although the date of the terminal high is still to be established.

TABLE 18

Monthly Rates of Change in Wholesale Prices during Expansions in Peace and War, Specific Cycles

Interstage Period	*Av. 18 Peacetime Cycles*	*1861-64*	*1914-20*	*1939-48*
E1	+0.9	+1.0	+0.6	+0.5
E2	+0.6	+1.6	+1.8	+0.5
E3	+0.6	+2.2	+1.0	+0.7
E4	+0.6	+5.4	+2.0	+2.1

The rates here given are for interstage movements in specific cycles in wholesale prices, i.e., cycles marked off by turning points in the wholesale price index itself. For the purposes of this study I have treated the period July 1861 to September 1864 as an expansion in a single specific cycle extending from July 1861 to August 1871; the minor drop in prices from March to September 1863 was not regarded as a cyclical recession. Similarly, December 1914 to May 1920 was regarded as an expansion in a single specific cycle extending from December 1914 to January 1921; the drop in prices from September 1918 to February 1919 was not regarded as a cyclical recession.

The index is that computed by the Bureau of Labor Statistics, spliced to the Warren-Pearson index for years prior to 1891.

The price rise in the final period, between stages IV and V, was in all three cases explosive. The monthly rate of advance reached 5.4 percent in the Civil War and 2.0 percent in the first World War. (In the specific price cycle here defined period E4 of the first World War expansion came after the phase of fighting.) The 1939-48 rise (which is merely an approximation to a cyclical expansion since the dating of the peak is still uncertain) brought the same violent terminal increase. Indeed, this terminal increase is sharply distinguished from preceding movements by reason of the very modest increases in the level of wholesale prices through periods E1 to E3.

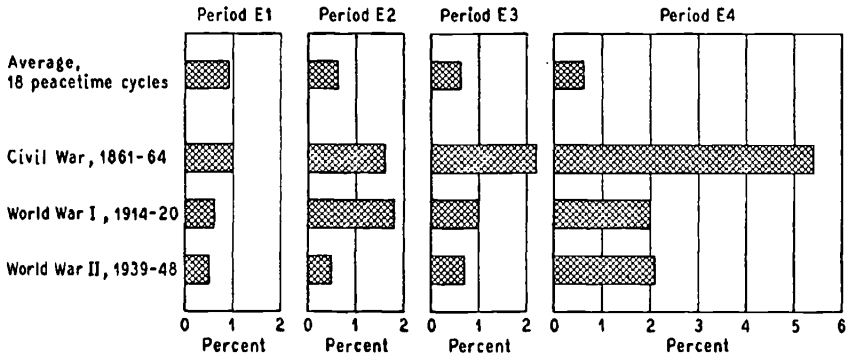
As was mentioned above, the pattern of internal shifts in price relations during the price advance from 1939 to 1948 differs notably from that characteristic of peacetime expansions (note 8). Deceleration marks the course of price expansions in peacetime cycles; sharp terminal acceleration distinguishes wartime price expansions. Regarded as part of a pattern of wartime increase that began in August 1939, the advance of wholesale prices from August 1946 to January 1948 at a rate exceeding 2 percent a month is the counterpart of similar explosive movements during the wartime expansions of 1861-64 and 1914-20.

Peacetime contraction in wholesale prices conforms, in reverse, to the preceding expansion (Table 19). The initial rate of fall is greatest; thereafter decline proceeds at a decelerating rate. The record of price declines following wartime expansions is here confined to two periods—1864-71 and 1920-22. In both, the initial rate of decline exceeded that characteristic of peacetime cycles. This

CHART 9

Wholesale Prices during Expansions in Peace and War Specific Cycles

Percentage Change per Month



abrupt initial drop, following the explosive advances of the final period of price expansion, was subject to progressive retardation in the protracted decline that continued to 1871; in the briefer 1920-22 decline there was violent acceleration through the second period of contraction, then retardation.

TABLE 19

Monthly Rates of Change in Wholesale Prices during Contractions in Peace and War, Specific Cycles

Interstage Period	*Av. 18 Peacetime Cycles*	*1864-71*	*1920-22*
C1	—1.0	—1.7	—3.0
C2	—0.6	—0.6	—6.9
C3	—0.5	—0.5	—1.5
C4	—0.6	—0.5	—0.3

For definitions and source see note to Table 18.

Reference has been made to the dangers of analogy, but past experience provides some indications of possible prospective developments. To date, we have had the same accelerating price advance that has characterized previous wartime expansions. Some price decline from a postwar peak is, of course, to be expected. The magnitude of the decline and the precise pattern of change will be affected by the special circumstances of the present period, and by institutional changes that have occurred since the two previous experiences were recorded (e.g., government support of farm prices; increased strength of labor organizations). The past record of peacetime declines, as well as of postwar recessions, suggests the possibility of a sharp initial drop in prices when the peak has been

passed, perhaps accelerating in the early stages of the decline. Thereafter retardation of the rate of decline is suggested, with stabilization as the forces of revival gather strength. Of course, if price movements should follow this pattern, the more swiftly the price realignments were effected and the more rapidly concurrent readjustments were made elsewhere in the economy, the smaller would be the disturbances of productive and distributive processes.

V Summary

The economy of the United States has been operating at full stretch for five years, with only a modest and temporary interruption during the readjustment that followed the end of fighting. Today it stands as the one major center of industrial production in the world, unharmed by war and capable of producing goods at a level well above that of prewar days. Currently it is feeling the full impact of heavy domestic demand for consumption and capital goods and of the urgent needs of a devastated Europe for food, clothing, and productive equipment. The pressures of these demands, amply implemented by a volume of money and credit that has expanded more rapidly than the physical volume of production, are manifest in a continuing upward push of prices. With these pressures have been associated steadily rising unit costs.

This paper has dealt with various aspects of the price situation in the United States at the beginning of 1948. In summary, and in general conclusion:

1) Prices in wholesale markets have doubled and living costs have risen two-thirds since 1938-39. Because of these advances in unit prices, dollar gains in production and trade substantially overstate the actual increases in physical volume.

2) Uneven advances in the unit prices at which goods and services are sold have altered the terms on which different producing and consuming groups exchange their products and have materially modified the domestic structure of costs and prices.

3) Farmers have gained substantially, in the sense that their aggregate physical rewards have increased much more than their aggregate physical contributions. This is true whether the base of comparison be recent or far removed. The relative gain of farmers in aggregate terms (i.e., the excess of gains in aggregate purchasing power, in terms of goods and services, over gains in aggregate farm output) may be estimated at 47 percent since 1938-39, 28 percent since 1924-