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CHAPTER I

GENERAL ASPECTS OF RECENT PRICE

MOVEMENTS

THE phases of business cycles to which we apply the terms crisis and recession are marked, characteristically, by a general reduction of prices, a shifting of relative values and a downward readjustment of a great mass of creditor claims. The severity of these deflationary processes varies, of course, from cycle to cycle, being affected by all the forces at play in the cyclical fluctuations of business. Their character and consequences vary, also, with changes in economic organization. With a heavier burden of fixed expenses, with a more extensive debt structure, with a money economy that penetrates more deeply into the everyday activities of men, a general deflation and the readjustments it entails may be expected to place greater strains upon the economic system. This is not to say that the causal forces, if we could locate them, necessarily differ from time to time. Different reactions to these forces may be expected because the organization and operating characteristics of the system at large have been modified with the passage of time.

For this reason a survey of certain aspects of the most recent recession is of special interest. Here we may follow the process of deflation in a modern industrial economy and the movement towards readjustment on a new operating basis. With the single exception of the 1920-21 recession, which was so closely tied to the aftermath of war as to lose somewhat

in broader economic significance, the latest recession provides our only example of a major crisis in the working of the highly integrated, industrialized economies, with their complex price and financial systems, that have reached maturity in the last quarter century. In this study, it is true, we shall be dealing only with certain aspects of recession and recovery, but to view these movements in proper perspective some account should be taken of the changes that the twentieth century has brought in the economic systems of western nations.

The present investigation centers in the behavior of prices, in relation to the general operations of the economic system, during a period preceding and including the recession and recovery of 1929-36. Price movements played a dominant role in the recession of general business that began in the United States in the summer of 1929, and in the ensuing phases of this business cycle. There have been longer price declines in American economic history, but if we take account of the combined factors of scope, duration and intensity, it is improbable that our price system has ever been exposed to destructive forces more devastating than those of 1929-33. For no less than forty-three months prices declined and the price structure crumbled. The economic ills engendered by the general decline were intensified by the extreme inequalities of the changes occurring in different parts of the price system. A score of major disparities developed, and these continued to increase as the price decline persisted.

The pains of this severe recession have emphasized the role of prices in a modern industrial economy. The exchange mechanism that intervenes between the processes of production and consumption, in an economy marked by great division of labor, is ordinarily an unobtrusive element in our economic environment. When it functions smoothly and well we give little heed to it. But when matters do not go smoothly

we are acutely aware of our dependence upon an elaborate system of exchange relationships, a system that has been growing more complex and delicate with the passage of time.

This dependence of physical economic processes upon a pricing system is well recognized, but it is perhaps not as clearly realized that the character and degree of dependence vary from time to time, and that the instruments of exchange take on new attributes as they develop. Indeed, the severity of the most recent depression may be attributed in considerable part to the characteristics of the exchange mechanism and to its failure to meet the requirements placed upon it by an industrial system that has itself been profoundly modified during recent decades. Changing industrial processes on the one hand, changing attributes of the pricing and exchange system on the other—these are two of the major dynamic elements of economic life today. In combination, they have played a leading part in accentuating the severity of the second great post-War depression.

In this study no attempt is made to deal exhaustively with all the many-sided monetary and price problems that this depression has generated. Since we are interested in the general efficiency of our present price system as an instrument facilitating the physical processes of economic life, we shall seek to define the broad characteristics of the price recession and the subsequent recovery in relation to earlier experience. But our major concern is with the changing positions of certain important producing groups, and with the varying fortunes of consumers, under the impact of changes in industrial productivity and shifts in the distribution of purchasing power. The economic movements of the fifteen years preceding the recession of 1929 and the wide fluctuations of the last seven years have brought important alterations in the status of different producing groups. A knowledge of these shifts and of the forces that lie behind them is essen-

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tial to an understanding of the economic changes of recent years.¹

SOME FACTORS IN THE PRICE RECESSION OF 1929

The causes of a general price decline are seldom open to precise definition. A general break in prices may be initiated by minor and obscure factors, when the structure of prices is weak. Certain factors contributing to the recent collapse of world prices may be defined in general terms, but no attempt is made to indicate their relative importance, or to set forth the exact combination of circumstances that precipitated the decline. In this account we deal in the main with world conditions, for the price recession in the United States was but a phase of a world-wide decline.

During the first post-War decade facilities for the production of foodstuffs and major raw materials were over-developed, relatively to the opportunities for sale through existing markets at the prices necessary to cover costs and yield satisfactory profits. Resulting price weakness was in part concealed, because of the influence of ample credit (which facilitated the application of valorization schemes) and of heavy foreign lending to raw material producing countries. The maintenance of consumer demand in the United States through the development of new credit instruments and the presence of non-recurring elements of income (notably speculative profits) served also to support expenditures and

¹ It is impossible, of course, to define with precision changes in the relative status of different economic groups when prices alone are compared. Concurrent changes in costs and in volume of output bear directly upon the analysis of price movements. In the present study use is made of supplementary cost and production records, where available, in interpreting price changes. But our chief concern is with the inter-relations of prices. Though the price record alone is inadequate, it is more comprehensive and more accurate than any other general record of economic changes.

prices prior to 1929. Heavy international lending, at rates that declined up to 1928, helped to maintain buying power and stimulated the shouldering of excessively heavy financial obligations by raw material producing countries. The check to lending to debtor countries, which was first felt in 1928, and the increased difficulty of securing credit, placed such countries in serious straits. Domestic expenditures were reduced, many valorization schemes had to be abandoned, and the service of foreign debts became difficult. The forced selling in foreign markets of the major products of these debtor countries (raw materials, primarily) weakened the markets, and prices of important staples fell.

The usual instruments for the correction of such a situation (a correction made in pre-War years through the gold standard and international credit mechanisms working under conditions of relatively free trade) were ineffective, partly because of the lack of highly developed financial institutions in most debtor countries, partly because of the faulty working of the post-War gold standard when creditor countries were unwilling to receive goods, partly because of the very magnitude of the difficulties involved.

Reduced buying by debtor countries contributed to a drop in production and employment in industrial countries. This situation was aggravated by the reduction of domestic purchasing in the United States as speculative profits turned to losses with the ending of the boom in securities.

The resulting curtailment of expenditures for both capital equipment and consumption goods led to further declines in prices and production, further unemployment, and further reductions of income disbursements. The necessity of reducing costs, which was faced by manufacturing establishments as a result of declining sales and the pressure of declining prices among important commodity groups, entailed serious and cumulative deflation in industrial areas. The vicious

spiral thus started was made worse by the spread of uncertainties and fears, which still further reduced expenditures for new equipment and, to some extent, for consumption goods. This curtailment of general business activity was reflected in a marked decline in the velocity of circulation of money and credit.

The gold situation intensified the movements due to these conditions. The general resumption of the gold standard in the middle years of the post-War decade led to an increased demand for the existing stocks of gold. The resulting demands upon the gold supply were accentuated by a world distribution of gold that was disproportionate to the world's commercial and financial needs. There is no clear evidence of pressure upon prices from the monetary side prior to 1929, but there appears to have been no great margin of gold supply above the world's needs, under the existing banking conditions. Causal relations between the movements of prices and gold reserves during the recession are difficult to establish. It is probable, however, that a deficiency of gold and credit contraction in certain areas combined with other economic conditions to push the world price level constantly lower. But causal relations almost certainly ran in the other direction also. It is not necessary to assume a one-way relationship between monetary conditions and prices. Unequal price declines, reflecting variations in the incidence of world recession, contributed to the disparate movements of national gold reserves which were so conspicuous a feature of this period.²

² Evidence of a relationship in time between declining gold reserves and price movements from 1929 on is given by Layton and Crowther, *An Introduction to the Study of Prices* (London, Macmillan, 1935), p. 189, citing Kitchen's data. In 1929 the gold reserves of five strong 'creditor' countries (United States, France, Switzerland, Holland and Belgium) began to rise sharply, while the gold reserves of the rest of the world fell off rapidly. The

The price recession thus initiated reached a bottom, in the United States, in February 1933. Within five months of that date the level of wholesale prices in the United States had advanced 15 per cent; within twenty-four months, 33 per cent. The upward turn was sharper and more pronounced than in the usual cyclical advance. Rates of gain varied, but the stimulus of recovery was felt on a broad front. For many reasons this price advance is of peculiar interest, and the immediate problems raised by it are of exceptional urgency.

PRICE RECESSION AND RECOVERY: COMPARATIVE MEASUREMENTS

The distinctive characteristics of the price decline of 1929-33 may be best appreciated when it is contrasted with similar movements of the past. The declines closest to it in severity are those that occurred during the business recessions of 1873 and 1920.³ The fall of prices in 1920-22 was the most

movements of world prices paralleled the general decline of gold reserves in the majority of countries.

If this relationship is taken to be causal, the argument assumes that the increasing gold reserves of the five creditor countries did not furnish offsetting stimulation towards higher prices. It is true that domestic conditions in these countries were not conducive to the use of new reserves in credit expansion. In considerable degree, then, gold surpluses were inactive while gold deficiencies were active factors, during this period. But these very deficiencies, as we have noted, were probably related to disparate world price movements. Unequal price movements, reflecting the play of a variety of specific forces, helped to create disparities in gold reserves; where such reserves were forced lower, credit was contracted and downward pressure exerted on prices. Where such reserves were augmented, surpluses were in good part sterilized; they did not exert an upward pressure on domestic and international prices. Just such a mixture of circular relations in a disorganized world economy characterized the chaotic price situation of 1929-1933.

³ Records of changes in wholesale prices during the three recessions are shown below. In interpreting these movements we must note that the index numbers for recent years are more comprehensive, and that greater weight is given to manufactured goods. Since these conditions would be expected to

severe of the three declines (wholesale prices fell 45 per cent), but the briefest. The storm had passed within twenty months. Most prolonged was that which began in 1873. A net decline of 39 per cent in the level of wholesale prices was stretched over more than six years. Practically the same net fall, 38 per cent, occurred from 1929 to 1933, but it extended over forty-three months only. In rapidity of price decline, per month, the last recession was between the two earlier ones.

These changes are plotted in Figure 1, which reveals clearly certain marked differences between these periods, with respect to the behavior of general prices. Prior to the beginning of the price decline of 1873 the price level moved upwards slowly. (There were, in fact, twenty preceding months of irregular price advance, following seven years of irregular decline.) Before the recession of 1920-21 the price level rose sharply. (This rise had continued, with minor interruptions, more than five years.) Before the current recession the price level sagged slightly. (A slight declining tendency had prevailed since 1925.) More striking are the differences prevailing forty-three months after the initiation of the several recessions. This stage finds the decline of the '70's still in progress. Prices had fallen 20 per cent, but an equal fall, extending over two and one-half years, lay ahead.

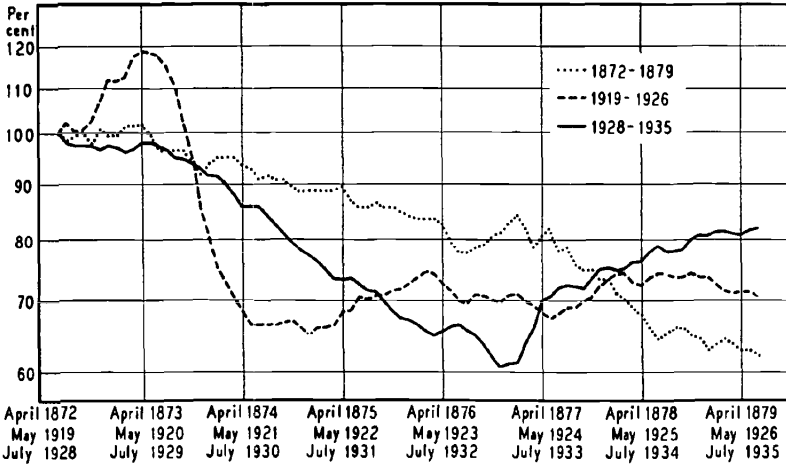
make the later indexes more sluggish, the amplitude and intensity of the recent decline are the more significant.

The index covering the first period is that of Warren and Pearson, *Prices* (Wiley, 1933), pp. 10-14. The index of the Bureau of Labor Statistics was used in tracing price movements during the other periods.

	DATE OF HIGH	DATE OF LOW BEFORE ADVANCE	DURATION OF DECLINE (months)	DEGREE OF DECLINE (per cent)	RAPIDITY OF DECLINE (per cent per month)
1873-79	April 1873	June 1879	74	39	0.7
1920-22	May 1920	Jan. 1922	20	45	3.0
1929-33	July 1929	Feb. 1933	43	38	1.1

FIGURE 1

WHOLESALE PRICES IN THE UNITED STATES DURING THREE PERIODS OF RECESSION AND SUBSEQUENT CHANGE



Ratio scale

The drop of 1920-22 had reached its bottom and a steady price recovery was in progress. Already prices had advanced 7 per cent above their low point. Forty-three months after the beginning of the decline of 1929-33 a bottom had apparently been reached. The months that followed were to witness a sharp upturn, the nature of which will concern us in subsequent sections.

These three price drops—the slow, persistent decline of the '70's, the violent but relatively brief collapse of 1920-22, and the steady cumulative pressure of the drop that began in 1929—illustrate diverse types of price behavior during severe economic recessions. The distinctive features of the most recent decline reflect, in part, the novel characteristics of the preceding expansion. Some of these are discussed in the next chapter.

A quick view of the course of recovery during the first nine, twelve and twenty-one months of advance after the depression low in each of these phases of recovery will provide perspective in judging recent events. Price changes during these periods are shown graphically in Figure 2.⁴ The rise that began in 1879 was the most rapid of the three over the first nine months of recovery. A gain of 25 per cent was registered, as against 19 per cent between February and November 1933, and 9 per cent in the first nine months of 1922. The advance of 1879-81 was sharply curtailed, however. During the first twelve months of recovery the most recent period has the highest record, with that of 1879-81 next. If we extend the record to cover twenty-one months (up to November 1934, for the last period) the advance of 1933-34 still has a striking lead. A decline, associated with the next cyclical recession, had already terminated the price recovery of 1922-23.

The rapidity of the latest advance is the more striking because of the greater scope and sluggishness of the index numbers for recent years. When we follow the movements of fully comparable measurements, Warren and Pearson's index numbers of the prices of thirty basic commodities,⁵ the contrast is enhanced. In nine months of 1933-34 these prices rose 44 per cent, as against advances of 27 and 37 per cent in

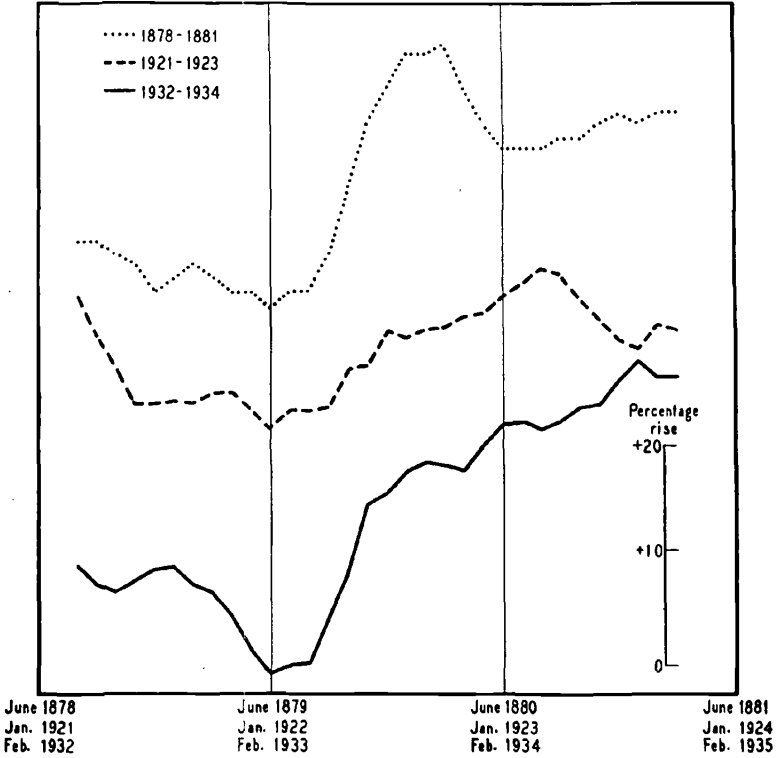
⁴ Following are the corresponding measurements:

	DATE OF LOW BEFORE ADVANCE	DEGREE OF ADVANCE IN FIRST 9 MONTHS (per cent)	DEGREE OF ADVANCE IN FIRST 12 MONTHS (per cent)	DEGREE OF ADVANCE IN FIRST 21 MONTHS (per cent)
1879-81	June 1879	25	14	18
1922-23	Jan. 1922	9	12	9
1933-34	Feb. 1933	19	28	23

⁵ Constructed by George F. Warren and Frank A. Pearson, New York State College of Agriculture, Cornell University.

FIGURE 2

WHOLESALE PRICES IN THE UNITED STATES DURING THREE PERIODS OF RECOVERY



Ratio scale

periods of equal length in 1879-81 and 1922, respectively.

But it was not only the general fall in prices that subjected the American economy to great stress, during the recent decline. The marked inequalities of the changes in various parts of the price structure added a further burden. The character and magnitude of these inequalities are indicated

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by the accompanying measurements.⁶ (The index numbers

	July 1929	Feb. 1933	Feb. 1934	Feb. 1935	Feb. 1936	June 1936
<i>RECESSION AND RECOVERY</i>						
Wholesale prices	100	62	76	82	84	82
Cost of living of industrial workers	100	74	78	81	81	82
Prices received by farmers	100	37	56	76	74	73
Hourly earnings, employed manufacturing labor	100	77	96	103	104	104
<i>RECOVERY</i>						
Wholesale prices		100	123	133	135	132
Cost of living of industrial workers		100	106	109	110	112
Prices received by farmers		100	151	202	198	194
Hourly earnings, employed manufacturing labor		100	125	134	135	136

shown are not comparable in detail; they serve the present purpose, however, in defining major changes among elements of the price system during recession and recovery.) Disparities resulting from these and similar movements reflect pronounced shifts in the relative incomes and buying power of different groups. Under contemporary conditions, in an economy marked by important frictions that prevent prompt adaptation to changed relations, these shifts may lead to severe and persistent disturbances. The movement of goods along previously existing channels of exchange is impeded, and the creation of new channels may be a slow process. A significant diminution of the indicated schisms took place in the recovery following February 1933.

Recession and revival, as their cumulative effects are felt throughout the price system, tend to follow certain fairly

⁶ The index number of wholesale prices is that of the U. S. Bureau of Labor Statistics; the cost of living index is that of the Bureau of Labor Statistics with interpolations based on the index of the National Industrial Conference Board; the index of hourly earnings was secured by splicing an index of the Bureau of Labor Statistics for 1932-36 to an index of the National Industrial Conference Board for 1929-32. The index of prices received by farmers is constructed by the U. S. Bureau of Agricultural Economics.

uniform patterns. The typical recession is marked by a few initial declines in the prices of the most sensitive commodities, followed closely by a more general and more precipitous drop. The entire movement is a relatively concentrated, unified downturn, as the price structure reacts to the impact of recession. Price revival is a different process, slower in its cumulative spread and more extended in time. The generation of recovery has not the swiftness of movement that marks the destructive phase of the cycle. These two phases are represented by the upper diagrams in Figure 3 which show the timing of price recession and revival in wholesale markets during the business cycle that ran its course in the United States between 1919 and 1923. These furnish standards with which we may compare more recent price fluctuations.⁷

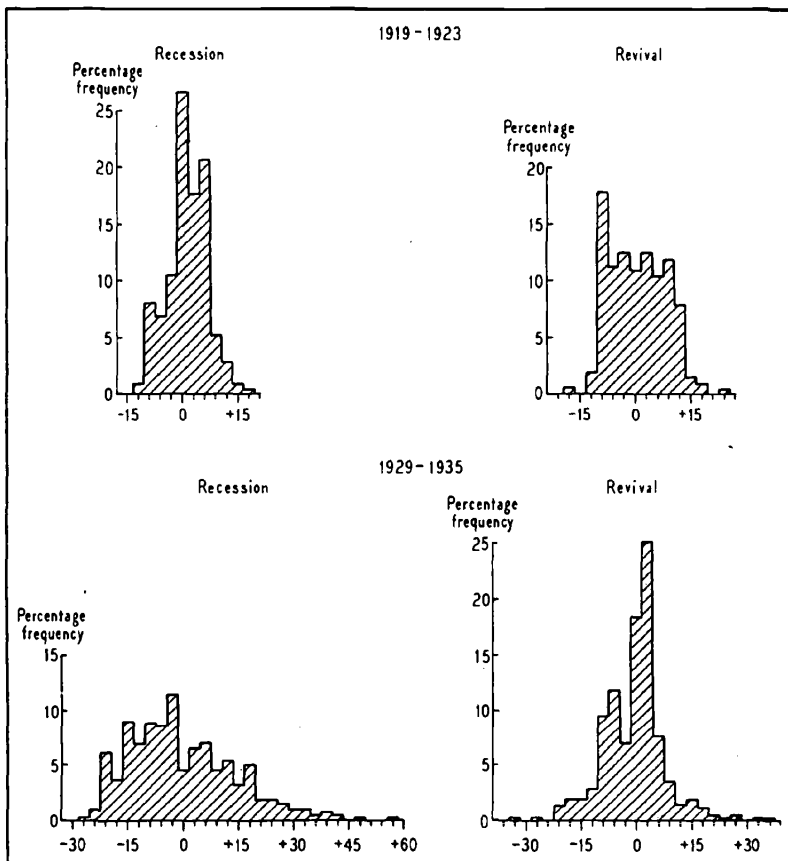
The movements during the recession of 1929-33 and the subsequent revival, which are represented by two of the distributions shown graphically in Figure 3, constitute a striking reversal of customary experience during price recessions and revivals. In place of the usual concentrated, compact downturn of prices during recession, such as occurred in somewhat exceptional degree in 1920, we have a far more protracted change centering about the July 1929 turning point. Recessions of individual commodity prices extended over many months, instead of being concentrated within a few months.⁸

The reasons for this marked difference in behavior are found, in part, in the economic details of the two recessions—in the price and quantity relations among the hundreds of individual commodities entering into trade. Perhaps more

⁷ The corresponding measurements are given in Appendix I.

⁸ Comparable measurements of the degree of 'scatter' in the timing of price declines in the recession of 1920-21 and in that of 1929-33 are, respectively, 5.4 and 14.2. (These are the standard deviations of the two distributions plotted. The standard deviation of the distribution of average figures representing ten phases of recession occurring between 1892 and 1924 is 8.4.)

FIGURE 3
SHOWING THE DISTRIBUTION OF PRICE CHANGES OVER TIME,
IN PERIODS OF RECESSION AND REVIVAL



The figures on the horizontal scales measure deviations in months from the dates of turns in the wholesale price index.

important, however, were the differences in the immediate backgrounds of the recessions, and their effects upon the pricing policies of business men. The 1920 recession followed

the sharp War-time price rise, a rise that bore none of the aspects of permanence. Values had not become entrenched at the high levels of 1919 and early 1920, nor did heavy capital investments at those levels serve to maintain existing values. There was little basis, then, for resistance to liquidation, once the forces of recession were felt. A concentrated, fairly brief period of fall was the result.

The decline in commodity prices that began in 1929 occurred at the end of a quite different period, marked by fairly stable prices and by heavy investment at existing levels. Here we had strongly entrenched values and a corresponding reluctance to reduce prices. The more protracted and more painful character of the decline that began in 1929 is partly attributable to this condition.

The differences between the two periods of revival are not so pronounced. Both depart somewhat from experience in that price recovery was relatively compact and unified, with the price movements of individual commodities closely concentrated in time. This was particularly marked in the most recent recovery. Up to and including a date four months after the low point in the general index (that is, up to June 1933) approximately 80 per cent of a list of 538 commodities had advanced in price. Over similar periods in ten business revivals between 1892 and 1922 about 61 per cent of the groups of commodities studied rose in price, on the average. In 1933, in place of the slow cumulative recovery of the usual cyclical revival, we had the concentrated reversal in the direction of price movements and the swift transmission of the stimulus to change that usually characterize price recessions. This particular recovery of prices was not the usual slowly-germinating movement, but a speedy reaction to a changed economic outlook.

In other respects, too, recent price movements were marked by distinctive features. Study of the sequence of change in

the prices of individual commodities during a number of cyclical revivals reveals evidence of a general pattern to which price movements during particular cycles conform in greater or less degree.⁹ Moreover, the pattern of price revival is not unrelated to the pattern of the preceding recession. There is not complete uniformity, of course, but the tendency towards a common sequence of price movements is clearly apparent in the records of the last forty years.

When the sequence of price recovery in 1933 is compared with the standard pattern of revival, a degree of conformity less than that usually prevailing is found.¹⁰ So, also, the relationship between the sequence of recession in the prices of individual commodities in 1929 (and the years following) and the sequence of recovery in 1933 is distinctly less marked than that usually prevailing between recession and succeeding revival.¹¹ The movements of 1933 show few of those regularities usually found in the cyclical behavior of commodity prices (regularities seldom of a very high order, it is true). It was a price rise stimulated by novel forces and, in

⁹ Cf. *The Behavior of Prices* (National Bureau of Economic Research, 1927), p. 135.

¹⁰ The coefficient of correlation between measurements defining the sequence of price movements in the recovery of 1933-36 and similar measurements defining the average sequence of recovery during eleven revivals between 1892 and 1924 is +.28. For earlier revivals the coefficient averages about +.50. (The fact that the data of earlier revivals enter into the averages that define the standard pattern would tend to make the second of these coefficients higher than the first, but not by the amount of the difference here existing.)

¹¹ The coefficient of correlation between the timing of price changes during the recession of 1929 and the recovery in 1933 is +.21, for records extending to November 1932, for recession, and to June 1936 for revival (the number of commodities included is 515). The addition of later observations for both recession and revival would raise this coefficient to a value approximating +.30. The coefficient of correlation between the average timing of price changes during revival and recession for ten complete cycles between 1892 and 1924 is +.72.

its detailed manifestations, differing significantly from the run of cyclical revivals.

INTERNATIONAL ASPECTS OF PRICE RECESSION AND PRICE RECOVERY

To secure a just conception of the price movements in the United States during the last seven years they must be seen as phases of a world-wide change. The severity of the second post-War depression and the difficulty of breaking it have been due in considerable part to the universality of the crisis. No nation, except Soviet Russia, escaped. Industrial centers and colonial areas alike felt the impact of the general decline. Here, again, we find differences in the degree, duration and intensity of the decline and in the degree of recovery to date. The record of changes in wholesale prices in thirty-two countries is summarized in Table 1.¹² Price movements in twelve countries (in terms of the various national currencies) are portrayed graphically in Figure 4.

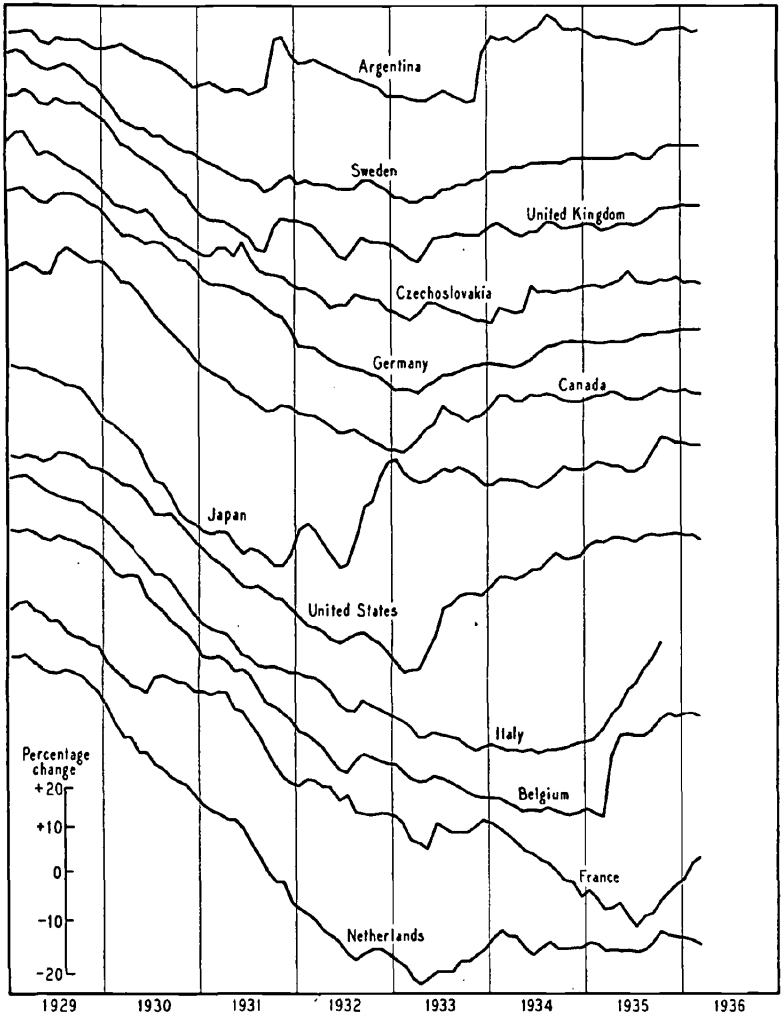
The record of drastic and universal price decline revealed by this survey of the changes in different parts of the world has no counterpart in recent economic history. Between March 1928, marking the high point of prices in Latvia prior to the recession proper, and September 1929, when New Zealand prices reached their peak before recession, thirty-two countries felt the crumbling of their price foundations.¹³ The median decline in wholesale prices among the countries

¹² The index numbers from which the measurements in this and the following table are derived are not comparable in the details of their composition. Significance should not be attached, therefore, to small differences between the figures given.

¹³ It is not easy to set the precise date at which price recession began in each country, because price levels were declining throughout the world prior to the beginning of this recession. But variations in the timing of the recession are probably fairly well indicated by the entries in Table 1.

FIGURE 4

INDEX NUMBERS OF WHOLESALE PRICES IN TERMS OF NATIONAL CURRENCIES, 1929-1936, TWELVE COUNTRIES



Ratio scale

here represented was 36 per cent, the median duration 54 months. The price drop of 1920-21, which started from a highly inflated level, was somewhat more severe in amplitude, but in duration was far short of the recent drop.

TABLE 1

PRICE RECESSION IN THIRTY-TWO COUNTRIES, 1928-1936

A SUMMARY OF CHANGES IN INDEX NUMBERS OF WHOLESALE PRICES

(Price movements are here measured in terms of the various national currencies.)

	DATE OF HIGH BEFORE RECESSION 1928	DATE OF LOW	1934 ¹	R E C E S S I O N		
				DURATION (per months) cent)	DEGREE	INTENSITY (per cent per month)
Latvia	March	June	1934 ¹	75	-38	-0.6
Argentina	May	October	1933	65	-15	-0.2
Sweden	May	April	1933	59	-31	-0.6
Jugoslavia	May	September	1933	64	-44	-0.9
Germany	July	April	1933	57	-36	-0.8
Norway	August	January	1934 ¹	65	-24	-0.4
Finland	August	September	1931	37	-23	-0.7
Union of South Africa	October	October	1932	48	-28	-0.7
Spain	November	May	1933	54	-9	-0.2
Egypt (Cairo)	November	May	1933	54	-50	-1.3
Japan	December	June	1932	42	-36	-1.1
<i>1929</i>						
Czechoslovakia	February	January	1934	59	-33	-0.7
Denmark	February	September	1931	31	-31	-1.2
France	March	July	1935	76	-51	-0.9
Belgium	March	March	1935	72	-47	-0.9
Chile	March	October	1931	31	-29	-1.1
Estonia	March	June	1933	51	-36	-0.9
United Kingdom	March	April	1933	49	-31	-0.7
Hungary	March	November	1933	56	-49	-1.2
Italy	March	July	1934	64	-46	-1.0

SOURCE: The original index numbers underlying the present measurements have been collected by the League of Nations, Geneva, and published in the *Monthly Bulletin of Statistics*.

¹ The low dates here recorded for Latvia, Norway and Austria are those

TABLE 1 (cont.)

PRICE RECESSION IN THIRTY-TWO COUNTRIES, 1928-1936

	DATE OF HIGH BEFORE RECESSION		DATE OF LOW	R E C E S S I O N D E G R E E I N T E N S I T Y		
	1928			DURATION (per months)	(per cent)	(per cent per month)
Netherlands	March	April	1933	49	-52	-1.5
Peru	March	April	1932	37	-14	-0.4
Poland	March	March	1936 ²	84	-48	-0.8
Bulgaria	April	January	1934	57	-53	-1.3
Austria	May	February	1933 ¹	45	-22	-0.5
Dutch East Indies	May	March	1936 ²	82	-57	-1.0
United States	July	February	1933	43	-38	-1.1
Switzerland	July	March	1935	68	-40	-0.7
Canada	August	February	1933	42	-35	-1.0
Australia	September	February	1933	41	-28	-0.8
India (Calcutta)	September	March	1933	42	-43	-1.3
New Zealand	September	January	1933	40	-16	-0.4

preceding actual price recovery. Slightly lower points were reached earlier. If recession be measured with reference to these earlier low points, we have the following records for these three countries.

	DATE OF HIGH BEFORE RECESSION		DATE OF LOW	R E C E S S I O N D E G R E E I N T E N S I T Y		
	1928			DURATION (per months)	(per cent)	(per cent per month)
Latvia	March	December	1931	45	-39	-1.1
Norway	August	September	1931	37	-26	-0.8
Austria	May	January	1931	20	-22	-1.3

² The low dates recorded for Poland and the Dutch East Indies are the latest for which index numbers are available.

Early price weakness in raw materials is reflected in some degree in the timing of price recession, by countries, but the international pattern is not a simple one. Between the autumn of 1928 and the autumn of 1929 the gradual subsidence of prices that had been in progress throughout the world since 1924-25 was converted into a general retreat. The Orient, the Near East, the Argentine and Western Europe felt the force of the decline before the spring of 1929

was over. Summer and autumn carried the storm of price recession throughout Europe and into North America and the British dominions. Unlike the break of prices in 1920, the course of which could be charted as it swept eastward from Japan, across the Americas, and thence to Europe, the decline of 1928-29 followed no consistent geographical path. Price weakness, penetrating the structure of world prices, was apparent in widely scattered areas before the general flood was released.

The record of recovery summarized in Table 2 shows equally diverse beginnings. In only two of the thirty-two countries here represented did wholesale prices fail to advance, in some degree. In three countries price lows were reached in 1931, and in three countries in 1932. In sixteen countries wholesale price levels touched their depression lows in 1933. That year, and notably the quarter extending from February to April, was marked by a general upward

TABLE 2

PRICE RECOVERY IN THIRTY-TWO COUNTRIES, 1931-1936

A SUMMARY OF CHANGES IN INDEX NUMBERS OF WHOLESALE PRICES
SINCE DATES OF DEPRESSION LOWS

(Price movements are here measured in terms of the various national currencies.)

	DATE OF DEPRESSION LOW	REVIVAL FROM LOW TO MARCH 1936		
		DURATION (months)	DEGREE (per cent)	INTENSITY (per cent per month)
	<i>1931</i>			
Denmark	September	54	27.5	0.5
Finland	September	54	15.3	0.3
Chile	October	53	155.3	1.8
	<i>1932</i>			
Peru	April	47	17.5	0.3
Japan	June	45	30.3	0.6
Union of South Africa	October	42 ⁴	14.8	0.3

TABLE 2 (cont.)

PRICE RECOVERY IN THIRTY-TWO COUNTRIES, 1931-1936

	DATE OF DEPRESSION LOW	DURATION (months)	REVIVAL FROM LOW TO MARCH 1936	
			DEGREE (per cent)	INTENSITY (per cent per month)
<i>1933</i>				
New Zealand	January	38	9.4	0.2
Australia	February	37	11.7	0.3
Austria	February ¹	37	1.2	.0
Canada	February	37	13.8	0.4
United States	February	37	33.1	0.8
India (Calcutta)	March	36	10.8	0.3
Germany	April	35	14.2	0.4
Netherlands	April	35	9.9	0.3
Sweden	April	35	12.4	0.3
United Kingdom	April	35	12.8	0.3
Egypt (Cairo)	May	34	35.5	0.9
Spain	May	34	7.2	0.2
Estonia	June	33	13.9	0.4
Jugoslavia	September	30	16.1	0.5
Argentina	October	29	16.2	0.5
Hungary	November	28	29.9	0.9
<i>1934</i>				
Bulgaria	January	26	9.7	0.4
Czechoslovakia	January	26	9.1	0.3
Norway	January ²	26	10.1	0.4
Latvia	June ³	21	6.1	0.3
Italy	July	15 ⁵	27.5	1.6
<i>1935</i>				
Belgium	March	12	24.6	1.8
Switzerland	March	12	5.2	0.4
France	July	8	16.7	1.9
<i>1936</i>				
Dutch East Indies	March ⁶			
Poland	March ⁶			

¹ Slightly lower point reached in January 1931.² Slightly lower point reached in September 1931.³ Slightly lower point reached in December 1931.⁴ October 1932 to April 1936.⁵ July 1934 to October 1935.⁶ The last figure available is the lowest to date.

surge in prices, world-wide in scope. Low points were reached by five countries in 1934, and by three in 1935.

We have given above a general picture, in terms of broad averages, of the recession of wholesale prices in the United States and of the course of price recovery through the early months of 1936, the whole reviewed against the background of similar movements at other periods and in other areas. Forty-three months of demoralizing decline, five months of sharp rise and thirty-five months of irregular advance left a price level in the United States, in June 1936, 32 per cent above the February 1933 low, 18 per cent below the 1929 peak, and 14 per cent above the 1913 average. This series of changes was not unprecedented in our history, but it is improbable that any previous movements imposed strains of comparable severity upon the economic system of the United States.

PRICE RELATIONS AND SOME CURRENT ISSUES

In following the course of recession and recovery no attempt is made to cover all aspects of the economic scene, or to deal with all the monetary and price problems that have arisen. Attention will be concentrated on selected issues and relations of major importance among elements of the price system. Four matters are of particular interest:

1. The margins, or differentials, between the prices of goods of the same type at successive stages of the route from primary producer to ultimate consumer are a factor of major importance in the movement of goods into use. In a sense, goods move uphill from primary markets to final consumers. Labor must be expended upon them at each stage of their progress. The immediate stimulus to the activities of fabrication and transportation necessary to transform raw materials into ultimate finished goods is provided by a series of price differentials, which are appraised

by the business man with reference to the number of units of goods that may be moved.¹⁴

In measuring changes in the fabricational-distributional margin we shall not deal with the innumerable price differentials affecting the movements of individual commodities, but with certain broad averages. For the present purposes chief interest attaches not to such items as the spread between the price of wheat and the price of bread, but to the major or general differential between the average prices received by primary producers for raw materials and the average prices paid by final consumers for the wide variety of finished goods into which these materials enter. The margin between average prices at these primary and terminal stages represents the cost of the services of the middlemen who fabricate, transport and distribute the goods by which we live. This is the central margin upon which all productive and distributive activity, other than that of primary production, depends. In tracing variations in this margin and in the elements of cost and of selling price that define it we shall be dealing with a magnitude of central importance in the working of the economic system. Movements persisting over extended periods are reflected in long-term variations in this margin. The first impact of a change in industrial productivity falls upon the costs of fabrication that are covered by this margin. The incidence and economic consequences of inflation and deflation may be most readily traced through the effects of such movements upon this same major differential. And the study of recent changes in this margin is of special interest because of critical movements that occurred prior to and during the recession of 1929.

¹⁴ Because of changes in overhead costs, per unit of product, with variations in quantities handled, a price differential offering attractive profits under certain conditions may involve operating losses, with a reduced volume of production and trade, under other conditions.

Over a long period the incentive to business activity is provided, of course, not by profit per unit of goods handled but by rate of return on invested capital and, for the small entrepreneur, by rewards secured for time and effort expended. But the factors that enter into these appraisals are not ignored in applying the more immediate test of per unit profit.

Changes from 1933 to 1936 in this differential reflected the influence of the National Industrial Recovery Act and the Agricultural Adjustment Act, as well as of elements customarily present in recovery. The effects of the new factors upon the immediate groups concerned, upon the margin between material costs and selling prices to consumers and upon the working of the price system as a regulatory mechanism have been of particular significance during certain stages of recovery.

2. Notable among the elements of the price structure are those defining the economic position of primary producers. Among these, farmers stand in a distinctive position in the American economy, which combines the features of an industrial and an agricultural country. In spite of protective tariff walls farm products are peculiarly exposed to the forces of world competition and to changes in world economic conditions. New elements were introduced into the farm situation by the enforcement of the Agricultural Adjustment Act and the Soil Conservation Act. Special problems of other types center about the work of other primary producers.

3. Capital goods industries play a crucial part in a modern industrial economy. As they lead in expansion, so do they play a dominant role in economic recession and depression. We must trace price changes in these industries and the relations of these changes to economic processes at large.

4. Finally, and perhaps most urgently, we are concerned with changes in the prices of goods ready for sale to final consumers. Prices prevailing at the terminus of the productive-distributive process stand in a position of high strategic importance in the working of the economic system. Prices to consumers condition the movement of goods at all earlier stages and help to determine the volume of finished goods that may be marketed. Faulty relationships among these prices and the prices of unfinished goods may seriously impede productive activities.

These four points noted for special attention are by no means unrelated. The costs of fabrication and distribution that are represented by the margin between the prices of

raw and processed goods have an obvious relation to the selling prices of finished goods, whether intended for capital equipment or human consumption. And the real rewards of primary producers are conditioned, in part, by the costs of fabrication and the prices of finished goods. The economic developments of the stormy years from 1914 to 1936 wrought great changes in the fortunes of primary producers, fabricators and buyers of finished goods. The succeeding chapters trace some details of these developments.

Changes in Commodity Prices and in the Purchasing Power of Given Groups of Producers

The relation between changes in prices and in the broad streams of goods moving from producers to consumers calls for special attention. For time differentials in the responses of prices to the forces of recession and of revival may appear, at a given instant, as disparities—discrepancies that may substantially alter the volume of goods produced and sold, or their distribution among consuming groups, or both. This relation is worthy of brief demonstration.

The per unit price of a given commodity multiplied by the number of units produced during a stated period yields, of course, its total money value. Or, if we are dealing with *changes* in these factors, rather than with absolute magnitudes, a relative number (p), defining the change in per unit price over a period, multiplied by a relative number (q), defining the change in number of units produced, yields a measure (pq) of the change in aggregate value of product over this period. This measure defines changes in monetary values. If interest attaches to changes in the aggregate purchasing power of the producers in question this measure of relative value must be divided by a measure (P) of the average change, over the same period, in the per unit price of the goods to be purchased by these producers. Thus, using the symbols suggested, pq/P (the measures all being in relative form) defines the change, with reference to any given

base, in the aggregate purchasing power of the producers of a given commodity. The ratio of this quantity to q , the relative defining degree of change in the amount produced, is $\frac{pq/P}{q}$ which reduces to p/P , the ratio of the price of the product to the average price of goods to be purchased (both in relative form). This simple ratio, then, may be taken to define the relation between changes in two important physical aggregates—the aggregate physical rewards (or purchasing power) of a given group and its aggregate physical production or contribution. If we have knowledge concerning changes in these factors we may trace the major shifts in the economic status of various groups of producers and consumers.

We should note that shifts in the ratio of the physical production, or the physical rewards, of a given group, to the total physical output of the economy are not defined by the above measurements. To measure such changes of *relative* status we should have an index of Q , the total physical output.

Other issues with which we shall be concerned in the following pages relate to more general aspects of the working of the price system. One of the important external connections of the network of interrelated values that constitute the price structure is that defining the value of the monetary unit in terms of gold. (This external bond may, of course, run to some commodity or commodities other than gold.) The stimulus to change may come to the price system through this connection, as well as from any of the elements bound together in its internal structure.

Changes in the system of prices arising from the play of internal forces may be far reaching. Changed conditions of production of a raw material that affect its price will be reflected, in a free price system, at all stages of the productive-distributive routes along which that material moves to ultimate users. These same changes will be reflected in the

prices of competitive materials and of all their products, and thus will spread, as do ripples in a pond, to all parts of the price structure. If the internal force is of major proportions, arising from the changed status of a whole group of producers, the repercussions upon other parts of the price system will be more violent, and the period of readjustment will be longer.

The character of this readjustment and the period necessary for its attainment will depend upon the closeness of the ties that bind the element in which the disturbance originates to other parts of the price structure, as well as upon the violence of the initial disturbance. In a perfectly free and fluid system, in which all parts were free to adjust themselves promptly to changed relations (and in an economic system in which corresponding physical adjustments could be as readily made), these two factors would be, presumably, the only ones conditioning the reaction of the system to an internal change and affecting the ultimate readjustment. Prices, as passive, sensitive indexes of changed economic conditions, would transmit the necessary intelligence and would promptly readjust themselves to the new physical relations resulting from the change. If, however, prices were not free, the degree of price inflexibility (or the degree of tardiness of prices in their response to changes in physical conditions, or in other prices) would enter as a third factor affecting the duration and the character of the economic readjustment. Under these conditions prices would cease to serve as effective instruments for the transmission of economic intelligence. As soon as restraints upon the free movement of prices are introduced (restraints arising from monopoly power, price-fixing through formal or informal agreements or public regulation, the inertia of custom, the rigidity of debt and other fixed charges, or the like), prices reflect these restraints rather than the quantitative conditions of

market supply and demand. Inflexible prices, the market representations of these restraints, may thus become active, positive factors in economic change, influencing the physical processes which in an ideally free system they would merely mirror.

The same general considerations apply to a stimulus to change developing on the monetary side, a stimulus transmitted through the bond that ties the price system to a gold (or other) standard. A change originating here, arising from an alteration in the value of the monetary unit, would, under conditions of perfect freedom, be communicated directly to all parts of the price system. (It is assumed that a free gold, or other, standard prevails, with full convertibility.) All prices would change in equal degree, and the relationships established on the basis of the new real value of the monetary unit would be the same as those prevailing under earlier conditions. Prices would, again, be passive instruments, merely recording the monetary change, exerting no direct influence upon economic processes proper. But if the price system were not free in all its parts, if business conventions, monopolistic powers, legal restrictions, contractual obligations, overhead charges and the physical conditions of production imposed varying time differentials upon prices during the process of readjustment to changed monetary values, the primary reactions to such a change would be irregular and incomplete. Here, again, prices would cease to play a passive role. Instead of merely transmitting intelligence concerning economic changes on the physical side, prices would actively affect economic processes. New price relationships created by the lagging adjustment to altered monetary values would necessarily be reflected in changed relations among physical forces.

This argument may be put in slightly different form: under the conditions noted the prices of individual commodi-

ties respond to the influence of forces other than those competitive elements of supply and demand that are assumed to be the active factors in price changes in a free price system. It is true, of course, that other (non-price) elements always lie behind the behavior of prices. Prices themselves cannot be in any sense final causes. Prices are the focusing points of a complex of market forces and reactions, and price movements and relations are the net resultants of these forces and reactions. Prices may, however, be important intermediate factors in a circular relationship. This point has a bearing on the preceding reference to free prices. The concept of a completely 'free' price system is highly abstract and unreal. The condition is one that could never be realized under contemporary conditions. Time differentials in price readjustments to changing conditions are inherent in any system of which we may conceive. Technical conditions of production, habits, debts and other contractual obligations, institutional factors of many sorts are bound to create such time-lags in the responses of prices to forces making for change.

What is perhaps of chief importance here is that it is precisely during a period of rapid and extreme change that such normally passive technical and institutional elements become active factors in the economic situation. For when wide fluctuations occur in the average level of prices, rigidity in some parts of the price structure tends to prevent prompt adaptation of all its elements to the new situation. The resulting changes in price relations condition the process of physical readjustment. And since the readjustment of physical conditions (of consumption, production, trade) to sharply modified price relations is likely to be an extended and economically painful process, price disparities may constitute real barriers, in a positive sense, to a prompt restoration of full economic activity.

On Price Disparities

In the preceding section, and in various other parts of this study, reference is made to 'price disparities', and to some of their implications and consequences. The meaning that is here given to this term should be explained.

The use of the term 'price disparities' rests upon an implicit assumption that the activities of a modern economy may be viewed as the working of a closely-knit system of interdependent parts. The price system, a coherent body of related price quotations on commodities, services and disposable values of all sorts, is one element of this general structure. The operations of the economic system, in the allocation of productive factors, in the production and distribution of goods and services, in the apportionment of income, are conditioned by the relations among the working parts of the system as a whole and, more particularly, by the relations among quoted prices of the factors of production and of other commodities.

The economic system at large and the price system (which permeates the general system as the nervous system permeates the human body) are subject to the play of forces that alter the relations among their constituent elements. If we assume a state of equilibrium prior to one of these changes, compensating movements must occur after the initial change in a given relation. In a highly integrated industrial economy such as ours today these compensating movements may extend over a wide area and may require considerable time, before balance is again achieved. The extent of the compensation necessary and the time required for compensation to be effected will depend upon the magnitude of the original change, upon its economic incidence (if it originates outside the economic system) and upon the nature and closeness of the relations that bind the elements first affected to the system at large.

Our immediate concern is with certain aspects of the changes that are manifest in the system of prices, changes that may originate anywhere, within or without the economic system proper.

We define as a price disparity the condition prevailing after a shift in price relations to which there has not been complete adaptation among elements of the economic system at large. We take the term adaptation, in the above definition, to mean such adjustment in respect of the volume or character of production, allocation of man-power, investment of capital, distribution of income, or disposition of other elements of economic life as may be necessary to a working balance of economic elements, with effective utilization of available productive resources.

This general definition of price disparity and of economic maladjustment suffers because definite criteria of disparity and of maladjustment are not available. The definition goes back to a rather vague conception of a state of balance, or equilibrium, or mutual adjustment among the working parts of an abstract entity called the economic system. In the present state of our economic knowledge, when the conditions of balance, or even of operating efficiency, in the economic system at large may not be precisely defined, this weakness in the definition is hard to correct. We shall shortly suggest certain more concrete types of evidence, bearing upon the presence or absence of what we have called price disparities. These are more specific than the general condition noted in the definition, but the precise circumstances of disparity remain elusive.

With reference to the general definition given above, disparities are, of course, always present. They are, indeed, a customary condition of economic life, since changes in market conditions and price relations are continually occurring, with favorable consequences in some directions, unfavorable consequences in others. In respect of price disparities, as in so many other economic problems, it is the time factor, in relation to the experience upon which economic behavior is based, that is of central importance. Serious difficulties develop only when a state of non-adaptation persists beyond the period within which adjustment is to be expected, on the basis of experience. If, in the market for a perishable product, current marketings are not promptly adapted to changed price and buying conditions, pro-

ducers may suffer serious loss. Here a real disparity may develop over a very short period. Similarly, a disparity involving harmful consequences may develop in the field of agricultural prices if adaptation to changed conditions is not effected within a single planting, growing and harvesting season. In such a market as that for capital goods the duration of a business cycle may be the period within which experience leads us to expect mutual adjustment of prices and physical conditions to a changed set of relations.

It is, then, only when a price disparity continues beyond the expected period of adjustment that we may think of it as *persistent*. True, reduced production and reduced real incomes may result from (or accompany) disparities that are not persistent, in this sense. Non-persistent disparities, equally with persistent disparities, may be manifestations of economic pathology. For the disparities developing and being corrected over the course of a single business cycle may entail serious losses. The term disparity may properly be used for both types of maladjustment, although persistent disparities are of special interest because of their probable connection with enduring changes in the economic structure.

A fair question arises as to the circumstances that may be responsible for the prolongation of the period of adjustment beyond normal expectancy. In general, perhaps, an extension of the time required for adaptation to changed economic relations of any sort may be attributed either to exceptional severity or persistence of the force creating disparity, or to change in the operating characteristics of the system affected. By the latter is meant a change that alters the reaction of the system to given influences. Thus a loss of flexibility by important elements of the economic system might seriously reduce the adaptive powers of the system as a whole. Persistent post-War price disparities might be attributed to the excessive severity of the forces affecting the price system and the economic system at large, or to changes in these systems that caused them to react, in post-War years, in a manner different from that prevailing in earlier times.

Circumstances of both types probably played a part in the observed changes.

Specific manifestations of price disparity are difficult to define. Innumerable price changes occur from day to day and from month to month, and it is impossible to draw a sharp line between those that constitute disparities, representing definite economic faults, those to which adjustment has been readily effected and those that actually stimulate activity through the opening of new profit opportunities. As a working basis for a review of price movements, we may say that *prima facie* evidence of price disparity in a competitive economy is provided by the following conditions:

Rapid and violent alteration of a set of established price relations.

Price changes of considerable magnitude not accompanied by corresponding changes in production costs.

Important changes in productivity, not accompanied by corresponding changes in selling prices.

A sharp reduction in the volume of production and trade.

Unemployment of productive factors.

A considerable variation over a relatively short period in the relations among the incomes of producing groups.

Whether the presence of one or more of these conditions, in a given situation, is in fact evidence of price disparity must be determined, as well as may be, in the light of all the known circumstances.

We may not here explore the implications and consequences of price disparities. These will concern us in the course of the detailed discussion in later sections. Shifts of economic advantage and of purchasing power from group to group, changes in the volume and character of commodities produced, in the amount and form of savings and in the direction of investment—these may result from, or accompany, inequalities in the changes occurring among different elements of the price system

to which adaptation of their economic elements has not been effected.¹⁵

In following the course of events between 1929 and 1936 we shall be concerned with some general problems suggested by the preceding discussion. A price system operating under conditions of partial freedom and partial rigidity, composed of elements marked by diverse modes of behavior and bound together by ties of varying degrees of intimacy, was exposed first to a violent recession and then to the forces of a recovery marked by highly novel elements. How did it respond? Was its role in the recession that of transmitting intelligence of changes on the physical side, or did it play an active, positive part in determining the character of the recession and the course of the depression? How did the system as a whole, and its chief elements, respond to the stimulus of recovery? Did prices furnish clear guides to the economic activity required under the conditions of depression and recovery? These questions suggest some of the general problems faced in a survey of recent price changes.

Other issues arise more directly from the program of recovery initiated in the United States early in 1933. Reference has already been made to the potential influence upon prices of the National Industrial Recovery Act and of the various industrial codes based on it. The suspension of provisions of the anti-trust acts, the permission, in some cases, of price-fixing agreements, the recognition of open-price agreements, the setting of minimum wage rates and the writing into many codes of provisions that selling prices should not be lower than costs of production, brought important changes in the structure and working of the price system, during the

¹⁵ I have discussed some implications of price changes in a non-flexible economic system in a paper in the volume, *Economic Essays in Honor of Wesley Clair Mitchell* (Columbia University Press, 1935), pp. 377-81.

period of code enforcement. Again, the setting by law of a precise standard to which the average purchasing power of farm products should be restored, if possible, introduced another and entirely novel factor into the economic situation. Of a different order were the monetary measures adopted by the Administration in the effort to check deflation, to bring about a general price advance, and to lighten the burden of debts carried over from an era of higher prices. Here were forces impinging upon the price system from without, modifying its structure and conditioning its working. These also belong in the picture of price changes in the recent past.

This introduction is intended to provide the setting of the present inquiry. General aspects of the decline and of the recovery to date have been dealt with. An attempt has been made to provide perspective by setting recent movements in the United States against movements at other times and in other regions. Finally, reference has been made to certain features of the price structure, and various questions have been raised that will require consideration in later sections. We pass now to a brief consideration of the situation prevailing when the storm of 1929 was loosed.