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CHAPTER X

A Summary: Some Attributes of the Post-War Decade

THE era of post-war expansion came to an abrupt end with the dramatic stock market collapse of 1929, a collapse which was a phase of a world-wide recession. It is with a perspective set by the depression which followed that we have reviewed the events of this period. The treatment has been restricted to certain limited aspects of a many-sided growth. No attempt has been made to develop a simple theme, or to interpret these complex events in terms of one or two factors alone. We have followed certain threads of change, and have defined as accurately as possible some of the tendencies prevailing during a period which, in retrospect, has already taken on some of the aspects of a golden age. This has been done with the conviction that such definition of tendencies is not only prerequisite to an attack upon the complicated problems raised by the depression itself, but is, as well, essential to a systematic charting of the course of our economic development during the longer future that lies beyond the depression.

There remains the task of preparing a brief résumé of certain of the conditions and tendencies which have been separately treated in the detailed presentation.

Retardation of Population Growth. In any general survey of the economic trends of a period, the growth of population furnishes a yard-stick for the appraisal of changes in other economic elements. Changes in the pace of population growth occur slowly and inconspicuously. The forces that bring them about are often obscure, and difficult to define. Yet such changes affect economic processes in innumerable ways. In their wide ramifications they may determine the tone of a whole epoch.

One of the least dramatic and yet one of the most profound of the differences between the pre-war and post-war eras in the United

States is found in the varying rates of population growth. A change from a cumulative growth rate of 2.0 per cent a year to 1.4 per cent a year is a very substantial one indeed, for an element as stable in its behavior as is the population of a country of one hundred million inhabitants. The full effects of this retardation, and of the altered age-group constitution of the population which will result from it, will be felt in the years ahead of us. Yet the change was not without significance for the period just past. The basic standard against which the growth of many other economic elements must be measured was altered, and our interpretation of changes in these other elements must be correspondingly modified.

Productive Processes. The distinctive post-war changes in the field of production represented a speeding up of tendencies already in evidence before the war. Certain novel features there were, but in the main the lines of subsequent development are clearly apparent in the earlier period.

Between the depressions which bounded the decade of the 'twenties the rate of increase in the physical volume of production in the United States was clearly in excess of that which prevailed during the period of expansion prior to the World War. This is true in absolute terms. (Pre-war and post-war rates of production growth, excluding construction, were, respectively, 3.1 per cent per year, and 3.8 per cent.) It is more conspicuously true if account be taken of the post-war retardation of population growth. (Per capita of the population, pre-war and post-war rates of advance in production were, respectively, 1.1 per cent and 2.4 per cent per year.) Relatively to the basic needs of the population, the volume of goods of all sorts produced in the United States was being increased between 1922 and 1929 at a rate probably never before maintained for a similar period of time. The technique of physical production had reached a higher development than at any other time in our history.

Evidence to support this statement is found in the record of industrial productivity. During the fifteen years from 1899 to 1914 there was a notable advance in output per wage-earner in manufacturing establishments, a gain of no less than 30 per cent in the decade and a half. Here is the concrete result of the improved equipment, the greater skill, the more efficient organization of American industry which marked the forward movement of the early years of the century. Yet this record was substantially bettered during the decade from 1919 to 1929. Production per wage-earner in manufacturing industries increased by approximately 43 per cent in this single ten-year stretch. Seventy men in 1929 could do the work that required 100 men in 1919. During this decade of remarkable technical accomplishment emphasis was definitely shifted from mere numbers, as a means of accelerating production, to those factors of equipment, skill and organization which enhance the productive powers of the individual worker. It was an unprecedented advance. It appears now to have been an advance to which, under existing conditions of knowledge and with existing instruments of industrial control, our economic system could not be promptly adapted.

Difficulties of adaptation are discernible in several directions, in the records of this decade. An increasing volume of unemployment during an era of economic expansion was, considering its magnitude, a new phenomenon in our history. Equally striking are the related statistics of industrial displacement. The human incidence of industrial change is to be traced in such statistics, which measure the shifting of labor among manufacturing industries. The data of the pre-war period provide a standard of comparison in the interpretation of these figures. Between the terminal years of each of the three five-year census periods falling betwen 1899 and 1914 an average of 21 men out of every 1,000 employed were separated from given manufacturing industries. (The data relate to movements of labor from industry to industry, not to intra-industry shifts.) For the same periods accessions (additions to the number employed) averaged 149 to each 1,000 persons employed. That is, the number employed was expanding, and the number of men forced out of given manufacturing industries was distinctly smaller than the number of new men taken on by other manufacturing industries.

Markedly different is the post-war record. On the average, over each of the three biennial census periods coming between 1923 and 1929, 49 men out of every 1,000 employed were separated from given manufacturing industries. Additions to the number employed averaged 45 to every 1,000 on the payrolls of manufacturing plants. Separations measure the burden placed upon wage-earners by industrial change. That it was a heavy burden during the prosperous period from 1923 to 1929 is indicated by these figures. Not only was the rate of separation much higher than it had been over longer pre-war periods; it was higher than the accession rate, which may be taken as an index of employment opportunities in manufacturing industries. Between 1923 and 1929 men were being turned out of manufacturing industries in greater numbers than in pre-war years, while the numbers of new men taken on were relatively much smaller. High productivity and rapidly expanding production brought instability of employment and uncertainty of income to many, during this era of business prosperity.

Instability and uncertainty were not alone the lot of those workers who were displaced during this period. Although, on the surface, the industrial advance of the 'twenties bore signs of stability, there were certain underlying tendencies toward a basic instability which contained a potential threat to others. Some emphasis has been placed, in preceding pages, on the divergence of growth rates characteristic of different industries and of other elements of the economic system. Such divergence, reflecting changes in productive conditions, changes in technical methods and changes in ultimate demand, is doubtless a necessary feature of a living economy. In some degree, it represents adaptation of certain elements of the economy to changes in other elements. But, inevitable though these differing rates of secular advance may be, it is certain that they involve shifting of labor and capital and a whole host of minor modifications in the structure of the economic system at large. A flexible and adaptable system is necessary, if an organism as complex as that which meets our material needs is constantly to be accommodated to variations in the growth of its constituent parts. Such divergence existed in pre-war years, in fairly pronounced form. If we take account of the numbers engaged and of the magnitudes of the capital sums involved, it is probable that the degree of divergence between 1922 and 1929 exceeded that of the period 1901-1913, and that proportionately heavier strains were placed upon the economic system.

A speeding-up of the rate of industrial displacement, with a corresponding increase in the volume of unemployment, was but one aspect of the problem raised by disparities of growth rates among American industries. Shifts in marketing methods and organizations, obsolescence of equipment, the emergence of new and untried industries with their demands for men, for markets, for capital, for credit and for places in the industrial sun, and the generation of risks which new industries and new methods inevitably bring—these, equally, were manifestations of divergence in rates of economic change. All these served to intensify the demands for flexibility and adaptability in our economic system. These demands were made, moreover, at a time when elements of structural rigidity and inflexibility were apparently growing in strength.

In yet another respect the tendencies of the post-war period served to accentuate certain factors of instability in modern economic life. It is a commonplace, of course, that industrialization has brought a pronounced change in the directions in which our current productive energies are exerted. Under simple conditions, the immediate necessities of life—food, clothing, essential shelter—constitute the chief products of human labor. As the margin between productive power and immediate needs widens, more labor may be devoted to the making of instruments of production and of various goods, durable and non-durable, which satisfy the less imperative needs of man. It is characteristic of such goods (capital equipment, and non-essential consumption goods) that the demand for them is highly elastic, capable of extreme expansion and rapid contraction under the influence of price changes or of changes in the attitudes and expectations of buyers. The same thing is true of certain essential but durable consumers' goods, such as housing. The necessities of existence, on the other hand, particularly those which are non-durable or semi-durable in character, are marked by inelastic demand. Except under extreme conditions the amounts required and currently purchased do not vary greatly. It is difficult to stimulate increased demand for such goods, while contraction of demand is similarly difficult on the side of the user.

These facts have a direct bearing on the stability of processes in a competitive economy. Barring the play of extraneous forces (such as crop failures), less variation is to be expected in production, the larger the proportion of perishable and semi-durable consumption goods in the annual output of an economy. As capital equipment, durable goods in general and non-essential consumers' goods come to occupy a larger place in total output, demand is capable of rapid expansion (under advertising or other stimulus) and of rapid contraction, with corresponding fluctuations in productive activity.[1]

[1] As an entry on the credit side of the ledger, we should note that greater productivity of labor and a higher average standard of living may be expected to accompany an increase in the amount of capital equipment employed.

All this is obvious enough. It is important in the present review because tendencies long present in our economic development were speeding the output of goods of elastic demand between 1922 and 1929. As in the period 1901-1913, but in much greater degree, production was becoming diversified in the recent period. The volume of output of those incidental, supplementary, non-standard goods which escape enumeration when account is taken only of the basic staples was expanding at a rapid rate. (The rate of increase in volume of production between 1922 and 1929 is raised from 3.3 per cent a year, for directly measurable physical units, to 3.8 per cent, when these non-standard goods are included. The corresponding pre-war correction was from 2.9 to 3.1 per cent a year.) This diversification of output meant that goods of secondary importance, goods of elastic demand, were occupying a constantly larger place in the budgets of consumers and in the purchases of business buyers. Such diversification brought with it the potentiality of a corresponding contraction, for elasticity may work in two directions.

More direct evidence on this point is furnished by the records of output of durable and non-durable goods. We have seen that the output of durable goods, goods which are relatively unstable in their production, was increasing between 1922 and 1929 at a rate of 5.9 per cent a year, while the production of non-durable commodities advanced at a rate of but 2.8 per cent a year. A margin of the same type prevailed between the turn of the century and the outbreak of the war, and doubtless prevailed during many other periods of industrial expansion. But it is the size of the margin in the post-war decade which is significant. The new productive powers which were generated by improved technique and better equipment during this decade were devoted largely to the output of goods of relatively long life and of correspondingly elastic demand, goods which are characterized by exceptionally high instability of production. In devoting a greater proportion of our productive energies to such durable goods (the proportion so devoted was, roughly, 26 per cent during the pre-war period studied, 34 per cent during the post-war period) we accentuate elements of instability in productive processes.

Finally, we have noted the extremely rapid advance, during the decade of the 'twenties, in the production of that particular class of durable goods which is used in further production. In this period we were ploughing the fruits of industry back into capital equipment at a rate which exceeded even that of the pre-war expansion when the economies of large-scale, capitalistic production were being so earnestly exploited in this country. Our best estimates indicate a pre-war growth of production of capital equipment at a rate of 5.0 per cent a year, a post-war advance at a rate of 6.4 per cent. (These figures relate to annual additions to and replacements of capital equipment, not to the total existing supply.) The standard of living was being maintained, and raised, during the years that fell between the two great post-war depressions, but in even greater degree we were augmenting the instruments of roundabout production. Machines, engines, tools, plants—into the making of these the new productive energies were poured.

Viewing these events in retrospect, a question naturally arises as to whether these new energies were well and wisely expended during this period. When goods are made for immediate sale and direct consumption, errors concerning effective demand are of course possible, but the detection of the error is likely to come fairly promptly. But when we make goods which will eventuate in a finished, consumable product only after the lapse of considerable time and after various intermediate processes have been completed, more serious errors are possible. If we take account of the customary elasticity of demand for capital goods, and of the variability of production which results from business errors, faulty investment, financing with an eye to security markets rather than to markets for goods, we have a highly unstable element indeed in this particular segment of the economic structure. In view of these potential instabilities, the pouring of resources into this field was a particularly significant feature of the expansion of 1922-29.

It is not difficult to point to post-war tendencies in the field of production which, surveyed with the advantages of hind-sight, appear to have contained the seeds of trouble. The truth is that, in large degree, we lack standards based on comprehensive knowledge of economic processes by which we might detect such tendencies before trouble is precipitated. Even after the event we cannot definitely affirm that, with reference to the state of our industrial development and the character of our distributive processes, too large a proportion of our productive resources was being devoted, prior to 1929, to the production of durable goods in general, and of capital equipment in particular. But there is strong indication that this was so.

Trade Movements and the Balance of International Payments. Among the factors shaping the economic development of the United States during the present century, those growing out of our international economic relations have increased in relative importance at a rapid rate. The initial stimulus of new world possessions and of wider outlook given by the Spanish War was reënforced by growing economic power and the search for wider markets during the next decade and a half. In the years following 1914 a second and greater stimulus carried us full into the broad stream of international economic activity. The strength of the bonds which tie us to the world economy was increased many-fold. Financially and commercially the economy of the United States became an integral part of the world structure.

During the period 1901-1913 there was a substantial balance of merchandise exports over imports, but imports were growing at a more rapid pace than exports. Crude materials, foodstuffs and semi-manufactured goods were the import groups which were increasing most rapidly. The lag of exports behind imports, in this pre-war advance, was due entirely to declines in the exports of crude and manufactured foodstuffs. Exports of semi-manufactured and finished goods were increasing at notably high rates. Our international economic function was definitely shifting, as the importance of our manufacturing industries increased, and as our food-exporting industries lost place.

After the war-time revolution in our trade and financial relations with the rest of the world, quite different tendencies prevailed. Between 1922 and 1929 the physical volume of exports increased at a rate well above that at which domestic production was advancing (the rate of growth of exports, by volume, was 6.5 per cent a year), while the volume of imports grew at a rate approximating that of domestic production (the rate of growth of imports, by volume, was 3.9 per cent a year). Commodity exports played a more active part, absolutely and relatively, in stimulating domestic production during post-war years than they had done in pre-war years. To a greater extent than before the war semi-manufactured and manufactured goods dominated the post-war advance. Exports of finished manufactures were approximately doubled in aggregate value between 1922 and 1929. (These dominating export groups, it may be noted, consisted largely of goods subject to highly elastic demand—metals, machinery, vehicles, luxuries, durable consumption goods.) A considerable part of the stimulus to this great expansion came from a forced draught of heavy foreign lending, but the effect on the volume and on the character of domestic production was none the less real.

The increase in commodity exports was accompanied by a considerable decline in the average unit price of goods exported, a decline at an average annual rate of 2.2 per cent. The aggregate value of exports did not advance as rapidly as did export volume. This post-war decline in the unit price of exports is associated with a notable aftermath of the war, as regards the international economic relations of the United States. A comparison of export unit prices with import unit prices indicates that, on the average, the goods we exported increased in price between 1913 and 1921 by 28 per cent more than did the goods we imported. That is, the terms of exchange in world markets between the goods we sold and the goods we bought had altered to our material advantage during the interval between 1913 and 1921. This differential advantage persisted, though in lessened degree, during the several years following. Not until 1926 was it reversed. In 1929 the margin again moved to our advantage. (The standard of reference throughout is based on 1913 relations.)

There are some uncertainties attaching to the comparison of export and import prices, but the general situation is clear. After the immediate post-war disturbances had ended, manufacturing nations in general enjoyed an advantage in their price relations with raw-material producing areas. It was a deceptive and temporary advantage in some respects, since it served to reduce the buying power of these raw-material producing areas, but as long as the flow of goods could be maintained the advantage persisted. We kept up the outward flow of goods, and indeed increased it, by means of heavy foreign loans. These loans facilitated foreign sales at favorable prices, to the distinct profit of exporting manufacturers. The steady decline in export prices, relatively to import prices, served to reduce the price advantage toward the end of the post-war period under survey, while at the same time our campaign of foreign lending ran into difficulties of its own. While the advantage persisted, and while sales kept up, the situation was a happy one for the average American exporter. But it did not possess the characteristics of permanence.

As regards the general balance of international payments there are certain points of contrast between pre-war and post-war periods. The following tabular summary reveals these differences.

TABLE 213

BALANCES OF INTERNATIONAL PAYMENTS OF THE UNITED STATES, 1896-1914, 1922-1929

Average Annual Balances of Credits and Debits for Four Major Classes of Transactions [a]

Class of transaction	Average annual balance, in millions of dollars			
	1896-1914		1922-1929	
	Credit	Debit	Credit	Debit
Goods and services, net............	+254		+150	
Payment on debts, net.............		−310	+339	
Net capital movement.............	+ 53			−451
Net movement of currency and gold		− 9		− 46
Correction for net discrepancy.......	+ 12		+ 8	

[a] See footnote to Table 187, p. 472, for an explanation of the signs defining the credit and debit character of the items in this table.

There are two major differences between these periods. Payment on debts, a debit item of 310 millions annually in the earlier period, was a credit item of 339 millions in the post-war period. The net capital movement, which was inward at the rate of 53 millions a year between 1896 and 1914, was an outward flow averaging 451 millions a year in the later period. This last item was almost enough in itself to cover the debt payments due us, and to pay for the export balance of goods and services. If it was a forced draught that kept up our expanding volume of exports during this period, this was the form that the draught took.

The Growth of Capital and Credit. No generation more than ours has devoted itself to the accumulation of capital funds. The mechanism of investment experienced a mushroom growth in the years following the war, and an elaborate structure, permeating every corner of the country, was developed. The rapid growth of insurance, the increased saving to be expected as a result of greater earnings and expanding profits, the steady impetus to the ploughing back of earnings which derives from the corporate mechanism were supplemented by an influx of funds from individuals who were seeking not so much future incomes as prompt enhancement of capital values. A speculative fervor accentuated the pressure toward increased savings which is a continuing feature of the economic organization and of the social attitudes which now prevail.

Evidence, on the physical side, of the force of this development between 1922 and 1929 has already been discussed. Year by year, a steadily increasing proportion of our current productive power was being devoted to the construction of capital equipment of all sorts. The annual output of such goods increased at the rapid rate of 6.4 per cent a year, a rate materially greater than that for consumption goods. The survey of changes in capital funds substantiates this evidence.

Annual additions to capital funds in the form of proceeds from new capital flotations advanced rapidly. Each year from four to seven and one-half billions of dollars of new funds were received from this source alone. The reduction of the gross debt of the Federal government contributed to this development by adding some billions of dollars to the new funds available for investment between 1922 and 1929.[1] Obligations arising out of the consumptive expenditures of the war years were thus made the vehicle for real, though forced, saving in subsequent years. Forces working toward saving and capital accumulation during these years were reënforced by this debt retirement policy of the central government. From another source, annual corporate savings through additions to surplus, from one to three billions of dollars were annually added to the capital funds available to the business community. Here is the financial side of the rapid increase in the construction of capital equipment already noted.

These additions, and others not specifically mentioned, led to a steady increase in the total supply of invested funds. Aggregate capital funds constitute, of course, a very large sum, much more stable in its changes than are the annual increments. Corporate capital funds alone, we have estimated, increased from approximately 184 billions of dollars in 1922 to 228 billions of dollars in 1929, an increase averaging 3.1 per cent a year. If we recall that the popula-

[1] The indebtedness of the Federal government was reduced by about six billions of dollars between 1922 and 1929, but some of the funds thus made available for investment would undoubtedly have been saved had taxes, rather than debt, been reduced.

tion of the country was increasing during this period at a rate of but 1.4 per cent a year, the significance of this advance may be more readily appreciated. As regards both rapidity of growth and magnitude of the sums involved, this expansion of capital funds probably exceeded that recorded during any similar period of our history.

The growth of capital funds had important consequences for the economic system as a whole. It meant a tremendous power of absorption in the securities markets, a buying power which helped to maintain an upward swing in security prices for an exceptionally long period. It facilitated the improvement of the mechanical equipment of American industry, an improvement which went forward at a very rapid rate and which was a major factor in the great increase in the productivity of manufacturing labor during post-war years. In thus facilitating mechanical improvement, the accumulation of new capital was a factor in the problem of technological unemployment. Taken in conjunction with the pronounced rise in popularity of common stocks, as against bonds, the existence of an ample supply of capital funds not only served to provide corporations with the means of improving their mechanical equipment but placed them in relatively stronger financial position by permitting substitution of lower yield obligations for higher, and by facilitating the raising of capital by stock rather than by bond issues. And, not least important, the availability and cheapness of investment funds permitted, if it did not stimulate, a change in the relations between business and banking. There was a tendency, on the part of business, to finance current operations out of investment funds.[1] Commercial credit supplied directly by banks to business played a less important rôle in business operations. One result of this was a decline in the effectiveness of the control which banking interests could exercise over business.

Some of these relationships are, of course, circular. Thus, ample capital enhances the productivity of industry; the productivity of industry conduces to saving, and hence to the accumulation of new supplies of capital. But, considering this as an independent element, the existence of ample supplies of capital explains some of the distinctive characteristics of the post-war economic era in the United States.

[1] The reverse of this, a tendency to utilize short-term funds for investment purposes, affected certain elements of the credit structure.

That mixture of short- and long-term funds which is represented by the loans and investments of banks increased between 1922 and 1929 at a cumulative rate of 5.6 per cent a year, appreciably higher than the rate of increase of capital funds. This expansion, apparently a definitely inflationary movement, exceeded the rate of growth of production and the rate of increase of trade. The grand volume of bank credit was made up, however, of two elements, changing at quite different rates between 1922 and 1929. Credit which had an obvious and direct relation to the market for securities (investments, and loans on securities) increased by 7.9 per cent a year during this period, while 'all other loans', representing, in the main, credit used for commercial purposes, increased in volume by 3.2 per cent a year. Less exact but acceptable data from another source indicate that the aggregate amount of urban realty mortgages increased at an average rate of 12.5 per cent a year between 1922 and 1929.

The story of credit expansion during this period is, then, a record of expansion along sharply delimited lines. Credit was utilized by those to whom it was available in such a way as to enhance values in two major markets—markets for securities and for urban realty. If the excess buying power resulting from the relatively rapid growth of total bank credit affected commodity markets in general, the effect was to maintain rather than to advance prices. There is some indication, as we have seen, that the selling prices of manufactured goods did not decline during this period to a degree commensurate with the fall of production costs. Any inflationary effects felt in commodity markets were of this negative type.

Movements of Prices and Costs. The period 1922-1929 followed a fundamental shake-up in economic relations, a shake-up that profoundly modified the terms on which economic agents of all types disposed of their products and their services in the market-place. These modifications, as well as the tendencies prevailing during the years immediately under review, concern us in this survey.

Far-reaching in its effects was the reversal which the recession of 1920-21 brought in the relations between the prices of raw materials, particularly industrial raw materials, and of the products of manufacture. The story of the years before the war in this country was a story of constantly cheapening manufactured goods. Refinement of technical methods, development of mass production, improvement of management were all tending to lower the prices paid by consumers for the services of fabricating agents. Raw materials as a class, on the other hand, were rising in value, relatively to manufactured goods. The margin of production was being pushed further out, and no widespread improvements of technique at all comparable to those so familiar in manufacturing had been developed. After 1913 a change in conditions occurred. Productive technique improved in the cultivation and extraction of raw products. Rich new territories were exploited, temporary war demands and a rapidly rising price level stimulated rapid expansion in the output of certain of these goods. The termination of the war checked these temporary demands. Perhaps more important, the world-wide deflation of prices found raw material producers unprepared for or unable to adapt themselves to a new order through prompt liquidation, readjustment of costs and adjustment of production to changed demand conditions.

The ending of the war demand and the deflation of prices struck manufacturing interests a sharp blow, just as it did raw material producers. Manufacturing producers, however, were able to liquidate more promptly and to adapt production schedules to marketing possibilities more readily. In some degree, also, manufacturing producers adjusted costs to the new price level. But, as we have seen in Chapter VIII, no thoroughgoing readjustment of costs was made. Labor costs remained at a level materially above that prevailing in 1913-14, and the costs of the services of management and ownership were high, and advancing. The effects of this realignment of economic agents and this reapportionment of purchasing power persisted, to color the economic record of the following decade. The advance in raw material prices between 1921 and 1929 and the relative decline in the prices of manufactured goods diminished the margin between them, but to the end a price advantage persisted for manufacturers. The events of 1929-32 gave another wrench to the price structure more violent, in many respects, than that of 1920-21. But these developments lie beyond our immediate interest.

This cleavage between the prices of industrial raw materials and of manufactured goods has affected economic processes throughout the world. With a limited number of exceptions, raw material producers in all parts of the world were in a position of marked economic weakness during the decade of the 'twenties. This weakness led to numerous ill-starred valorization efforts, impaired the purchasing power of colonial areas, clogged the flow of world trade and placed heavy strains upon the mechanism of international finance. The post-war economic difficulties of industrial areas were intensified by these conditions, though nominal price relations worked to their advantage.[1]

The story of the American farmer is a phase of the tale just told—steady pre-war improvement of status, war-time affluence, abrupt decline in 1920-21, followed by a decade of relatively subnormal purchasing power during which slow recovery failed to restore complete pre-war parity with other classes of producers. Low prices for his products brought depreciation of his capital assets, while the rising value of the monetary unit intensified the burden of his mortgage debt. The record of recovery between 1921 and 1929 must not be under-emphasized, however, for substantial gains were made. A continuation of the tendencies then prevailing would have raised the agricultural producer to his pre-war position in the economic world. But it is now history that these tendencies were rudely checked. The story of 1929-32 is, for the farmer, a repetition of that of 1920-21, except that the recent decline started from no such peak of well-being as had been attained before the earlier fall occurred.

The relations between the purchasing power trends of producers' goods and consumers' goods were identical in the pre-war and post-war periods. Producers' goods were declining slightly in purchasing power, consumers' goods were appreciating slightly. But the developments during the interregnum from 1914 to 1921 are here of particular importance. These developments intensified the effects of preceding trends, substantially cheapening producers' goods, materially enhancing the real values of consumers' goods. So the situation stood in 1922. The succeeding decline in the real per-unit values of producers' goods and the accompanying rise in the real values of consumers' goods tended to widen the margin existing in 1922. The widening was slight; what is significant is the absence of any tendency toward a correction of the breach made in 1920-21.

These measurements indicate that the prices paid by the community for the services of fabricating agents were high after the events of 1920-21, and remained at a high level during the ensuing

[1] See Gustav Cassel, "Disturbances in the World Economy Owing to Relative Changes in Prices", *Skandinaviska Kreditaktiebolaget,* July, 1931, for an effective statement on this subject.

years. There is definite evidence to substantiate this. If we take 1914 as a standard of reference, and if we measure changes in dollars of constant purchasing power, at wholesale, we find that labor costs, per unit of manufactured product, were, in 1921, 38 per cent above the level of the base year (1914), and, in 1923, 27 per cent above that base. These costs declined thereafter, with advancing productivity, but in 1929 remained 15 per cent above the base year level. Similarly measured, overhead charges plus profits, per unit of manufactured product, were, in 1921, 10 per cent greater than in 1914 and, in 1923, 20 per cent greater. By 1929 these charges were 32 per cent above the 1914 level. (The fact that 1914 was a year of depression would serve to increase the value of this index in a subsequent year of prosperity.) The pronounced pre-war tendency toward declining fabrication costs was sharply reversed by the upheaval of 1920-21, and had not definitely reasserted itself, as regards total fabrication costs (including profits), between 1923 and 1929. Over a considerable area of manufacturing activity, indeed, profits per unit of product actually advanced during the period of expansion preceding the 1929 break. These relatively high costs of the services of agents of fabrication mean, of course, that industrial wage-earners, entrepreneurs and others drawing incomes from manufacturing industries were in positions of relative advantage during these years. Urban and financial prosperity was a dominant feature of the period.

The relations among elements of the post-war price structure were in many respects unlike those of pre-war days. In the United States, at least, the post-war economy functioned during the decade of the 'twenties on the basis of a new division of economic elements. On the one side there existed low prices for the materials of fabrication, and relatively low incomes and purchasing power among farmers and raw material producers generally; [1] on the other, a high cost of living, high prices for manufactured goods (notably those intended for consumption), high industrial wages, high profits and industrial prosperity. The high cost of fabrication, the high prices of manufactured goods and the relatively high cost of living were, in some degree, necessary consequences of the general

[1] For most raw materials, such conditions affected producers the world over. We should note, co-existing with these conditions, the continual necessity of borrowing on the part of important raw-material producing areas, a necessity due, in general, to the stage of economic development attained, and not arising directly out of the post-war situation.

acceptance of the principle of high wages and the recognition of the necessity of protecting workers against industrial hazards. This brought desirable social progress in certain directions. The consequences for other economic elements—for the agricultural producer, for the producer of materials in the non-industrialized corners of the world, for lower-grade salaried workers—have not yet been fully explored. It is certain that no permanent adjustment to the new relations among economic elements was secured during the post-war expansion.

In contrast to the apparently favorable price situation on the operating side, for manufacturing industries generally, we have noted the persistence during the period from 1922 to 1929 of relatively high costs of capital equipment. In relation to a pre-war standard, prices of goods intended for use in such equipment remained above the general level. Moreover, construction charges were high. We come to the end of the period in 1929 with a very large volume of new capital equipment of all sorts, much of it constructed under conditions of exceptionally high cost. The full weight of this burden was not felt while activity remained at high levels, but in the years which followed these capitalized costs became a major factor in the problem of readjustment.

Most of the price shifts we have discussed occurred quite sharply during the recession of 1920-21. It is a nice question as to how and why working economic relations were restored and the flow of goods to consumers was resumed so promptly after this recession, with the purchasing power of raw material producers so low and with the prices of consumers' goods at such relatively high levels. The solution of the problem at that time was undoubtedly facilitated by an extraordinary and unprecedented increase in industrial productivity —an advance of 13.6 per cent in output per wage-earner between 1921 and 1923, on top of an increase of 2.9 per cent between 1919 and 1921. The aggregate purchasing power of agricultural producers and of producers of certain other raw materials remained low, but this remarkable gain in industrial productivity, combined with the position of marked price advantage enjoyed by manufacturing producers after 1921, permitted a great advance in the aggregate purchasing power of industrial wage-earners and of other groups drawing their incomes from manufacturing industries. The increased purchasing power of these groups, the stimulus of rapid expansion in the construction industries, and the opening up of new foreign markets more than compensated, at the time, for the low purchasing power of agricultural producers. These conditions permitted the free flow of goods to consumers, even though such goods were relatively high-priced.

The eight years following witnessed some amelioration of the inequalities so conspicuous in 1921. The impact of a new recession in 1929 re-opened many of the old cleavages and raised again many of the problems which the first post-war recession had presented. The nature of the settlement now to be made remains to be determined.

Apart from group changes and structural price shifts, certain more general aspects of the price movements of recent years have been dealt with in the preceding pages. Some significance has been attached to evidences of increasing stability of the individual elements of the price system. There was a persistent decline in the degree of variation of prices, a decline with reference not only to the standards of the disturbed war years, but also as compared with conditions prevailing before the war. There are some reasons for thinking that this decline reflects the growth of control, and indicates a reduction in the sensitivity of prices to changes in market conditions. In the system of prices at large, of course, the flexibility that perfect competitive conditions might give has never existed. It is probable that the degree of flexibility has been declining. The extending sphere of influence of public utilities, with regulated rates; the crystallization of wage rates under collective bargaining; the growing importance of trade associations and of other types of collective agreement among producers (mergers, cartels, export associations); the packaging and trade-marking of goods—all these tend in some degree to change the character of price movements, and to lessen their fluctuations. Whether this tendency toward stability marks the loss of a desirable sensitivity, whether that nice coördination of economic processes which unrestrained competition and price freedom are designed to provide is prevented through price rigidity, we cannot now say. But the available evidence indicates that some such loss of elasticity in the price system may have occurred during the years preceding the current depression.

There is one aspect of this matter which bears upon the course and character of price changes during the recession which began in 1929, in comparison with that of 1920-21. In May, 1920, commodity prices started downward after a sharp eleven-months' advance which had carried the general level up 23 per cent, and after a five-year advance amounting to 142 per cent. The level from which the decline started was not one which bore any of the aspects of permanence. As was noted in an earlier section, the relations among different elements of the price structure which existed in May, 1920, had prevailed for only a short time. They did not represent a consolidated position. Few long-term commitments had been made upon the basis of the 1920 price level. As a result, barriers to liquidation were relatively weak. Within eleven months the index of average prices dropped 44 per cent, at an average rate of 5.1 per cent a month. A violent price recession was concentrated within a period of less than a year.

Sharply different was the creeping, persistent illness which began in July of 1929. During eight years of but slight change in the general price level that consolidation of position which was absent in 1920 had been effected. New price relations had been established during these years, new wage policies had been accepted, enduring commitments had been made, and a sense of the permanence of the existing level of commodity values had been built up. A great volume of debts—mortgages, insurance claims, obligations of all sorts—had been contracted. All these conditions constituted barriers to a downward readjustment of commodity values. These barriers were particularly strong in industries with high overhead costs or with heavy labor charges. The relative slowness of the ensuing decline—1.2 per cent a month to June, 1932, as against 5.1 per cent during the stage of sharp liquidation in 1920-21—reflects in considerable part the continuing presence of obstacles to liquidation which did not exist in comparable degree at the time of the earlier break.

The slow secular inflation which helped to provide the setting for business during the two decades preceding the war was stimulated during the war years, and reached its peak in 1920. During the following decade the net movement was a declining one. We may not now assert that a long period of declining prices lies before us, for a reversal of trend may occur. But until evidence of such a reversal appears we must proceed on the assumption that a tendency toward secular price deflation has played a part in economic processes since 1920.

Long-term price trends are manifest to us in their effects on the cyclical swings of prices. A secular advance, as we have seen, expresses itself in prolonged periods of cyclical price rise, curtailed periods of cyclical decline, while a falling price level is manifest in shortened periods of cyclical rise, extended periods of cyclical decline. Such a secular trend has an important bearing on the recurring problems of readjustment which accompany the uneven cyclical movements of prices, particularly on the problem of readjusting the prices of manufactured goods to a changed general level. In general, whatever the direction of the trend, liquidation during cyclical price recessions is most painful and most tardy among manufactured goods, especially among manufactured consumers' goods. Relatively fixed costs and established prices prevail in the production and sale of these goods. When the trend is a rising one, the persistent, underlying force of the long-term advance in the price level operates to stimulate recovery, after depression, among raw materials, producers' goods and those other groups which are most sensitive to changes in monetary conditions. Some liquidation among fabricated goods there must be at such times, but the upward push of prices, affecting most immediately the commodity groups which suffer most severely in the cyclical drop, shortens and softens the downward revision of values and costs among the tardy elements of the price system. Under these conditions an early restoration of working relations among the laggard groups and the more sensitive commodities is facilitated.

A declining price trend, on the other hand, intensifies all the difficulties of readjustment. Prices of commodities among the groups which are most sensitive to the forces of cyclical recession are further depressed through the persistent push of the long-term factor. Pressure toward liquidation among manufactured goods persists, in aggravated form.

Here, perhaps, is a partial explanation of some of the discrepancies among price groups which persisted throughout the decade of the 'twenties, as well as of the difficulties which ensued. The buoyant stimulus of cheapening money has not been present to speed readjustment and to shorten the period and curtail the degree of liquidation enforced upon manufactured goods. The secular force of changing monetary values has tended to push down the prices of raw materials and of producers' goods, leaving upon manufacturers a weightier burden of readjustment than was theirs in happier times of rising prices. With the heavy investment in capital equipment characteristic of the present age and the great importance of overhead costs in the typical modern industry, the stresses of readjustment necessitated by a protracted period of falling prices might be expected to be more painful and prolonged than in any preceding period of falling prices. Some of these strains we are at present experiencing.

Changes in the Aggregate Purchasing Power of Producing Groups. In defining the tendencies of a period, as regards the flow of physical goods, it is not enough to measure changes in the volume of goods produced by various economic groups—by farmers, by producers of raw mineral products, by agents of fabrication. The flow of physical goods to each of these producing groups, in return for its physical contribution, constitutes the other and equally essential half of the story. Unfortunately, we do not have records which permit us to measure directly the number of physical units of goods of all sorts received by farmers, by industrial workers and by other producing groups in exchange for their products. It has been necessary to approach the problem indirectly. From statistics of physical output of goods of a given type, and from records of the change, between stated dates, in the per-unit purchasing power of this output, it is possible to approximate the change in the purchasing power of aggregate output. Variations in this aggregate purchasing power may be taken to measure changes in the volume of physical goods received by a given producing group.

Two points require emphasis. We have sought to measure *changes* in aggregate purchasing power between stated dates, or over a given period. No comparison, in absolute terms, of the aggregate purchasing power of different groups has been attempted. Secondly, a change in the aggregate purchasing power of a given group would accurately define the change in the physical income of that group only if the money income of the group were spent for goods in terms of which per-unit purchasing power is measured. It is not possible to measure changes in per-unit purchasing power with precision for all the groups here studied. The derived measurements define general tendencies, however, and it is with these that we are now concerned.

Between 1922 and 1929 the physical volume of production in the United States (excluding construction) increased at a rate of 3.8 per cent a year. The total flow of goods produced was apportioned among many groups. We deal here with only three.

The stream of goods going to producers of raw farm products and of raw mineral products increased in volume by approximately two per cent a year over this period, while that going to agents of fabrication increased by some five per cent a year. The gain was general, but the advance was far more rapid for manufacturing groups than for the other two. These movements differ somewhat from those of the pre-war era. Out of a stream of goods increasing at a rate of 3.1 per cent a year between 1901 and 1913, the portion going to producers of raw farm products, as a group, increased by slightly more than two per cent a year, that going to producers of raw mineral products increased by about four per cent a year, while that going to agents of fabrication increased by approximately three per cent a year. Manufacturing groups enjoyed no such relative advantage as in the later period.

The rate of change in the aggregate purchasing power of a given group of producers may differ from the rate of change in the physical volume of production of the economic system as a whole because the output of that group is changing at a rate different from that prevailing in the economy as a whole, or because the prices of its products are rising or falling with reference to the prices of the goods bought by the group. The gain in aggregate purchasing power of farmers between 1922 and 1929 reflected favorable price movements as well as increased physical contribution. The same favorable conditions swelled the purchasing power of agents of fabrication. Producers of raw mineral products increased their physical contribution materially, but the declining per-unit purchasing power of their products reduced the rate of gain in command over goods.

We are able to break the group 'agents of fabrication' into two sub-divisions—wage-earners, and a residual group including salaried employees, owners and creditors. There was a marked difference between the rates of gain of these two groups during this period. The aggregate command over goods exercised by manufacturing labor increased at a rate of 3.1 per cent a year between 1922 and 1929; that of 'ownership and management' increased by 7.3 per cent a year. (For both groups, purchasing power is measured in terms of wholesale prices.) The difference here is attributable, primarily, to differing rates of change in the real rewards of the two groups for their respective contributions to each unit of manufactured goods produced. The reward of labor for its contribution to each unit (i.e., labor cost per unit of goods produced, in dollars of constant purchasing power) was declining, while the rewards of 'ownership and management' (i.e., overhead costs plus profits, in dollars of constant purchasing power) were increasing between 1922 and 1929. These differences between post-war tendencies stand in contrast to the pre-war record. Aggregate real rewards increased at about the same rate for these two groups between 1901 and 1913.

These changes should be followed over a longer period, if we are to have a just conception of the relations prevailing in 1929. We may take 1914 as a starting point, and measure, not annual rates of change, but net changes over the fifteen years from 1914 to 1929. In 1929 the aggregate physical volume of production (excluding construction) was approximately 61 per cent greater than in 1914. The volume of goods that could be bought by producers of raw farm products, under the existing price and production conditions, was from 10 to 20 per cent greater in 1929 than in 1914.[1] Though agricultural output was greater in 1929 than in 1914 by about 25 per cent, a loss in per-unit purchasing power prevented an equal increase in the aggregate volume of goods commanded in exchange. For producers of raw mineral products, aggregate command over goods, at wholesale, was approximately doubled between 1914 and 1929, while the physical income of agents of fabrication, similarly measured, increased by about 130 per cent over the same period. Substantial increases in the output of the two latter groups combined with favorable price movements to yield these gains in aggregate purchasing power. There is a wide margin between the 10 to 20 per cent increase in the aggregate physical income of farmers, over this fifteen-year period, and the gains of 100 per cent and more recorded for the other two groups.

Among agents of fabrication the gain was greater for the composite group of salaried workers, owners and creditors than it was for wage-earners. The total physical income of manufacturing labor increased between 1914 and 1929 by from 75 to 100 per cent, while 'ownership and management' gained by from 110 to 150 per cent.[2]

[1] The figure is 10, if purchasing power be measured in terms of the goods farmers buy, 21 if measured in terms of wholesale prices.

[2] The first figure cited, in each case, measures the gain when purchasing power is measured with reference to the cost of living index. The second figure measures the gain when purchasing power is measured in terms of wholesale prices. The latter is not an appropriate standard, but its use is desirable in certain cases when mutually consistent and comparable results for different groups are required.

A more detailed explanation of these figures and a statement concerning their limitations are given in Chapter IX.

No feature of the economic changes of the period which spans the war and the following decade is more striking than these gains of agents of fabrication, notably of the group we have designated 'ownership and management'. Elsewhere we have discussed the price and cost movements which worked to their advantage. Changes in aggregate physical income of the type just defined measure the ultimate gains to which swelling output and favorable price changes both contributed. Together, they served substantially to augment the aggregate real rewards of manufacturing workers and of the owners of manufacturing enterprises.[1]

Aggregate Contributions in Relation to Aggregate Rewards of Economic Classes. In appraising economic changes over a period we should set against against the aggregate purchasing power, that is, the *rewards,* of different groups data relating to aggregate output, that is, to the *contributions,* of the same groups. If, between two dates, the output of a given group increases by more than the volume of physical goods commanded in exchange (the physical income) there is, presumably, a social gain. This change might be due to falling production costs, or to price movements unfavorable to the group in question. The statistical record, by itself, furnishes no evidence as to the reasons for the change, nor as to whether the consequences are painful, or the reverse, for the group concerned. But the comparison of changes in physical output with changes in physical income provides a ratio of considerable social significance.

Light is thrown on one striking pre-war tendency by a comparison of these changes, as they affected manufacturing industries. For all agents of fabrication there was an increase of approximately 95 per cent in total production between 1899 and 1914.[2] During the same fifteen-year period the total purchasing power of

[1] These statements are to be interpreted with reference to the several qualifications previously noted. The category 'ownership and management' includes various heterogeneous items which may have been subject to quite unequal changes between 1914 and 1929. Again, the first of these years was marked by business depression, while 1929 was a year of prosperity. These conditions would directly effect volume of output and profits, both of which are important elements in this comparison. Differences due to cyclical variations, however, would not account for the pronounced changes cited. A comparison of 1927 with 1914, both years of business depression, reveals differences of the same general order, for manufacturing labor. For 'ownership and management' the gain in total physical income between 1914 and 1927 lay somewhere between 75 and 110 per cent.

[2] This is the revised figure, corrected to take account of the diversification of manufacturing production during this period.

these producers, measured with reference to changes in the cost of living, increased by about 50 per cent. The 1914 index of 'contributions' (on the 1899 base) exceeded the index of 'rewards' by approximately 29 per cent. For manufacturing labor the corresponding figure was 23 per cent, while for 'ownership and management' in manufacturing industries aggregate 'contributions' in 1914 exceeded aggregate 'rewards' (measured by index numbers on the 1899 base) by 33 per cent. The increases in the physical output of these agents of fabrication, between 1899 and 1914, were materially greater than the increases in the physical goods received in return. There was a social gain (reflected in the lower real per-unit values of manufactured goods) from the services of these producers over this period.

The post-war record shows somewhat different movements. During the expansion from 1923 to 1929 there was an increase of approximately three per cent in the ratio of contributions to rewards, for all agents of fabrication. This conceals divergent tendencies among the two groups of fabricators. For wage-earners in manufacturing industries contributions in excess of withdrawals were piled up during this six-year period. The ratio increased by 16 per cent. But for the mixed group we have called 'ownership and management' the ratio declined by five per cent. The increase in aggregate physical output lagged behind the increase in aggregate physical reward. If we may interpret the ratio of output to rewards as an index of social gain or loss, we may say that there was an incremental social gain from the services of manufacturing wage-earners during this period, an incremental social loss from the services of owners and managers.[1]

But here again a longer view is needed if a true picture of the post-war situation is to be secured. Over the fifteen-year period from 1914 to 1929 the ratio of the aggregate contributions of all agents of fabrication to their aggregate rewards declined by five per cent. The increase in the physical income of this group exceeded the in-

[1] These gains and losses were 'incremental', since the data relate only to net additions to contributions and rewards, or net subtractions from them, during the period covered. In interpreting such figures account must be taken of conditions during the base year, which furnishes the standard of reference for all the measurements cited. It should be remembered, too, that figures covering the period 1923 to 1929 relate only to a period of expansion. For all groups, data for 1932 would differ materially from those for 1929.

No ethical judgment is implied in the use of the terms 'gain' and 'loss'.

crease in their physical output. This is in notable contrast to the record of 1899-1914, when an excess contribution of some 29 per cent was piled up by manufacturing producers. Breaking the group into its two components, we find that the ratio of contributions to rewards increased by about three per cent between 1914 and 1929 for manufacturing wage-earners, but declined by approximately 11 per cent for 'ownership and management'. These figures are to be compared, respectively, with advances of 23 and 33 per cent between 1899 and 1914.[1]

Data relating to various other groups of producers have been presented in earlier sections. For raw material producers an excess of rewards over contributions prior to 1913 was succeeded by a growth of contributions exceeding that of rewards, between 1913 and 1929. Sellers of producers' goods increased their contributions by more than the increase of their rewards during both periods. For sellers of consumers' goods, rewards increased more rapidly than contributions during the two periods. Producers of textile products increased their contributions, relatively to their rewards, during the first period, but between 1913 and 1929 the increase of contributions was 13 per cent less than the increase in their rewards.

The story, in detail, need not be repeated here. It is a record, in a word, of fairly substantial changes in the relations between the rewards and contributions of different producing groups, changes which were most pronounced for producers of manufactured goods. Here the persistent pre-war tendency toward an increasing social contribution on the part of this group was followed, after 1914, by a reversal, which increased the aggregate rewards of this group by an amount substantially in excess of the increase in their total physical contribution. For manufacturing labor the excess of rewards was steadily reduced (as a result of declining labor costs) after 1921, and was wiped out by 1929, but for ownership and management an excess of rewards over apparent physical contribution (as measured by index numbers on the 1914 base) persisted through 1929.

These, of course, were but a few of the many threads that interlaced to form the complex pattern of economic change during the years that concern us. Yet it has seemed well, in this summary, to refer to the reverse flow of physical goods, the flow of physical

[1] In defining rewards in this and in the preceding paragraphs of this section, purchasing power has been measured with reference to the cost of living index.

income which balances the flow of physical outgo, and to attempt to trace one or two of the major currents in this stream. In any realistic conception of economic equilibrium the relations between these flows must occupy a central place. Price and cost changes are significant because they define alterations in the balance between these flows. The extreme price changes of the war and immediate post-war eras were charged with tremendous human significance because of their bearing, active or passive, on these basic physical movements. These price changes, and accompanying changes in the balancing flows of physical goods, worked powerfully to shape the course of economic events during the era of post-war expansion.

Changes in Distributive Shares. We pass, finally, to the net effects of all these movements on certain distributive shares, to the changes in the ultimate returns to different income recipients. In so far as available data permit, we have followed the fortunes, between the turn of the century and the outbreak of the war, and during the period of post-war prosperity, of three or four major income groups. The earlier period, we have seen, was marked by modest gains in the real earnings, per capita, of all employed workers (a gain of 0.4 per cent a year), by a slight decline in the real earnings of manufacturing wage-earners (—0.1 per cent a year), a considerable decline in the real income of an average bondholder (—1.2 per cent a year), and a substantial though irregular advance (averaging 1.2 per cent a year) in the real income of the average stockholder. These income changes were accompanied by a decline at a rate of 0.8 per cent per year in the capital value of the bondholder's investment, and by an advance at a rate of 2.2 per cent per year in the capital value of the stockholder's investment (capital values being measured in terms of current dollars, in both cases).

Of a different order were the tendencies prevailing between 1922 and 1929. Starting from a relatively high level at the beginning of 1922, the general index of real wages advanced by 2.1 per cent a year during the eight years following. Among employees of manufacturing establishments, real wages per capita advanced by 1.4 per cent a year. Bondholders suffered a slight decline in real income (—0.1 per cent a year), while common stockholders gained in real income at a rate of 16.4 per cent a year. During this period the capital values of invested funds (in current dollars) increased at a rate of 1.9 per cent a year for bondholders, at a rate of 18.8 per cent a year for holders of common stocks.

The story that ends in 1929 is an unfinished one, of course, but the present survey is concerned only with the course of events up to that date. Not all income recipients have been brought into the brief summary of the preceding paragraphs, but those there cited played leading parts in the developments of the decade of the 'twenties. Employed labor improved a position already strong. (As an offsetting factor there was a considerable displacement of labor and a growing volume of unemployment during this period.) Bondholders maintained their positions, with a slight loss of current income and some gain in the capital values of invested funds. Stockholders gained at unprecedented rates, as regards both current income and capital values.

The expansion which dominated the course of economic events during the third decade of the twentieth century started against a background of violent and unbalanced change. The eight years preceding had witnessed the abnormal war-time development (abnormal because the productive and distributive changes and the allocation of investment funds during this period were not such as would be found in a normally functioning economy) and the abrupt reversal of tendencies and relations that took place in 1920 and 1921. On the physical side there existed, at the beginning of the post-war expansion, a definite building shortage and, probably, a deficiency of those types of capital equipment not required by the conditions of war-time demand. Partly because of the effect of the war and of domestic policy on the course of immigration, partly as a result of slowly-acting forces more fundamental in their origin, the factors affecting population growth had been changed. This change was to exert a far-reaching influence in the years succeeding. On the industrial side, the full effects of technical innovations and of a changing attitude toward the problems of production were beginning to be felt. A surge forward in productivity, probably exceeding in its intensity and rivaling in the scope and magnitude of its effects the advance which has given the label of 'industrial revolution' to the events of the late 18th and early 19th centuries in England, was under way. This movement, lowering costs and stimulating production, modifying the returns to producing groups, intensifying the ills of an old evil—unemployment, was to leave a deep impress on the years which followed.

During this period the working of the system of prices was conditioned by two major changes, one reflecting slowly-acting forces, the other an aftermath of the sudden shifts of the first post-war recession. The first of these, an intangible but probably a considerable factor in subsequent developments, was an apparent loss of flexibility in important elements of the price structure. Heavy investment in overhead, price regulation, monopolistic and semi-monopolistic control, trade agreements, changed distributive methods, emphasis on non-price factors in selling, extensive valorization efforts—these and other influences tended to render prices a less sensitive agency for the transmission of economic intelligence, and to make more difficult that prompt adaptation of individual economic elements to changes in other elements which is essential to the working of a competitive economy. What is especially significant about this tendency is that it accompanied changes which tied together even more intimately the individual elements of the general industrial structure. Just when greater complexity of the whole structure and increased interdependence of its component elements were making more imperative a delicate and continuing adjustment of working parts, the agency whose function it is to secure mutual adjustment and prompt adaptation was, it appears, becoming less sensitive to change and less efficient as an instrument of coördination.

The violent movements that accompanied the recession of 1920-21 had brought sharp alterations in the relations among economic elements, alterations of a magnitude that might normally have been expected as a result of years of gradual change. As an earthquake may elevate some areas and submerge others, so certain economic elements were suddenly lifted to positions of new power and influence, while others lost the gains of years. Whether these alterations were such as might later have occurred as a result of slow evolution is not now in question. What is here notable is that these pronounced shifts of economic relations occurred over a very short period, and that no enduring adaptation to them could be promptly effected. In this sense, then, they were unbalanced changes, and in this sense the expansion of 1922-29 started with an unstable foundation.

With such a background the striking advance of 1922-29 was begun. This advance, bounded at the one extreme by a movement which had profoundly modified pre-war relations among the elements of the economic system, ended, in 1929, with still more violent changes impending. The period between constitutes one of the most promising fields of study open to economists. If we are able properly to interpret this complex experience we may hope to determine whether anything approaching true economic equilibrium was achieved within the era bounded by the two great post-war recessions. We may hope, too, to determine more precisely the conditions that conduce to stable economic processes, and to define more accurately than is now possible the limits of tolerance of the existing order, in relation to the stresses and strains to which it is exposed. Both the good and the ill features of this economic experience will repay analysis and appraisal. The economic insecurity, the marked inequalities of distribution, the collapse that crowned the expansion we must learn to avoid. But the period brought also increasing productivity, an expanding volume of production, an advance in the real rewards of the average man—desirable objectives all, under any economic system. A fruitful lesson concerning the attainment of these objectives is to be learned from the experiences of the last decade, if we have the wit to profit by them.