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Business Cycles and the Depression of 1920-1.

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BUSINESS CYCLES AND THE DEPRESSION OF 1920-1.

> "We have just gone through a time of busy industry, and are come upon sorrow and ill fortune; but the same things have befallen us often within the knowledge of those now living. . . A period of bustle, or of gambling, cut short in a trice and turned into a period of suffering and loss, is a phenomenon so often recorded, that what is most to be noticed is that it should excite any wonder."—Dr. Hyde Clarke, "Physical Economy—a Preliminary Inquiry into the Physical Laws governing the Periods of Famines and Prices," 1847.

Another business cycle has about run its course. If one may hazard a guess based on previous experience and on a few current indices, we are somewhere near the middle of the business depression which is liquidating the artificial boom of the war and the post-Armistice period. As this is being written, in July, the "between seasons" month, normal midsummer dullness has aggravated the cyclical depression and the general tone of the business world has been not inaptly characterized as one of enthusiastic pessimism. Bad news is doubtless still in store for some trades; probably for business as a whole it may be next March before the worst is reached; and perhaps after that, recovery may be very gradual and halting. Yet fundamentally there is reason for confidence and courage. Indeed now almost for the first time, those who face facts squarely find solid ground for optimism. The gradual but substantial measure of liquidation already achieved, the increasing realization of the necessity of a restored economic equilibrium on the part of groups like the building trades which had long resisted the inevitable, the settlement of some major strikes and the avoidance of others, the improved transportation situation, the easing of money rates, the back-to-work movement in most European countries, and the improved political situation lead one to believe that we are already near the bottom and that the rest of the descent need not be so dangerously rapid as to result in a crash.

Perhaps there is a wider realization than ever before of the nature and cause of the present stagnation. But memories are short and historical perspective is still sadly lacking. Duringthe later years of the war, everybody knew the world would have to pay the usual price for the hectic prosperity which had no solid basis. But the reaction was expected to come immediately and when after a few months' hesitation, business began to pick up, the lessons of history were again promptly forgotten and the fall of 1919 saw an outbreak of speculation in business and stock market circles that for recklessness has had few parallels. It may therefore be worth while to sketch the history and present position of opinion on the subject of industrial fluctuations before undertaking a brief description of the course and significant features of the current depression.

Crises, as we now know them, are largely phenomena of the last century and a quarter, and of countries which have come under the sway of the factory and credit systems. "The first modern panic" is said to have been the severe one of 1793. True, there were serious commercial disturbances in 1720 (when the South Sea Bubble collapsed), 1763,1772-3, and 1783; and W. Stanley Jevons professed to find what were currently called "stock-jobbing" panics at regular intervals in the other decades of the eighteenth century, but on scanty evidence. The characteristic modern crisis does not appear until the nineteenth century. Its explanation early gave trouble to the economists and the literature of the subject is very extensive and highly controversial. Generally speaking, one may say that until recently the tendency was to regard crises as sudden catastrophes interrupting the "normal" course of business and to explain them by special causes or accidental happenings such as wars, crop failures, bad banking systems, inventions, changes in trade routes, tariff legislation, unsettling administration by your Roosevelt or my Lloyd George, or the failure of some conspicuous business establishment. Study was concentrated on the external and incidental features of each individual crisis and on the spectacular three or four weeks in which the "crash" occurred. To-day the theory of crises has been broadened into a theory of "business cycles," the crisis itself being regarded as simply the most dramatic and the briefest of the three phases of the cycle through which modern industry recurrently passes. Thanks to some inherent characteristic of our economic organization, business activity to-day presents the aspect of a wave-like motion, prosperity leading to a crisis, the crisis being followed by a depression, and depression ultimately giving way to prosperity. The student's task is therefore to analyse the complex processes of business life in order to discover why they inevitably work out a change from good times to bad and from bad times to good. Special factors must of course be taken into consideration but their influence will be found to be by way of complicating the process or furnishing the occasion rather than the cause.

Attention was first turned from the search for separate causes of each isolated crisis by the regularity with which crises have continued to run their course decade after decade in every highly industrialized nation. That regularity is indeed suspicious. In England, for example, and with some variations in France and Germany,we find crises in 1793, 1803, 1810, 1815, 1825, 1836-9, 1847, 1866, 1882, 1890, 1900, 1907, and 1914. In the United States, the corresponding dates are 1818, 1825, 1837, 1847, 1857, 1873, 1884, 1893, 1903, 1907, and 1914. A double pulsation seems apparent, the disturbances of 1818, 1837, 1873, 1893, and 1907 being especially severe. To economists of forty or fifty years ago the periodicity was striking and the usual claim of a ten or a ten and a half-year duration seemed to have an historical basis. This periodicity stimulated a number of investigators, including Dr. Hyde Clarke (as early as 1838), Sir William Herschel, John Mills, Poynting, J. T. Dawson, James Wilson, W. S. Jevons, and others, to search for a single persistent cause of all cycles. The work of Jevons[1] is well known. By a brilliant stretch of scientific imagination, he attributed the decennial recurrence of industrial crises to the variation of the sun-spots or rather, to be strictly fair to him, to meteorological variations depending upon cosmical conditions of which the sun-spot activity is only one index. Jevons, however, was misled by a mistaken calculation of meteorologists of the time, that the sun-spot cycle was 10.45 years in length—a duration which coincided almost perfectly with the 10.46 years which he had worked out as the average length of the thirteen economic cycles between 1721 and 1857. Unfortunately for his

[1]Jevons, *Investigations in Currency and Finance*, Chaps. 1, 6, 7 and 8.

theory, later investigations have definitely established the sun-spot cycle as 11.125 years. The exact relation of sun-spot activity to climate again is still the subject of controversy. Finally, more intensive study of earlier industrial fluctuations shows that Jevons somewhat exaggerated the measure of periodicity that did exist in earlier times, and our more recent experience has shown marked departures from the ten-year duration. Indeed the length of the most recent *normal* cycles seems to average seven or eight years. A recent writer suggests with some appearance of justice that a trade cycle inclines to be about either twice or three times a period of approximately three and a half years. Regularity is therefore far from perfect, though a comparatively high degree of periodicity is usually admitted.[2]

Realization of the above facts gradually dampened the enthusiasm of those who sought a uniform cause of cycles in physical or meteorological conditions and it has become the custom of the present generation to smile at Jevons and his sun-spots. Recently, however, there has been a revival of interest in this type of theory. In 1908, the younger Jevons published an article,[3] attempting in an ingenious way to revive his father's theory by making use of the results of later astronomical and meteorological investigations. More important is the work of Professor H. L. Moore of Columbia University.[4] A master of mathematics and statistical technique, Professor Moore uses the most refined methods of harmonic analysis to establish eight-year cycles with maxima approximately at 1882, 1890, 1898, 1906, 1914 in the annual rainfall of the Ohio Valley, in the May and June rainfall of the Dakotas, in the yield of wheat, oats and barley in the Dakotas, the United States, the United Kingdom and France, and in the production in the

[2]Professor Chapman suggests a resemblance to the oscillations of a pendulum when a kitten is playing with it.

[3]H. S. Jevons, *Trade Fluctuations and Solar Activity*, Contemporary Review, August, 1909.

[4]See his book, *Economic Cycles, their Law and Cause* (1914), and articles in the Quarterly Journal of Economics, February 1921, the Political Science Quarterly, June 1919, and the Journal of the Royal Statistical Society, May 1919, and May 1920.

United States of coal and iron and of raw materials of manufacture. He also finds that the eight-year cycle in the yield per acre of the crops tends to generate an eight-year cycle in the prices of the products and concludes that the law of the cycles of rainfall is the law of the cycles of crops and the law of economic cycles. Even to those for whom mathematics is not an unfathomable mystery, Moore's periodigrams may not be entirely convincing. The range and accuracy of our meteorological data are probably not sufficiently great nor their interpretation sufficiently uniform[1] to provide a convincing basis for what he has attempted to do. Fortunately much work is being done at the present moment in the United States, England, Sweden, Russia, Japan, India, and Canada in the collection of meteorological data and in the investigation of the precise relation between climate and agriculture. Doubtless much more will also be done in the application of harmonic analysis to our economic data and Moore's work may just mark the beginning of a fruitful type of investigation. Meanwhile with the scant data at his disposal he has made a strong case for believing that weather cycles are at least an important contributory cause of economic cycles.[2]

But even lacking a full comprehension of the influence on industrial fluctuations of physical factors of this sort, we can show that there is something in the nature of our complex business mechanism which of itself inevitably produces the rhythmic movement which we have discovered. This we propose to show by paraphrasing W. C. Mitchell's[3] analysis of a typical business cycle. The process to be described is so complex that in so condensed an exposition it is difficult to depart far from Mitchell's methods of analysis or even from his

[1]In regard to periodic oscillations of climate, for instance, the only cycle fairly well accepted by meteorologists is the Brückner 35-year cycle in temperature and rainfall.

[2]Contrast the able analysis by A. Platt Andrew in *Quarterly Journal of Economics*, August 1906, of the influence of the crops on business in America.

[3]See his masterly work on *Business Cycles* (1913). Among other works of importance (from most of which Mitchell has drawn in the building up of his eclectic theory) are the following: Beveridge, *Unem-*

phraseology. The broad underlying factors, it will readily be noted, are the extreme specialization characteristic of modern industry, the large-scale production carried on months ahead of demand and in anticipation of demand, the intricate interlocking of firms and places through the credit system, and the mob-mindedness of men.

Since it is necessary to dip into the cycle at some point, we may start with the revival of activity just after a depression. The period of stagnation has left us with a low level of prices, narrow margins of profit, liberal bank reserves, a conservative policy in capitalizing business enterprises and in granting credits, moderate stocks of goods on dealers' shelves, cautious buying on the part of consumers, and drastic reductions in the costs of doing business (because the management is striving to eliminate wastes, the workers are more efficient through fear of losing their jobs, and funds can be borrowed at low rates). For reasons to be explained later, these conditions are accompanied by an expansion in the physical volume of trade, slow at first but of cumulative force and frequently hastened by some propitious event such as a very favorable harvest (as in 1915), heavy purchases of supplies by governments, or a marked increase in export trade. This initial revival may at first be confined to a small group of industries. But, even if so, the active concerns must soon buy raw materials and current supplies from other firms, the latter from still others, and so on indefinitely. Meanwhile the larger volume of wages paid and profits earned brings an increase in family incomes and a consequent expansion of consumer's demand which also spreads out in ever widening circles. Retailers, wholesalers, manufacturers, importers and producers of raw materials find their trade growing, increase their purchases, pay out more money to employees and lenders, and thus

ployment; May, *Das Grundgesetz der Wirtschaftskrisen;* Aftalion, *Essai d'une Théorie des crises générales et périodiques;* Bouniatian, *Studien Zur Theorie und Geschichte der Wirtschaftskrisen;* Spiethoff, in *Schmoller's Jahrbuch für Gesetzgebung,* 1902, 1903 and 1909; Hull, *Industrial Depressions;* Lescure, *Des Crises générales et périodiques de surproduction;* Veblen, *Theory of Business Enterprise;* and Jones, *Economic Crises.* The writings of J. A. Hobson, Irving Fisher, T. N. Carver and W. Sombart also contain valuable suggestions.

stimulate afresh the demand for both producers' and consumers' goods. It is not long before this expansion of orders reaches back to the firms which gave the initial impetus to revival, and then the whole complicated series of reactions begins again at a higher pitch of intensity. The psychological factor has also been at work. Increasing business makes business men optimistic and this feeling not only justifies itself but heightens the forces which engendered it by making the public readier to buy with freedom.

But what has been happening to prices during this revival? Obviously, to bring out the increased production, prices must rise, and once started they rise rapidly, for, as we found out so clearly during the war, every advance in quotations puts pressure on the buyer to recoup himself by a similar rise in the prices of what he has to sell. But the price changes are far from uniform, and this irregularity is important for our story. For reasons that lie buried in technical differences in market organization and in relative demand for and supply of different classes of goods, retail prices always lag behind wholesale, staple consumers' goods behind staple producers' goods, finished products behind raw materials, and raw animal or farm or forest products behind minerals. More important perhaps, wages rise often more promptly but always in less degree than wholesale prices; discount rates (for short time loans) may rise more slowly or more rapidly than commodity prices; interest rates on long time loans always rise more slowly, especially at first, while the prices of stocks both precede and exceed the rise in the price of goods. The significant feature of these price changes is the failure of production costs to keep up with the prices of finished products. This coupled with the increasing volume of sales means larger profits for business men. Increased profits and the prevailing spirit of business optimism lead to a marked expansion of investments and the resulting heavy orders for equipment still further swell the volume of trade and drive prices upward. Finally, all these varied forces—augmented trade, rising prices, growing optimism, expanding profits, increased investment—act and react on each other with cumulative effect. The squirrel cage turns faster and ever faster.

On the surface at least there seems no reason why this process of enhancing prosperity should not continue indefinitely, and the business world acts on this assumption. Gradually, however, there accumulate stresses or strains within the delicately balanced system of business which ultimately undermine the conditions upon which prosperity rests. These stresses are of two chief types. In the first place, there is a gradual increase in the cost of doing business. Old contracts for buildings, supplies, officials, funds, etc., expire and have to be renewed at higher levels. Poorly located plants and antiquated equipment have to be conscripted for steady use, as so many times during the war boom. Labour costs increase because of higher standard rates (which can now be easily forced), heavy overtime payments, and decreasing efficiency thanks to the necessity of employing the least desirable workmen and the inability, when jobs are plentiful, of driving crews at top speed. Finally, raw materials continue to rise faster than manufacturers' selling prices and the press of business leads inevitably to numerous small wastes.

The second and perhaps more obvious strain is the accumulating tension in the investment and money markets. Funds for long time purposes fail to keep pace with the rapidly swelling demand, capital becomes scarce and dear. Short time funds show the same characteristics, for bank loans are limited by cash reserves. These high rates in the bond and money markets are unfavorable to the continuance of prosperity, because they reduce the prospective margins of profit and check the expansion of trade out of which prosperity developed. Either because borrowers conclude that the interest would eat up the profit or because lenders flatly refuse to extend further capital or credit, many projected undertakings have to be postponed or given up altogether. The check from this stress is especially severe on steel mills, foundries, machine shops, smelters, quarries, lumber mills, cement plants, construction companies and other firms which depend primarily upon the demand for industrial equipment. While they may be busy with old contracts, they face a serious decline in business in the near future because high money rates and high construction costs have deferred so many plans for extending old and erecting new plants.

The larger grows the inverted pyramid of prosperity, the more severe become these internal strains or stresses. The only salvation lies in a perpetual rise of prices which will postpone the evil day when costs catch up with profits. But, fortunately for the consumer, the rise in prices cannot go on forever. In some lines prices are fixed more or less rigidly by law, by public commissions, by long time contracts, by custom (note the five cent fare on street railways), or by business policy. There are other lines in which prices depend on weather risks and vary up or down with crop reports. In some industries the capacity for production has increased faster than demand for the product at the higher price. This type of maladjustment is a dominating influence in some cycles. Contracting firms, as we have found, are in special difficulties, and their difficulties react upon those from whom they buy materials and supplies. Thus as prosperity approaches its climax, a minority of business enterprises face the prospect of declining profit. This minority grows larger, the more intense prosperity becomes. A radical readjustment is only a matter of time.

But why, precisely, does trouble actually develop in the threatened group of industries? In default of special conditions which are sometimes important, the primary reason is doubt which the decline in profits arouses as to the security of outstanding credits. Business credit is based on the capitalized value of present and future profits. Now at the peak of prosperity the volume of such credit outstanding is based on the exaggerated expectations which prevail when the volume of trade is enormous, prices high, and business men optimistic. With rising interest rates and declining profits, creditors see their security melting away and begin at once to refuse renewals of old loans, probably also insist on repayment of outstanding accounts. Just as soon then as rates of profits cease to be as large as expected, the huge towering structure of business credit is undermined and a process of liquidation ensues. The acute stage of liquidation is what we mean by a crisis. It is characterized by a falling off in orders and a consequent contraction in trade, a rise in discount and interest rates, a fall in the price of commodities and of securities, reduced employment and extensive unemployment, an increasing number of business failures, and a general halting character to all business operations. It may be short and intense or long drawn out and less severe, but normally lasts only from one to three months—whereas the preceding period of prosperity is usually a matter of two to four or five years.

The crisis which is primarily an industrial phenomenon may degenerate into a financial panic. This usually happened in the United States before 1913, thanks chiefly to the antiquated National Banking System. If, when a crisis is impending, a conspicuous concern happens to be in an especially weak position, its bankruptcy may bring down a large number of other firms and spread unreasoning alarm among the business public. At such times the country's banks are suddenly forced to meet a double strain. Business men want sudden increases in their loans and the man in the street wants cash for his deposits. If the banks can meet both these demands without flinching, as they have been able to do in England, France and Canada, the alarm is quickly dispelled. But the old United States banking system, with its independent local banks, its lack of unity, and its scattered reserves, made such a bold policy impossible. Many solvent firms had to be refused loans at any price, cash payments had to be suspended in whole or in part, and, as a result, the usual incidents of a financial panic crowded one upon the other—a premium upon currency, hoarding of cash, use of unlawful substitutes for money, a sudden jump in interest rates, numerous bankruptcies, slow collections, dislocated exchange rates, serious unemployment, price declines, sacrifice sales, violent contraction in the volume of business, maximum expansion in bank-note circulation, frantic efforts to import gold, and frantic appeals to the Government for extraordinary aid. All these features were especially marked in 1907 when the failure of the Knickerbocker Trust Co. precipitated the panic in New York City.

But the panic, if it does occur, will not last long. After four or five weeks of financial storm, with or without a slight temporary revival of activity, a period of depression ensues, gradually spreading over the whole field of business and becoming more severe as it spreads. The reasons are not far to seek.

Unemployment and under-employment mean lowered family incomes and decreased consumers' demand. As a result producers' demand for raw materials and current supplies falls off. Investors' demand for construction work of all kinds shrinks still more rapidly. These several shrinkages in demand cause further discharges of employees and reduce consumers' demand once more. Thus the whole round begins again at higher speed. Competition for the declining volume of business brings lower prices. Each drop in prices facilitates or forces other price reductions, and this force also becomes cumulative. But these price declines, like the previous increases in the price level, are by no means regular. Goods sold by wholesalers fall in price faster than those sold at retail, producers' goods faster than consumers' goods, raw materials faster than manufactured goods, commodity prices more rapidly than wages and long-time interest rates, discount rates and stock prices to a greater degree than commodity prices. For business men the significant result of all these forces is the decline in present and prospective profits. This spreads an atmosphere of gloom among business men which deepens as it spreads, and still further aggravates the forces which engendered it.

In analysing the early stages of the cycle, we found forces at work in the period of prosperity which inevitably produced a crisis. Are there forces at work in the period of dullness which will automatically bring an end to depression? In the first place the costs of production are greatly lessened by depression. Prices of raw materials and of bank loans have fallen greatly. Labour is more efficient because men are anxious to hold their jobs, and overtime is seldom necessary. Managers are forced to economize and eliminate the small wastes. The water is squeezed out of inflated capitalizations. Rents are reduced and loans refunded at lower rates. Bad debts are charged off, property values written down, and in other ways supplementary costs are reduced. In the second place depression after a time leads to a material increase in the physical volume of trade. Old stocks are gradually exhausted. Clothing, furniture, and other moderately durable articles eventually wear out and must be replaced by current consumption. A larger population must be fed and clothed, new tastes appear, business men become less timid, and the demand for industrial equipment revives because bonds can be floated on especially good terms and the cost of construction is low. For all these reasons, and usually within one or two years after the initial collapse, the depression gives way to a revival of prosperity and the business cycle is complete.

So runs the story of a typical business cycle. What light, if any, does it throw on the present industrial situation?

Our last depression in Canada began with the breaking of the Western construction and real estate boom in the winter of 1913, was aggravated by the outbreak of the war, and continued until the miraculous grain crop of 1915 and the placing of large war orders by the Imperial and Dominion Governments, initiated a revival of prosperity in the autumn of 1915. With some slight reactions boom conditions persisted in Canada, as in most other countries, until the close of the war. The general features of this boom and its underlying causes in abnormal war demands, huge borrowings, and inflated currency, are well known. More striking and not so well understood is the secondary boom which followed the Armistice after a few intervening months of hesitancy and readjustment. Most people expected the fall in prices and the other incidents of crisis and depression to follow rapidly upon the heels of peace. But they had not realized that the shelves of the world were bare and that a large part of the world was hungry, scantily clad, poorly shod, and poorly housed. They had also something yet to learn of the mysterious workings of currency inflation and national borrowing. After an anxious winter, business commenced to pick up in April. As the wheels of industry began to turn faster and faster, the business world once again made the mistake that has been made in every period of boom. Men thought that they had at last surmounted economic laws and that this time an artificial boom would not have the usual results. The brakes were therefore thrown off and the machine was driven full steam ahead, regardless of possible consequences.

The most spectacular index of the reckless pace at which business was being driven was the rise in prices. In the last six months of 1919 prices rose more rapidly in Canada, as in most other countries, than in any similar period during the war, and the increase was added to a price level which was already considered to be at the limits of tolerance. It would be difficult to say whether the initial impetus came from Europe or from inflation of currency due to government borrowing, or from the increased domestic purchases by returned soldiers who in Canada at least had been liberally bonused out of Government funds secured by borrowing. Certain it is that the European factor soon became the dominant influence. After the Armistice Europe took an easy but short-sighted method of getting goods and paying debts. Instead of following the straight and narrow path of work, thrift, and taxation, the peoples of Europe set the printing presses to work to bridge the ever-broadening gap between public revenue and public expenditure. In Germany, for instance, paper money increased by over 50 per cent. in 1919, and again by nearly 60 per cent. in 1920. On Dec. 31, 1920, Reichsbank and war loan bank notes alone reached the incredible total of 80,838 millions of marks,—which in five franc notes of the size of one of our dollar bills would be sufficient to cover the old German Empire thirty layers deep. The same process went on to a greater or less extent in other countries, and was usually accompanied by a similar inflation of bank deposits. Currency depreciation and soaring price levels were the inevitable sequels. For a time the manufacture of money seemed to be Europe's most important industry. The goods which she failed to produce, the war-ridden Continent was buying in enormous quantities from every part of the world, but her purchases were being made *on credit.* Between January 1, 1919, and September 15, 1920, the United States alone, according to one estimate,[1] sold to Europe on "open account" not less than three and a half billion dollars' worth of goods. This is a net figure obtained after making proper allowance for Government advances to Europe of $2,820,000,000, a commodity trade balance in favour of the United States of $6,600,000,000, and the other relevant debt and credit entries in the balance sheet during the same period. The building up of this huge unfunded debt was apparently

[1]B. M. Anderson, in Chase Economic Bulletin, Oct. 5, 1920.

made possible by London assuming financial responsibility for the Continent and by American Banks providing the funds through the creation of new bank credit. Some of this bank credit was granted directly to European importers or to European importers on the guarantee of British Banks, but probably most of it was an indirect advance in the form of ordinary "line of credit" loans to American producers and exporters who had tied up their working capital in indefinite advances to European traders. Much the same thing was going on in England, in Canada, and in other countries. Detailed Canadian information is not easily accessible, but Canada's favorable balance of trade with all countries other than the United States, of over $1,100,000,000 in the fiscal years 1919 and 1920 may be taken as a rough index of our relations with Europe.

Meanwhile this apparently insatiable European demand was building up throughout the world a fictitious prosperity and laying the foundations for ultimate collapse. For one thing it drained the non-European markets of goods, and thus accentuated the influence of huge Government expenditures and the other forces which were already making for higher prices. More importantly, it encouraged the spirit of speculation which still further raised prices by creating artificial shortages and by raising exaggerated hopes of future price increases. The speculation in commodities, securities, and foreign exchange which began in the summer of 1919 has been described by a recent financial writer as nothing short of appalling. At the time the tendency was to attribute the rise in prices almost wholly to scanty output on the one hand and to lavish consumption on the other. There is no doubt that partly as a result of unusually high money incomes for some classes and partly as a reaction after the war tension, the spirit of extravagance did run wild. There was little or no haggling over prices when purchases were being made—though perchance much academic cursing afterwards—and high price rather than high quality was alleged to be the deciding consideration with the customer. As time went on, of course, high prices began to pinch and consumers had of necessity to reduce their expenditure. Real scarcity, either the result of short production or of Europe's abnormal demands, also played its important part, as we have seen. But there can be no doubt that, temporarily, speculation accentuated the real shortage in many lines. The high-priced products tempted to speculative holding and to overstocking on the part of middlemen in the expectation of still higher prices. The facts in regard to sugar are well known. The United States index number for the wholesale prices of lumber and building materials rose from 162 to 341 between April, 1919, and April, 1920, though there was really very little building. Raw cotton in the same period rose at New Orleans from 26¾ cents per lb. to 41½ cents, though the cotton crop was very large and the output of cloth was declining under the high prices of marketed textiles. Meanwhile, despite larger sales, stocks in the retail trade had been piling up on merchants' shelves, and in the first half of 1920 were 40 to 50 per cent. greater than in the corresponding period of the preceding year.[1] These few straws may be taken as indicative of the way in which, both as a result and as a cause of the rapidly mounting price level, there was piling up in the world's markets an unprecedented volume of products, unabsorbed by consumers at the high prices and for the most part "sequestered away by high-bidding operators in quest of still higher prices."

We have not the space necessary to follow in detail the development of the other phases of this post-war boom. Suffice it to say that as the year 1919 wore on to its close, the strains or stresses which we have found to be typical of the later stages of a normal boom began to make their appearance. Costs of production rose with startling rapidity. The increase in labour costs was great and rapid. The spring and summer of 1919 saw a very large increase in the number of persons on strike for increased wages, shorter hours, and union recognition. Shop discipline was difficult to maintain and efficiency was much below normal. In spite of the return of four million men from the army and navy to industry in the United States, there was a decline in the physical volume of production in 1919 as compared with 1918, estimated at 4 per

[1]Standard Daily Trade Service, July 18, 1921.

cent. by Prof. Stewart, at 5.5 per cent. by Prof. Day, and at 7.4 per cent. by Mr. B. M. Anderson. Canadian figures would show roughly the same conditions. Business managers themselves showed a similar decline in efficiency. They found it too easy to add increased costs to selling prices to be bothered much by small wastes. They were sometimes too easily persuaded to incur extravagant overhead expenses by persuasive promoters with 'ideas to sell"—witness the huge expenditures on long-run advertising by firms who were swayed by the argument that in view of the excess profits taxes a million dollars' worth of extra advertising could be obtained for an expenditure of that sum less the 30 or 40 per cent. which would otherwise have to go to the Government in taxes. Raw materials again, especially building materials, rose more rapidly than finished products. Between April, 1919, and April, 1920, bituminous coal at the pit's mouth in the Pittsburgh district, rose from $2.25 to $4.25, and by July the price had reached the impossible level of $10.00 per ton. As we shall find, the cost of money both for short and long term purposes also increased steadily.

As these various constituents of cost of production rose during the Fall of 1919 and the first half of 1920, the position of industrial enterprises became less and less sound. Especially was this true of industries like gold mining, railroading, and public utilities, whose prices were more or less fixed. Their difficulties multiplied rapidly during the early part of 1920. But even for the ordinary industry, costs began to creep up as rapidly as, or more rapidly than the prices of finished products, now at an intolerable level, could be raised, and the prospective margin of profit threatened to become too low to support the superstructure of credit which had been built up. In some booms, as we have seen, maladjusted production, and especially, over-expansion of the equipment industries, may play a dominant part. Thus over-building of railways was the primary cause of the English crisis of 1847 and the American crisis of 1873. In the most recent boom this factor played a less important part. True there was a fundamental disturbance in the world's industrial equilibrium, when Europe almost ceased to be a producer of manufactured goods and began to purchase such goods in enormous volume from North America. During the war, also, a tremendous amount of capital went literally "up in smoke" and much was spent on munition plants and aircraft factories, demand for whose products ceased with the war's close. But the burden of these wastes of capital was borne chiefly by governments. Business men made provision for the risks by charging higher prices and building up large reserves. More serious in its effects was the elaborate shipbuilding campaign undertaken by the American, Canadian and certain other Governments after the Armistice. The over-building which resulted may be indicated by a single illustration. The United States' merchant marine built at a cost of over three and a half billion dollars has now an estimated market value of about one billion dollars. Much of the difference is sheer irrecoverable waste. Finally the epidemic of extravagance to which we have already referred resulted in over-expansion in a number of luxury industries such as those producing automobiles and automobile accessories. On the whole, however, the war period was one of restriction in construction and equipment; and there was, and still is, a shortage of houses, business blocks, cars, locomotives, and other capital goods. The present depression is, therefore, the result not so much of an industrial reaction as of a price collapse following a period of unprecedented credit inflation.

Meanwhile as costs and prices rose and the markets witnessed wave after wave of speculative activity, there was a growing tension in the investment and money markets. The strain on the banking systems of the leading countries soon became terrific. In a single year, loans of the chief banks to business men increased by about 25 per cent. in the United States, 41 per cent. in England, and 32 per cent. in Canada. This huge expansion was the result of the credits granted to Europe and of the rising prices and speculative activity which compelled all business men to borrow more largely in order to carry their inventories. While current loans were thus increasing, stock market speculation required a heavy volume of loans at call, the United States was loaning gold in large amounts to the non-European world, and the cash reserve ratios of the different banking systems tended steadily to fall.

It was in the call loan market that trouble first developed. During the Summer of 1919 rates had fluctuated widely, but it was not until November that the strain which speculative activity was exerting on the banking position forced the ruling rate to around 15 or 20 per cent. and even to a maximum of 30 per cent. on November 12. The strain continued throughout the winter months with the rate ranging from 6 to 25 per cent. In November also, official discount rates, which for a time had been held at an artificially low level, were raised both in London and New York, and successive increases followed. The market rate for commercial loans also grew steadily firmer. For instance, in the United States the rate on prime commercial paper, which during the summer of 1919 was steady around 5¼ per cent., strengthened to 5½ in November, to 6 in February, and to 7 in March. Finally, the investment market showed evidences of a similar strain. Firms which had bonds issues maturing during 1919 found that they could renew their loans only on exceedingly difficult terms, and the numerous issues of short-time notes and of 8 per cent. preference shares with many of the privileges of bonds showed how strenuously business men tried to avoid long-time contracts to pay the high interest rates.

By the spring of 1920 the price and credit situation had reached the explosive point. The collapse came first in Japan with the sudden break in the silk markets, followed by the closing of the important exchanges, and a rather serious financial panic. The movement spread to India, then to Cuba, then to Europe, and finally to the United States and Canada. In April and May in the two latter countries two things happened at about the same time. The public, exasperated at the continual rise in prices and with buying power sharply curtailed, began the so-called consumers' strike; and the banks, convinced that prices could with safety rise no farther, commenced to restrict credits and compel reduction in merchants' inventories. Then started a rapid price decline, at first chiefly in woollens, rubber, leather, sugar, and food products, but soon becoming fairly general. The following table summarizes the trend in wholesale prices for the leading countries:

INDEX NUMBERS OF WHOLESALE PRICES.

	Canada	United States	United Kingdom	France	Germany	Japan
	Department of Labour	Bureau of Labour Statistics	Economist	Statistique Générale	Frankfurter Zeitung	Bank of Japan
Average, 1913	100	100	100	100	100*	100
Peak, May, 1920..	263	272	306 (Apr.)	587 (Apr.)	1714	321
Jan., 1921	208	178	209	407	1626	201
Feb., 1921	199	167	193	377	1495	195
March, 1921	194	162	189	361	1440	191
April, 1921	187	154	183	346	1429	190
May, 1921	182	151	182	328	1429	191
June, 1921	179	148	179	323	1376	192
Decline from peak	32%	46%	41%	45%	19%	40%

Average prices for 1913 are taken as 100, and the highest point reached in 1920 as well as the figures for each month of the current year are shown. Deflation came most rapidly for a time in Japan, but lately conditions seem to have been stabilized. In the United States prices had by June slumped 46 per cent. from the peak and were then only 48 per cent. above the pre-war level. Canadian wholesale prices which have declined only 32 per cent., are still 74 per cent. above the level for 1913. In Germany prices are still nearly fourteen times as high as in 1914. On the whole the lowering of the general price level has been very satisfactory. To find a parallel to the recent precipitate decline one would have to go back to the deflation periods following the Napoleonic wars in England and the Civil War in the United States. Less satisfactory is the readjustment among particular prices. Some prices have fallen very greatly, have undoubtedly reached bottom; others have fallen very little, and have yet a long way to go. In the latter category may be mentioned the prices of iron and steel, building materials, house furnishings and coal; transportation rates; and perhaps wage rates in certain industries.

*Average for July, 1914.

Retail prices, too, have lagged far behind wholesale prices, and in Canada the lag has been much greater than across the line. Our Labour Department's family budget, for instance, dropped less than 14 per cent. in the year ending last May, and showed the workman's cost of living still 60 per cent. above pre-war levels. An harmonious price system does not yet exist, and until one is established, industrial recovery will be delayed. Prices must get back to a stable basis and must be justly related to each other before business can go ahead with assurance and equity.

If the readjustment of the price level has gone far, less progress has been made in the liquidation of credit. The acute money strain was first eased by a drastic reduction of call loans. Thus in New York alone loans to the stock market dropped from a peak of $1,750,000,000 in July, 1919, to around $700,000,000 by the end of 1920. Meanwhile, thanks to the rapid deflation of prices, the slowing down of business, and the pressure of the banks on business men, considerable progress has been made in the "thawing out" of the so-called "frozen credits." For the first ten or twelve months little improvement was shown in the bank statements because the banks in all countries made special efforts to prevent a panic by allowing all solvent firms adequate time to mobilize their slow assets and protect their solvency. But since the beginning of the present year steady progress has been made. The pronounced improvement in the American money market between December 10, 1920, and July 6, 1921, is indicated by an increase in the Federal Reserve bank ratio of total reserves to net deposits and note liabilities from 44.5 to 60.0; by a decrease in total loans and investments of reporting member banks of 8.5 per cent.; by a decrease in bills discounted and bought in open market by the Federal Reserve banks of 38 per cent.; and by a decline in Federal Reserve note circulation of 19 per cent. In the year ending last June, Canadian banks decreased their current loans in Canada by a neat hundred millions, or almost 8 per cent., and decreased their note circulation by 13 per cent. In England expansion was checked in 1920, and during 1921 there has apparently been a slow but steady movement towards liquidation. Even in France, to judge by the metallic reserve, note circulation, loans and discounts, and advances to the State of the Bank of France, there has been perceptible improvement in the last six months. Reflecting the easing of the money strain, has come a lowering of money rates in the world's chief money markets. Call loan rates now rule at $3\frac{1}{2}$ per cent. in New York, the lowest rate for many a month. Prevailing rates for prime commercial paper in the same market dropped from around 8 per cent. to $6\frac{1}{4}$ in the last six or eight months. London and New York have gradually lowered their official discount rates from highs of 7 per cent. to $5\frac{1}{2}$ and Paris has just announced the latter rate. In the investment markets interest rates have dropped but slightly because of the great demand for capital for non-industrial purposes. Recently, however, prices of good investment bonds have begun to rise. On the whole, while the period of money stringency has passed, money rates are still not low enough, and have not been low for a sufficient length of time to provide adequate stimulus for a general revival of business activity.

The usual sequels to price deflation and credit liquidation have not been absent in the last eighteen months. The decline in security values has been drastic and fairly continuous, the June average being lower than the low of last December's stock market crisis. Michell's index of Canadian securities showed a fall from 122.5 to 103.9 in the year ending June, while Gibson's index of 41 New York stocks fell from 83.5 to 60.3. The volume of transactions on the leading markets is still only moderate and deep gloom persists. We are now probably near the end of the accumulation phase of the stock market cycle, but much depends on money rates. Business failures have been numerous and increasing. In the United States for the first half of 1921 the number and liabilities of failed concerns were three times the figures reported in the similar period last year, but below those for 1916 and much below those for 1915. Canadian firms to the number of 961, with liabilities of \$21,735,000, failed in the first six months of 1921, as compared with 368 firms and liabilities of \$4,311,000 in 1920. In the full year 1915, 3,316 firms failed, with total liabilities of \$55,050,000. The failure record, therefore, is as yet nothing like as serious as one might have expected. The generous assistance of the banks, the willingness of creditors to compromise, and the reserves built up during the fat years are responsible for this good showing. The Riordon Company, whose securities of the par value of $43,000,000 once had a market value of $19,000,000, but would now bring less than $1,000,000 in the open market, is a striking Canadian instance not only of the unwise policies of the inflation period, but also of the strenuous efforts that are being made to substitute informal arrangements by creditors' committees for the more drastic process of the bankruptcy courts. But many mushroom concerns, especially in the trading field, were allowed to spring up and flourish in the boom years when anybody could make money, and a substantial increase in failures will probably be necessary before all the weak spots are eliminated. Our businesses should be placed as soon as possible in efficient hands.

In the field of industrial readjustment, in the narrow sense of the term, least progress has been made. This is not unnatural because the price system must first be readjusted. But even here something has been added to the credit side of the ledger. There has been drastic contraction in some of the industries which had been over-expanded, the automobile and shipbuilding industries, for example. Further, many of those industries in which the fall of prices was most precipitate have begun to show recovery. Thus there has been improvement recently in woollens, cottons, silks, boots and shoes, leather, tobacco, and some food products. The decline in prices has also helped gold mining and public utilities, and, to a smaller extent as yet, the railroads. But in most of the other industries conditions are bad and becoming worse. Consumers postpone purchases, looking for lower prices; middlemen buy from hand to mouth; factories are closed or working on part time; production in spite of substantially increased capacity is at a lower ebb than during the depression following the crises of 1907 and 1914. The iron and steel industry, for instance, has been running at from 20 to 30 per cent. capacity, and the United States' iron output for June was lower than that for any month since the close of 1903. Recent figures for building permits show a slight increase, but this improvement is only seasonal. The recovery of the building trades awaits a substantial and long overdue deflation in the prices of building materials and the wages of building labour. In Canada wholesale prices of building materials rose 186 per cent. during the war, but by June had declined only 24 per cent. The paralysis of foreign trade still continues. Its severity may be indicated by a comparison of the value of merchandise exports for June, 1920, and June, 1921. The figures to be contrasted are $629,-000,000 and $340,000,000 for the United States, $107,000,000 and $58,000,000 for Canada, and £136,000,000 and £45,000,000 for the United Kingdom. The most serious result of this industrial depression is the fact that so many men are unemployed or underemployed—which, as we have seen, means reduced consumers' demand and an intensification of the forces which have produced the depression. In spite of some temporary relief from seasonal industries, unemployment is on the increase. We can give only the Canadian figures as an illustration of a world-wide phenomenon. At the end of April there were unemployed 16.3 per cent. of Canadian trade union members as compared with 13 per cent. in January, 2.5 per cent. in April, 1920, and 7.9 per cent. in December, 1915. The employment index of the Department of Labour, based on returns from over 5,000 firms, was down to 87.4 on July 2, as compared with 107.8 a year ago, and with 100 on January 17, 1920. The labour outlook for the winter is indeed serious, and is rightly giving much concern to the Federal and Provincial Labour Departments.

What are the prospects for the immediate future? Is panic still in store for us, as some have feared? Will recovery start this fall, as many others expect, or shall we have to wait until next spring for complete readjustment and a renewed activity that will be more than permanent? Certainly the danger of panic has passed, but beyond that it is difficult to prophesy. The favorable factors are numerous and are increasing. The improved political outlook in Europe and the world generally, the decision of the reparations problem, the settlement of the British coal strike and other major labour troubles, the gradual liquidation of wages without bitter resistance on the part of labour, the gradual "feeding out" of inflated inventories, the improvement in those industries in which price deflation had gone farthest, the recent rise in Bradstreet's index number of wholesale prices for the United States (Bradstreet's being usually first to mark the turn of the tide), the convalescence of the money and credit markets, and the prospects of a harvest somewhat better than the average—all these are favorable factors of no mean importance. But without minimizing these hopeful features, we shall do well to recognize that there are still unsolved some fundamental problems which will make permanent revival slow and difficult. Most serious of these problems is the uneven progress of liquidation in different industries. Farmers and other workers in the deflated industries cannot go on buying the same quantity of goods at the old prices, and hence workmen in the latter industries remain unemployed. But there are other difficulties. The heavy non-industrial demands for capital and the consequent high level of interest rates, the continuing disorder in the public finances of many countries, the dislocation of foreign trade and of the foreign exchanges, the widespread unemployment—these unfavorable factors cannot be overlooked. One might hope that good crops would provide a sufficient stimulus for revival, if the winter were not so near at hand. The safest guess seems to be that permanent recovery will not begin before next spring. Meanwhile the optimist is the one who sees how serious the depression has already been. It would be madness to imagine that we can escape paying a high price for our follies of the last few years. If much has already been paid on the account, less remains to be paid. A dark picture of the past or immediate present is the only real ground for optimism.

W. C. CLARK.

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