

several hands before being presented to the bank on which they are drawn, they become instruments of credit, taking the place of coin or notes in the district where they circulate. In England, where a large proportion of people have banking accounts, cheques do not circulate long in this way, for they almost immediately reach the hands of some person who pays them into a bank, by whom they are "cleared" in the usual manner, but there is reason to think that in countries where banking is less developed than in the United Kingdom, cheques on banks of great reputation are made to do a good deal of work as an aid to the coin and note circulation. Cheques on London banks given to hotel-keepers on the Continent often "remain out" for months, and when finally cleared are covered with the endorsements of the persons and firms through whose hands they have passed. Such cheques have, during the period in question, formed a real addition to the circulation of the districts they have traversed.

Foreign Cheques.—During the last ten or twelve years there has been an important extension of the cheque system in connection with foreign trade, cheques drawn in Berlin and Paris on a London banking house having become negotiable instruments payable at sight, just like a cheque drawn in Manchester on a London bank, so close are the relations between these two great capitals and London. A still more remarkable feature of modern business is the use of "telegraphic transfers," which are largely used in trade with India and the United States. They are of course merely orders sent by bankers to their agents in foreign cities to pay specific sums over to certain persons, but they greatly facilitate the operations of merchants and bankers.

Among the arrangements which have facilitated the extension of credit must be included the clearing houses established in London, Manchester and New York (see CLEARING HOUSES; CLEARING HOUSE, THE LONDON BANKERS', App.)

[Ricardo, *Works* (McCulloch), ch. xxvii.—Mill, *Political Economy*, bk. iii. ch. xi. xii. and xiii.—F. A. Walker, *Money*, pts. ii. and iii.—Bagehot, *Lombard Street*, *passim*.—Adam Smith, bk. ii. ch. ii.]

CRÉDIT FONCIER OF FRANCE. This institution is intended to enable house and landowners to raise money on mortgage at a low rate of interest, with facility of repayment by an annuity including redemption of the capital. The foundation of the *Crédit Foncier* was due to the economist M. Wolowski. It dates from 1852, but had been preceded in 1820 by a mortgage bank called the *Caisse Hypothécaire*, which, after a struggling existence, was finally liquidated in 1846. The new establishment was created under governmental patronage, and invested with special privileges which constituted a virtual monopoly. The

original idea was to found a number of mortgage banks, each with its operations confined to a prescribed region. Three only were organised, those of Paris, Nevers, and Marseilles; the last two were afterwards absorbed by the first, the operations of which were then extended to the whole of France. They were styled *Banques Foncières* with the name of their locality. On their amalgamation the subsisting one was at first called the *Banque Foncière de France*, but on representations by the *Bank of France*, which feared a confusion from the similarity of names, the title was changed to that of *Crédit Foncier de France*. The operations of this establishment were at first restricted to loans on houses and rural property, with or without redemption by a sinking fund. They were extended in 1858 to loans for drainage; in 1860 to Algeria, and in 1860 the *Crédit Foncier* was authorised to lend to towns and departments for public works and improvements. This last extension contributed in a great measure to the vast public works commenced under the empire and since continued. The *Crédit Foncier* was also empowered in 1860 to make advances in the form of discounts to the *Sous-Comptoir des Entrepreneurs*, a contractors' bank, which lends on mortgage to builders after their work has reached a certain stage, and while in progress; the *Crédit Foncier* itself only granting loans on houses when ready for occupation. When the buildings are finished the bills discounted by the *Sous-Comptoir*, and rediscounted by the *Crédit Foncier*, are cancelled by a regular mortgage to the latter company. The *Crédit Foncier* patronised in 1861 the formation of the *Crédit Agricole*, instituted to make advances to agriculture not authorised by its own statutes, and which it assisted in a similar manner by rediscounts. This involved the *Crédit Foncier* in difficulties in 1876, the *Crédit Agricole* having imprudently taken in nearly seven millions sterling of treasury bills of the Egyptian floating debt, and passed them on to the *Crédit Foncier*. The Egyptian government having made default, the *Crédit Agricole* had to go into liquidation, and was merged in the *Crédit Foncier*, shareholders receiving a part of their capital in new *Crédit Foncier* shares. The *Crédit Foncier* absorbed in 1882 a rival mortgage bank, the *Banque Hypothécaire*, which had been founded on the expiration of the exclusive privilege (granted for twenty-five years) of the former. This led to a further creation of shares, and as the business of the *Crédit Foncier* increased, new capital was raised, the right of issue of mortgage and communal bonds being limited to twenty times the share capital, the amount of which then rose to £6,820,000, with a limit of £8,000,000. The government exercises a direct control over the *Crédit Foncier* by appointing the governor and two deputy-governors. Decisions of the elected

Palgrave Dict. Pol. Econ., Dec. 1876

board of directors must be approved by the governor. The *Crédit Foncier* enjoys the special privilege of issuing bonds which, in addition to the fixed interest, give a right to drawings for prizes. Each issue of bonds with a lottery requires, however, a special authorisation by the government. The *Crédit Foncier* can only lend on first mortgage, and to the amount of one-half the estimated value of houses and farms, and one-third of that of vineyards, woods, and other plantations. The share capital in 1914 was £10,000,000 divided into 500,000 shares of £20; this may be raised to £12,000,000 when the bonds in circulation amount to twenty times the share capital; the increase may be made in one or in two operations. The rate of interest on the loans may not exceed by more than 60 centimes per cent the rate of the return (interest, lottery-fees, and other charges) from the bonds in circulation at the time when the rate of interest on the loans is fixed. The annual payment (interest and sinking fund) is 12.74 per cent for a loan to be redeemed in ten years; 7.87 per cent in twenty years; 5.33 per cent in fifty years; and 4.99 per cent in seventy-five years. During the War it became necessary to raise the rate of interest on mortgage loans to 7.15 per cent. The rate in 1922 was 8.25 per cent. The total amount of the mortgage loans granted since the origin of the *Crédit Foncier* (1852) to 31st December 1913 was £267,112,247; of this £32,792,993 has been paid off in annual sums, £131,461,465 has been paid off at earlier dates than the time fixed, and £102,917,789 remains outstanding. The mortgage loans issued in Paris and in the department of Seine amounted to £154,097,492, and in the other departments, Algiers and Tunis, to £113,014,754. The communal and departmental loans issued, 1860-1913, amounted to £187,198,535, of which there still remained to be redeemed (31st Dec. 1913) £94,705,378. The nominal value of the bonds in circulation at that date was £218,641,540; the balance in circulation, £178,732,795. The charter of the *Crédit Foncier* was extended for ninety-nine years from 1881.

[C. Gide, *Principes D'Economie Politique*, Paris, 1889; A. Courtois, *Histoire des Banques en France*, Paris, 1881; A. History of Banking in all the Leading Nations, New York, 1896. *Economiste Français* and *Monde Economique*, *passim*.]

T. L.; F. W. G.

CREDIT, LETTER OF. A letter addressed to a banker, or some other person or firm, containing a request to make payments or give acceptances to a third person or firm for account of the writer or writers of the letter. Sometimes the letter, instead of being addressed to one particular person or firm, is directed to a number of banks, with an indication that all payments must be indorsed on it by the parties effecting them, so as to show what amount

remains unused. A letter of this kind is called a circular letter of credit. Circular letters of credit are also issued in the form of a request to the banks to whom they are addressed to purchase the holder's drafts on the bank who issued the letter, such drafts to be drawn on the forms which are handed to the holders of the letter of credit, each of these forms being marked with a fixed amount. Another class of letters of credit—commonly called confirmed letters of credit—is much used in mercantile transactions with foreign countries. These letters are addressed to the person to whom the credit is granted, and contain an authority to issue drafts up to a certain amount on the writer or writers; and also an undertaking, not only as against the drawer, but also as against all *bona fide* holders, to accept such drafts, provided they are issued within a certain time. If the credit is given for the purchase of goods there is a further condition added, according to which shipping documents of a value corresponding to the amount of the drafts must accompany or precede them. E. S.

CRIMINAL PROSECUTION in Scotland is conducted by public prosecutors, and private prosecution, which cannot take place without the "concourse" or concurrence of the lord advocate, is almost unknown. When a crime has been committed, all who are supposed to be able to give evidence are called to testify before a magistrate in private: the suspected person may also make a declaration, which may at once be satisfactory and entitle him to liberation; if not, he is at once, or after further examination, committed for trial before a jury of fifteen, who acquit, condemn, or find "not proven," by a majority.

CRISES, COMMERCIAL AND FINANCIAL.

Times of difficulty in commercial matters are, when pressure becomes acute, termed crises. The crises of 1857 and 1866 will be described in some detail. The most important ones which have occurred since the end of the 18th century likewise deserve notice; those earlier than that date, though historically of interest, exhibit features which have little in common with the methods of conducting financial and commercial business at the present day. The crisis of 1792-93, of which Macpherson (*Annals of Commerce*, vol. iv. p. 266) was the historian, is described by him as having followed heavy investments "in machinery and in land navigation." The number of bankruptcies was unprecedented. "Many houses of the most extensive dealings and most established credit failed; and their fall involved vast numbers of their correspondents and connections in all parts of the country." The usual features of a panic followed. Temporary loans became almost unattainable; hoarding followed. "It was impossible to raise any money upon the security of machinery or shares of canals, for

Also: crises, productivity of

the value of such property seemed to be annihilated in the gloomy apprehensions of the sinking state of the country, its commerce and manufactures; and those who had any money, not knowing with whom they could place it with safety, kept it unemployed and locked up in their coffers." At a meeting of some of the principal merchants and traders in the city (23rd April 1793) the government was asked to assist business houses of real substantial standing by advances of exchequer bills. To this Mr. Pitt, then prime minister, agreed: the result entirely justified his resolution. "The very first intimation of the intention of the legislature to support the merchants operated all over the country like a charm, and in a great degree superseded the necessity of the relief by an almost instantaneous restoration of mutual confidence." A similar plan to that adopted in London was pursued in Liverpool, and parliament authorised the corporation of Liverpool to issue negotiable notes to the amount of £200,000 in support of the credit of individuals. Tooke mentions (*History of Prices*, vol. iv. p. 272) that in 1792, although the bank rate of discount was not reduced below 5 per cent, the market rate had fallen to, or below, 3 per cent per annum, and the 3 per cent consols had reached 97½ in the March of that year. "This comparatively low rate of interest had been, in some degree, both a cause and an effect of the great extension of the country bank system, which about that time took place." Too heavy advances on insufficient or inconvertible securities, and an overstimulated spirit of mercantile enterprise, appear to have been the causes of this crisis.

During the year 1796, and at the commencement of 1797, a severe pressure in the money market, extensive failures of banks in the north of England, and great mercantile discredit prevailed. The difficulties experienced were very great. At a meeting held in the city, 2nd April 1796, resolutions respecting the "alarming scarcity of money" were passed, and affirming "that this scarcity proceeds chiefly, if not entirely, from an increase of the commerce of the country, and from the great diminution of mercantile discount which the Bank of England has thought proper to introduce in the conduct of that establishment during the last three months." A plan was drawn up for a board to be constituted by act of parliament for the support of credit. They were to issue promissory notes, payable six months after date, bearing interest at the rate of £1:18s. per cent per annum, upon receiving the value in gold and silver, Bank of England notes, or in bills of exchange not having more than three months to run (Tooke, *History of Prices*, vol. i. p. 201). This proposal was not carried out. The pressure was aggravated to a great extent by alarms prevalent at the time.

The next serious crisis, taken in chronological order, took place in 1810-11. A careful history of the events which led to this disturbance is found in Tooke (*History of Prices*, vol. i. p. 303). A great advance, and an enormously high range of prices in this country, in 1808, while on the continent they were low, through the operation of the same causes which made them high here (see CONTINENTAL SYSTEM), induced merchants to make great efforts to overcome or elude the obstacles to trade. Heavy importations took place, a great fall of prices followed, so great that in many instances the importer, after paying for the enormous charges on importation, was left with nothing whatever to meet the previous cost. Simultaneously a total stop was put to the exports from this country to the Baltic. Here, as Tooke remarks, all the incidents which lead to a severe crisis were present. "So many circumstances, on so large a scale, combining in the same direction, the fall of prices, the reduction of private paper, and the destruction of credit, were greater and more rapid than were before, or have since been known to have occurred within so short a space of time." In August 1810 several failures of banks, and of important business houses were reported (monthly *Commercial Report*, 1st August 1810). It is stated—"speculations in Spanish wool, an article which has fallen about 50 per cent, are considered as the origin of those unlooked-for disasters. Five Manchester houses have stopped payment in the city, and we are sorry to add, have involved numerous industrious persons, both in town and country, in their ruin. The demands upon the five houses are said to amount to two millions; but it is supposed that their real property will ultimately cover all deficiencies. Speculative exports to South America are the rock upon which these houses have split. In consequence of these unexpected events, public credit is at the present moment as low as ever it has been in the memory of man." The report continues, 1st December 1810—"A numerical evidence of the present state of trade may be deduced from the number of bankruptcies in the *London Gazette*. They amounted—

This month in 1810 to 273
The same month 1809 „ 130
„ „ 1808 „ 100
„ „ 1807 „ 97
„ „ 1806 „ 65
„ „ 1805 „ 87
„ „ 1804 „ 60

besides stoppages and compositions equal in number to half the traders in the kingdom! These failures throughout the kingdom have wonderfully affected the manufacture of every description of goods; and a general want of confidence exists between the manufacturer and the export merchant" (1st January 1811). "In our last report we stated the vast increase

of bankruptcies within the last month compared with similar months for seven years back; and we regret to say that they still continue to increase in number, and that confidence in the mercantile world seems nearly at an end. . . . In Lancashire the cotton manufacturers appear, by the late gazettes, as well as by private information, to be greatly distressed, and business quite at a stand. In Manchester and other places houses stop not only every day but every hour. Cotton wool is in no demand at any price, and no export of the manufactured goods, except a few fine sorts to Rio, etc. The trade of Birmingham, Sheffield, etc., quite at a stand, and no orders for execution there, except a few for our home consumption." A reference to the parliamentary debates in the spring of 1811 will show that this is no exaggerated description. A select committee of the House of Commons made inquiries into the state of commercial credit, and reported that the statements as to the great embarrassment and distress were founded on fact, and that it "had arisen out of great and extensive speculations, which commenced upon the opening of the South American market in the Brazils and elsewhere, to the adventures of British merchants." The Chancellor of the exchequer (Hon. S. Perceval) referred to the subject in his speech during the debate on the Commercial Credit Bill; and after mentioning the report of the select committee, he continued, "the distress, originating with the merchant, and disabling him from paying the manufacturer, was felt most severely by the manufacturer and those employed by him. All the principal manufacturers had been compelled to contract, and some wholly to suspend, their works. It appeared by the report that there was scarcely a cotton manufacturer in the kingdom who had not diminished by one half the number of persons employed in his mills; and that many of the smaller manufacturers had discharged their people altogether." Those employed by the manufacturers who still carried on business were retained at lower wages, and "the most calamitous distress" is described as prevailing in many of the manufacturers' districts. The commercial troubles of the time were not confined to the United Kingdom; the condition of trade in the United States was fully as bad. Tooke quotes a letter from New York, dated 11th February 1811, which states that: "Such times for money were never known, and all confidence among merchants is totally, and indeed very justly, destroyed." This crisis appears to have been one of great severity; in reference to it and to the further and even heavier troubles of 1825 the very artificial conditions of business induced by the restrictions on trade imposed by the great war waged at the commencement of the century in Europe, must be borne in mind. Tooke gives (*History of Prices*, vol. i. pp. 308-314) many details of the heavy charges which

had to be paid by merchants. Thus the freight and insurance on hemp from the Baltic to London was, 1809, in some instances from £40 to £50 per ton. The charge of conveyance of silk from Italy to Havre amounted nearly to £150 per bale of 240 lb. The following cases referred to, occurring between 1809 and 1812, are even more extraordinary. "The charges of freights and French licence on a vessel of little more than 100 tons burden, have been known to amount to £50,000 for the voyage merely from Calais to London and back; this made the proportion of freight on indigo amount to 4s. 6d. per pound. A ship, of which the whole cost and outfit did not amount to £4000, earned a gross freight of £80,000 on a voyage from Bordeaux to London and back." Tooke says of this period (*History of Prices*, vol. iv. p. 273), "the commercial distress and banking discredit of 1810-11 nearly equalled, in point of intensity, those of 1792 and 1825; and the losses caused by the fall of prices in 1810 were, I am inclined to think, greater than they had been at any former period. In the still more violent fluctuation of prices which took place between 1812 and the close of 1815, it is possible that the losses were greater; but there was not then any such sudden and extensive revulsion of credit and commercial distress as occurred in 1810-11."

The next serious crisis occurred in 1825, one of the most severe through which the commercial and banking systems of the country had ever passed. At this date speculation ran very high, for the most part in loans and mining adventures, and other investments abroad. The foreign exchanges were so much depressed as to be the cause of a nearly continuous drain on the bullion of the bank. This foreign drain, Tooke remarks, was not counteracted by any operation of the bank; it was suffered, he observed, to run its course, till it ceased of its own accord, that is by simple efflux, towards the close of the summer. Many and heavy banking failures, and a state of commercial discredit, preceded and formed the earlier stage of the panic. The tendency to speculation, and the undue extension of credit, was preceded, probably caused, and certainly favoured and promoted, by the low rate of interest which had existed for some time previously; and this low rate of interest was apparently prolonged by the operations of the Bank of England. Facility of banking accommodation which had existed for some time previously, favoured undue extension of credit.

This gradually led on to the great difficulties of the year.

In the summer of 1822 the bank reduced its rate of discount from 5 to 4 per cent. The course of the rate of interest is marked by the following statement of the price of the 3 per cent public funds.

1823. 3rd April . . .	73½
" 1st July . . .	80½
" 3rd October . . .	82½
1824. 1st January . . .	86
" 2nd April . . .	94½
" 28th . . .	97½ (the highest)
" November . . .	96½
1825. January . . .	94½
1826. 14th February . . .	73½ (the lowest)

The great severity of the pressure extended over a very short time, hardly more than three weeks. Some banking failures, principally in the provinces, in the month of December, were followed by the failure of several banks in London. A severe drain on the resources of the bank of England took place—"the lowest amount of the bank treasure was on the 24th of December, viz.,

Coin . . .	£426,000
Bullion . . .	601,000
	£1,027,000

"The accidental discovery, for such it was said by Mr. Harman, in his evidence in 1832 (Bank Charter Report, 1832) to have been, of an amount of £1 notes which had been put away in the bank was, doubtless, a fortunate circumstance; for, although the sum was not large (between £700,000 and £800,000), it served to meet the peculiar difficulty of that time, which consisted in an extensive discredit of the small note country circulation. And it is probable that it had an immediate and very great effect in stopping the demand from the provinces for gold" (Tooke, *History of Prices*, vol. iv. p. 343). Though the period of pressure in 1825 was so short, it had been preceded by considerable and extravagant speculations in foreign loans and shares of companies, mining and commercial. Besides several mining companies for operation in Mexico, Chili, Brazil, Peru, and the provinces of Rio de la Plata, "so great was the rage for speculation that, in the course of a very few weeks, in the early part of the year (1824), the following undertakings, among others, were brought forward in London, and found subscriptions courting their acceptance:—The Alliance Fire and Life Insurance Company, with a capital of £4,000,000; the Palladium Fire and Life Insurance Company, with a capital of £2,000,000; the British Annuity Company, whose capital was £3,000,000; the Metropolitan Investment Company, with a capital of £1,000,000; the Thames and Isis Navigation Company, with a capital of £120,000; an Ale Brewery Association, with a capital of £200,000; a company for obtaining from government a grant of a million of acres in New South Wales, and for improving the growth of wool; an association for the cutting a canal across the Isthmus of Darien" [a curious anticipation of the enterprise of joining the Atlantic and

Pacific oceans by the great Panama canal]. More than thirty private acts were brought forward in the House of Commons to give effect to these projects. "In all these speculations, only a small instalment, seldom exceeding five per cent, was paid at first; so that a very moderate rise on the prices of the shares produced a large profit on the sum actually invested." Tooke describes the spirit of speculation aroused as follows. "This possibility of enormous profit by risking a small sum was a bait too tempting to be resisted; all the gambling propensities of human nature were constantly solicited into action; and crowds of individuals of every description—the credulous and the suspicious, the crafty and the bold, the raw and the experienced, the intelligent and the ignorant; princes, nobles, politicians, placemen, patriots, lawyers, physicians, divines, philosophers, poets, intermingled with women of all ranks and degrees (spinsters, wives, and widows)—hastened to venture some portion of their property in schemes of which scarcely anything was known except the names."

The extent of the speculative rise in prices is well shown by the following instances of the upward movement in market prices of five of the principal mining companies.

	10th December 1824.	11th January 1825.
Anglo-Mexican	100 sh. 10 pd. 33 pr. 168 115 125	
Brazilian . . .	100 10 10s. dis. 66 70 44 pr.	
Columbian . . .	100 10 19 pr. 82 62 59	
Real del Monte	400 70 550 — 1350	
United Mexican	40 10 35 — 155 115 125	

The recoil from these speculations was inevitable. The country banks, whose advances and whose issues of notes had both exceeded the limit of prudence, were among the principal sufferers. Several London banks likewise failed. A remark made by Mr. Huskisson, "that we were within a few hours of a state of barter," has often been quoted as showing the severity of the trial the country passed through. The turning point appears to have been in the week ending Saturday 17th December 1825. On that day, according to a statement made by Mr. Richards, then deputy governor of the bank, "whether from fatigue, or whether from being satisfied, the public mind had yielded to circumstances, and the tide turned at the moment on that Saturday night." The greater part of 1826 was a time of considerable depression, but by 1827 the trade and manufactures of the country had resumed their usual and steady course.

The monetary disturbances of 1836-37 are not included by Tooke among the memorable commercial crises (*History of Prices*, iv. p. 269). "It was confined in a great measure to two branches of trade, the American and East Indian including China. The bank raised its rate of discount to 5 per cent, and laid some restriction upon the bills of the American houses, who were notoriously overtrading. But for purposes

of trade generally there was no want of accommodation; and the utmost rate that was heard of was 6 and 7 per cent for fair commercial bills of moderate length. And, with the exception above mentioned, there was depression in the prices of produce." The derangement of trade in 1836-37, as well as that of 1839, appears to have been but slight.

Of a far different character was the crisis of the year 1847. As was the case before the crisis of 1825 came on, a considerable period of speculative activity, fostered by a low rate for money, preceded this crisis also. Another circumstance has to be noticed. The bank act of Sir R. Peel came into operation 2nd September 1844. The automatic arrangement for the management of the note circulation which that act introduced took away from the directors alike any power or any responsibility for the "regulation of the currency" so far as this consisted of their notes. This responsibility being removed, the old arrangement by which a fixed or nearly fixed rate of discount was usually charged passed away as well. The demand for money being extremely slack at the time, a charge of 4 per cent, as their rate then was, had kept the bank entirely out of the market. On 5th September 1844 the rate was lowered to 2½ per cent for first-class bills, with not more than ninety-five days to run, and to 3 per cent for notes. 13th March 1845, the rate was placed at 2½ per cent, both for bills and notes, a lower rate than had ever been previously charged. The published rate was also for the first time stated (March 1845) to be the minimum rate, and this form of announcement has been continued ever since. The fact that the bank competed now, practically for the first time, with the bill brokers in the open market was a very important factor. The bank soon became a large holder of commercial bills, and exercised a great influence accordingly. Meanwhile several other causes had contributed to the stringency of affairs which deserve attention. Such causes are usually to be traced to reasons which have been in existence for some time previously. Previously, both in 1825 and 1847, considerable reductions had been made in the interest paid on the public funds. This had in 1825 the effect of turning people's minds to foreign investments. In 1847 speculation was chiefly directed to the development of railways and other improvements at home. "In social and financial interest and importance railways far surpass the other agencies of transport. The creation of the present century, they have contributed largely to promote its special characteristics." Prof. Bastable, *Public Finance*, London, 1892, bk. ii. ch. iii. § 12. Up to 1846 their progress had been slow.

The amounts which parliament had authorised railway companies to raise are given in Porter's *Progress of the Nation*, p. 327, as follows—

Railway Capital.		Yearly Average.
	£	£
In four years 1826-29	3,267,000	817,000
" " 1830-33	8,629,000	2,157,000
" " 1834-37	43,522,000	10,880,000
" " 1838-41	14,458,000	3,614,000
In two years 1842-43	9,173,000	4,586,000
In one year 1844	17,870,000	17,870,000
" " 1845	60,524,000	60,524,000
" " 1846	152,096,000	152,096,000

The enormous increase in this class of expenditure, after 1841-43, explains of itself great part of the monetary difficulties which succeeded. Tooke gives (*History of Prices*, vol. iv. p. 314) an estimate of the actual outlay on labour and materials of railways about this period which is very instructive.

Estimated Outlay on Labour and Materials (Railways).	
1841 . . .	£1,176,000
1842 . . .	2,384,000
1843 . . .	3,548,000
1844 . . .	4,880,000
1845 . . .	11,280,000
1846 . . .	29,188,000
1847, first half-year	20,560,000

After an outlay which in the first half of 1847 had been nearly two-thirds of the whole of that in 1846, this class of expenditure was sharply arrested. The effect of these different operations—(1) a sudden immensely increased outlay of capital on fixed investments; then (2) an even more sudden and sharp stop put to this outlay—on the business of the country may be well understood. Meanwhile, simultaneously with this double derangement to the ordinary course of transactions, a wild speculation in railway stocks went on.

Some idea of this may be obtained from a very careful paper read before a meeting of the Statistical Society, January 1847, by Mr. Dawson.

"Between March and September 1845 joint-stock speculations for the immediate investment of capital were set on foot, involving a larger aggregate amount than had ever before been so involved in this country. The amount to raise which, for railways alone, the sanction of parliament was actually applied for in the following session, exceeded £340,000,000 sterling. And if we include all the new schemes in which scrip, or letters of allotment, were actually selling in the market at a premium in July, August, and September 1845, the amount cannot be estimated at less than £500,000,000.

"Many of the schemes of 1845 reached a high premium within a few weeks after their issue; and all those first in the market, and having any substantial merit, were raised considerably above their true value. For instance, the Leeds and Thirsk Railway—£50 shares, with only a deposit of £2:10s. paid—were selling in March at £3:10s., in September at £23:15s., and in November at £4:15s. per share. Again,

the Bolton, Wigan, and Liverpool—£40 shares with £4 paid—were selling in January 1845 at £4:10s.; in September at £42:15s.; and in December, when £9 had been paid, at £20 per share. If we assume an average premium of £10 per cent upon the schemes then in the market, the property temporarily created by these speculations (and the repeated purchase and sale of which, on commission, furnished profitable employment to some thousands of brokers) must have been at least £50,000,000.

"And to this there is to be added an increased value, during the same period, of the shares in the established lines of railway. For instance: "The Midland stock—amount £4,180,000—was selling in January 1845 at 114 per cent, and in July at 188 per cent; showing a rise of 74 per cent, and an increase in the aggregate value of the stock of £3,098,000.

"The Great Western—share capital issued £8,100,000—£100 shares selling in January 1845 at £156; and in July at £228; and (allowing for a call at £5 per share in the interim), showing a rise of 67 per cent, and an increase in the aggregate value of the shares of £5,467,000.

"The Manchester and Leeds—share capital £4,660,000—£100 shares selling in January 1845 at £126; and in August at £215; showing a rise of 89 per cent, and an increased value in the aggregate of £4,147,000.

"The average increase in the value of £100 shares in these three lines was £76; and the total increase of value in August and September was upwards of £12,000,000."

Mr. Dawson continues: "It will be seen, on reference to the tables, that during those months in which the purchases and sales of railway property were most numerous and extensive, while everybody was buying and selling shares, and the current rate of interest was only 2½ per cent, that portion of the circulating medium which consisted of Bank of England notes was but very slightly, if at all, increased; and that it reached its greatest amount when the prices of shares were lowest—when the number and amount of current transactions were reduced to the lowest point by discredit, and when the current rate of interest for first-class bills had risen from 2½ to 4½ per cent."

These last remarks of Mr. Dawson's refer to an important point connected with this crisis—the first authoritative suspension of the bank act of 1844, and also, incidentally, to the question of the connection between the circulation of notes and periods of commercial crisis. Reference will be made to this further on. Meanwhile other complications occurred.

The failure of the potato crop in 1846 caused the need for a heavy importation of corn. "The price of corn was very high in 1847, the average in May being 92s. 10d. per

quarter, but the imports rose in proportion. In the three years from 1845 to 1847 they were as follows:

	1845	1846	1847
	Cwts.	Cwts.	Cwts.
Wheat	3,777,140	6,207,894	11,511,305
Wheatmeal and Flour	945,864	3,190,429	6,329,058
Maize	241,667	3,024,883	15,464,194

The corn merchants, who for some time had great difficulty in obtaining advances upon cargoes in consequence of the high rate of discount, lost immense sums from the great fall in prices which took place, owing to the prospect of an abundant harvest. And the result was the failure of many houses in the corn trade, which became the signal for other heavy bankruptcies. Several banks succumbed, and credit was severely shaken" (L. Levi, *History of British Commerce*, p. 310).

The fluctuations in the rate charged by the bank were very considerable, and were the more noticed at the time as nothing exactly similar had ever occurred before.

On 1st January 1847 the notice of 27th August 1846, fixing the minimum rate at 3 per cent per annum on 95 days bills, was still in force.

1847.	Per cent.
14th Jan. 3½	minimum on 95 days bills.
21st "	4 "
8th April 5	"
15th "	5 omitting all stipulation as to the term of the paper.
2nd Aug. 5	on 1 month bills; 5½ on 2 months; 6 per cent above 2 months.
5th "	5½ minimum rate.
2nd Sept. 5	on loans till 14th Oct.
23rd "	5½ on 2 months bills; 6 per cent on 3 months.
1st Oct. 5½	on everything falling due before 14th Oct., and total refusal to advance on public securities.
25th "	8 minimum rate under authority of the government letter of this date.
22nd Nov. 7	minimum rate.
2nd Dec. 6	"
23rd "	5 "
1848.	
27th Jan. 4	"

The announcement of 1st October that no advances would be made on public securities produced (see *Economist*, 9th October 1847) a severe panic on the stock exchange. There was no failure of a bank, however, except that of Cockburns and Co. of Whitehall, till 13th October, when Knapp and Co. of Abingdon suspended payment. On 18th October the Royal Bank of Liverpool stopped; before 23rd October other important banking failures took place at Liverpool, Manchester, Newcastle, and in the West of England. 3 per cent consols, which had stood at 84½ on 5th October, were

by this time 77½, the lowest point, and a total suspension of all business and all payments was imminent. The reserve of the bank was reduced to a very low ebb.

1847.	Reserve of Specie.
16th Oct.	£3,070,000
23rd "	1,990,000
30th "	1,600,000

Meanwhile the anxiety and alarm prevailing were causing a general hoarding of coin and bank notes, and it really appeared not unlikely that the banking department of the Bank of England might be compelled to stop payment while there was more than £6,000,000 of specie in the issue department. The chancellor of the exchequer (Sir C. Wood, afterwards Lord Halifax) was urged by many deputations and remonstrances to relax the bank act, but he declined. At last, on 22nd or 23rd October, some of the leading city bankers had an interview with the prime minister (Lord John, afterwards Earl Russell), and on their explaining the necessities of the position, the desired relaxation was given. The official letter (25th October) recommended "the directors of the Bank of England, in the present emergency, to enlarge the amount of their discounts and advances, upon approved security." A high rate, 8 per cent, was to be charged, to keep these operations within reasonable limits; a bill of indemnity was promised if the arrangement led to a breach of the law. The extra profit derived was to be for the benefit of the public. No really adequate reason has ever been given for this last stipulation, unless it is supposed to have been made to prevent the bank from maintaining the extra rate unduly long.

The effect of the government letter in allaying the panic was complete. When anxiety as to obtaining bank notes or gold was removed, the immediate pressure shortly disappeared. Speaking in the House of Commons, during the debate of 30th November on this subject, the chancellor of the exchequer (Sir C. Wood) stated that the tenor of the remarks made by those who applied to him was "Let us have notes" . . . "We don't mean indeed to take the notes, because we shall not want them; only tell us that we can get them, and this will at once restore confidence."

The space which can be allowed here to this subject does not permit further details being given. It should be observed that the earlier crises than the last one mentioned here, that of 1847, were all so greatly influenced by the highly artificial condition both of trade and credit, caused by the terrible wars of the commencement of the century, that the lessons to be drawn from them are, comparatively speaking, inapplicable to the business circumstances of the present time. The commercial histories of that period, including the admirable one con-

tained in Tooke and Newmarch's *History of Prices*, are full of remarks on the questions how far the crises were brought on, or increased in severity, by the issues of notes made by the country bankers at that period. That those banks employed their own credit frequently unwisely there is no doubt, and equally that they frequently gave credit unwisely to traders on inadequate security. Notes were at that date the recognised medium in which advances were made; and that there was by all banks, including the Bank of England, at times an over-issue of the circulating medium may be conceded. It is, however, matter for fair discussion whether any statesman nowadays would have arranged the bank act of 1844 on the principles of Peel, or whether it is advisable to concentrate the whole of the issues on one bank, however powerful and well-organised.

Commercial crises may take place without any reference to the circulating medium, as has been exemplified in Hamburg and elsewhere. They can only be averted or mitigated by the judgment of those with whom the guidance of commercial affairs and of the banking institutions of the country rests at the time.

[The periodicity of crises has frequently been noticed. Mr. Wm. Langton, in his paper "Observations on a Table showing the Balance of Account between the Mercantile Public and the Bank of England," *Transactions of Manchester Statistical Society*, 1857-58 (reprinted also in the *Transactions*, 1875-76, Appendix), has made valuable remarks on the subject.—Mr. John Mills ("Paper on Credit Cycles," *Transactions of the Manchester Statistical Society*, 1867-68), has shown the connection between these periods and the variations of personal feeling.—Also paper by H. Chubb (*Statistical Society Journal*, June 1872), "Bank Act and Crisis of 1866.—Prof. Jevons (*Investigations in Currency and Finance*, pp. 153, 203-8), has shown, with his customary ingenuity of research, that the period of credit cycles and of the solar cycles of maximum intensity correspond with considerable exactness. The frequent recurrence of periods of excitement and depression in monetary and commercial matters is likewise referred to by Mr. James Wilson, *Fluctuations of Currency, Commerce, and Manufacture, referable to the Corn Laws*. We must be careful not to yield to the belief that *post hoc* is identical with *propter hoc* in these matters; but this subject is eminently one in which careful historical investigation may be expected to produce useful and practical results. See also F. Lavington, *The Trade Cycle* (London, 1922). For earlier history, Macpherson, *Annals of Commerce* (4 vols. London, 1805).—Anderson, *Origin of Commerce* (4 vols. London, 1801).—*Select Tracts on Commerce and Early Tracts on Commerce*, reprinted and edited by J. R. McCulloch, 1856-1859.—Max Wirth, *Geschichte der Handelskrisen*, Frankfurt am Main, 1891.—D. Morier Evans, *Commercial Crisis*, 1847-1848 (published 1848).—D. Morier Evans, *Commercial Crisis*, 1857-58 (published 1859).—C. Juglar, *Des Crises Commerciales*, Paris, 1889.]

CRISES, 1857-1866-1890. The early panics of the last century having been described above, our attention will be confined here particularly to the events of 1857, 1866, and 1890.

One of the most remarkable and instructive facts is negative, viz. that there has been really no panic in England since 1866. The difference between the events of that year and what occurred in 1890 will be explained later on. It was formerly regarded as almost a law of nature that a crisis should arise every ten years or thereabouts, and the years 1825, '37, '47, '57, and '66 confirmed this impression. But since the last date, with the exception of some alarm in 1878 (when the City of Glasgow and the West of England Banks collapsed under circumstances calculated to cause such disquietude as would in former times have caused alarm if not panic), though there have been many changes in business, and a huge development of trade, we had no crisis until November 1890. This last crisis differed much from previous disturbances of credit. In former times alarm was diffused over the whole kingdom; London was drained of its reserves to fill up the wants of the country, and the imprudences of banks having caused or aggravated alarms, there was a general uneasiness in the banking world and a consequent increased holding of cash, and an indisposition to grant assistance to the trading world. But, on this last occasion there was no general alarm in the country. Banks outside London were hardly sensible of the crisis, and even in London there was no panic except in Capel Court. No bank failed in town or country, and no suspicion of danger to banks seems to have existed amongst their customers. Some great issuing houses lost their position, and narrowly escaped suspension. Enormous losses fell on the public, but not on banks, except indirectly. It was not a panic as involving general alarm amongst the public, but a crisis in special directions, which might easily have extended, so as to have caused such a panic as never yet has occurred in any country. The danger was prodigious, but it was averted.

In former crises the danger was not averted, and things were allowed to drift, so that great houses and banks failed, and general alarm ensued. In this case, no great house suspended, though Barings, one of the greatest of all, went into liquidation. Instead of a huge lock up of mercantile capital in unpaid documents, business was carried on without any serious inconvenience to any one; and it may be fairly said that, for all practical purposes, nothing was known of the crisis in the country at large, until all was over.

In some respects all crises are alike, inasmuch as all such events arise from what is called an "abuse of credit." But that abuse may take various forms. Sometimes the vagaries of banks in lending enormous sums

without any security that can be realised, have caused the trouble. At other times, as for instance in the case just referred to, great investments by the public in stocks which are worthless, or much depreciated, have had a similar effect in arousing exaggerated alarms. The causes varying, the results also vary much.

Of course, if the errors of banks start the anxiety, it is natural that other banks should feel the effects more than merchants who have nothing to do with the matter, except that they suffer for the mistakes of others. If, on the other hand, as in 1890, mercantile imprudence originated the mischief, then, most naturally, mercantile credit is affected more than that of banks, who may suffer, but not deservedly.

A glance at the peculiar features of the several crises above mentioned will illustrate what has been here stated, and will bring out more clearly those resemblances and differences which tend to throw light on the whole subject.

It is not very easy to define how far credit may extend safely, but it is very clear that during the years 1855 and 1856 the extension of credit was enormous and dangerous. It has been sometimes asserted, though there is no way of testing the truth of the assertion, that during the years in question there were as many bills offered for discount in Lombard Street as there are now, though the real volume of trade has vastly increased since 1857, the total of the imports and exports being unitedly £311,764,000 in 1856, and £748,944,000 in 1890. In those times it was a common thing for banks in manufacturing districts to send great masses of bills to London for rediscount, i.e. bills taken by the banks, but which they were unable to hold to maturity from their own resources. The amount of this business in 1856 and 1857 was enormous, and even after the panic of that year, when many bills came to an end by failures of traders and of bankers, the amount of rediscounts by banks continued to be very large. But, at this moment, that business has almost come to an end. It was much reduced after 1866, and it is now confined within narrow and perfectly legitimate limits. In fact most of the banks which in 1857 were borrowers in London are now large depositors there.

Those who are too young to remember 1857 would not find it easy to imagine the condition of things which then existed. The reserve of the Bank of England may be said to have been continually at danger point (the amounts in the autumn of 1857 are given in the table that follows), although the daily transactions in Lombard Street were large and important. The demands were often heavy, as we have said, but the reserve was miserably small. It was a common thing for the largest operators in bills to keep practically no reserve whatever

and to depend on application to the Bank of England for the supply of their wants. The average rate of interest paid on loans and discounts was very high, and though it is true that no prudent trader was ever killed by interest paid on borrowed money, it is clear that in a condition of things when traders generally were large borrowers, the existence of a very high rate of discount was one of those circumstances which combined to create an electrical and excitable condition in men's minds, so that alarm and panic were very liable to supervene.

The immediate cause of panic is of course the fear on the part of borrowers that they will not be able to secure what they need, accompanied by a fear on the part of lenders of giving what, in ordinary times, they would grant with pleasure. This fear arises in different ways on different occasions. It may be caused by heavy failures making even the solvent anxious as to their future, for all traders have payments for which they must provide. Or it may arise from the condition of the Bank of England, as her accounts are periodically published, and are supposed to tell all the world what may be expected as to borrowing and lending. However small may be the reserve kept by other operators, "the Bank" is expected to be ready for every emergency, and if her reserve should be depleted, every one gets alarmed and desires to provide without delay against a very uncertain future. So it comes about that adverse exchanges combine with internal alarms to reduce the surplus notes of the bank, and this condition adds to the demands upon her just when she is least able to meet them. Under our system, however great the pressure, she cannot take a sovereign from her issue department. The gold held there is as sacred as if deposited at Westminster in the custody of the government. The Bank, therefore, raises the rate of interest, so as if possible to attract gold from other countries. That movement cannot operate at once, but the fact of her taking such action is quickly effective in increasing alarms outside. Demands increase still more, so that the Bank has recourse to restrictions in one form or another—restrictions which only aggravate panic, until at last the Bank must either collapse as a bank, and cease to make advances, or must obtain extraordinary powers, so that she may allay alarm by a greater freedom in her operations.

So marked has been the influence of these considerations during recent panics, that some writers have been disposed to attribute our present liability to these alarms to the change made in our currency laws in 1844, when the two departments of the Bank were separated, and the old elasticity of the issues of the bank was replaced by a hard and fast limit dependent on supplies of bullion. But the answer to this suggestion is very simple, viz. that our

panics before 1844 were probably far more severe than those which have occurred since, and that for forty-six years since 1866, with the same law, we have had no proper panic. In 1837 the Bank was very nearly denuded of gold, her issue of notes not being restricted, whereas since 1844 she has never been deprived of a large reserve in the issue department, a reserve not available without special authority from government, but still a reserve which is available, and has been found ample for every emergency of modern times. Alike in 1847, 1857, and 1866, a letter from the chancellor dissipated the panic as by the wand of a magician. Once remove the fear of a complete break-down, and panic passes away far more quickly than it arose. It is astonishing how soon all real alarm disappears, and business resumes an ordinary course. High rates of discount may prevail for some time, but, sooner or later, they too disappear, and "confidence is restored," until a renewal of commercial blunders or follies brings about a renewal of discredit and consequent alarm.

The following table shows the rapid change which arises as soon as the panic has subsided:—

000 omitted in cols. 2 and 3. Figures from nearest return.

1 Year and Month.	2 Gold Bullion in Bank.	3 Reserve of Notes.	4 Rate of Discount per cent.
September 4, 1847	£7,374	£4190	5½
October 2, "	7,117	3409	6
November 6, "	7,248	2030	8
December 4, "	9,111	5583	6
January 1, 1848	10,444	7866	5
September 5, 1857	10,836	6065	5½
October 3, "	10,078	4606	5½
November 4, "	7,947	2155	8
" 11, "	6,666	957	10
" 18, "	6,079	1148¹	10
" 25, "	6,784	1918	10
December 2, "	6,896	2268	10
January 6, 1858	12,113	7089	8
March 7, 1866	13,151	7416	7
April 4, "	13,486	6153	6
May 2, "	12,712	4839	6
June 6, "	12,620	2167	10
July 4, "	14,148	3336	10
August 1, "	12,932	2412	10²

¹ £2,000,000 was, under authority of Treasury letter, 12th November 1857, added to the securities in the issue department, in the returns from 18th November to 23rd December 1857, both inclusive. The strict limits of the Act of 1844 were only exceeded in the returns of 18th and 25th November 1857. They were not exceeded in 1847 and in 1866. Tradition, founded on a statement made by the late Mr. William Newmarch, reports that they would have been exceeded in 1866 had not the banks in the city repaid to the Bank of England every evening, during the worst of the crisis, the notes which they had drawn out in the day.

² Reduced to 8 per cent 16th August.

So far the features of both the panics now under consideration are very similar. The difference is more one of detail than of principle. In both there was the high rate of discount following adverse exchanges, and great demands for accommodation by traders. In both there was the depletion, more or less rapid, of the bank reserve, and finally the heavy failures and the consequent alarms, ending in a sort of "stampede" or "sauve qui peut," if one may use such expressions in this place. In neither case did a single solvent firm succumb, though in both cases, and especially in 1857, more than one solvent house escaped as by a sort of miracle.

Of course the panic of 1866 was marked by the great failure of the almost historic house of Overend, Gurney, & Co., and by that memorable "Black Friday," when it seemed likely that confidence might be utterly lost, whereas in fact it was maintained in a truly astonishing way. Lombard Street was given over to an excited crowd who did not, however, withdraw their deposits, if they had any, and the day passed off with most trifling results as compared with the fears that pervaded the minds of many experienced persons. But the panic of 1857 was in one way more striking and more serious than that of 1866, inasmuch as it was as widespread in America as it was in the United Kingdom, and in fact began in New York. But these differences are not of first-rate importance. The grand distinction between the two panics is that already mentioned, viz. that in the former no warning was taken, and the panic was followed in a few years by another equally severe, while, in the latter case, the lesson seemed to have been taken to heart, the excessive credit was cut down, and the era of panics seemed to have passed away. Why this should be so is not very clear. Some say that the disappearance of Overend, Gurney, & Co., and their friends is one great cause of the change. Without refusing to give some weight to this fact, it is difficult to suppose that this can be the only cause of so remarkable a contrast. It seems more rational to say that the tremendous lessons of 1857 and 1866 were not lost on the financial or the mercantile world, and that, as a result, credit has been maintained on a far sounder footing than in former years.

This confidence in our present position was, it is true, somewhat rudely shaken during the year 1890. As already stated, although we were not visited by an old-fashioned panic, the events of 1890 bore no small resemblance to those of former years, and, but for much judgment and skill displayed by the directors of the Bank of England, the crisis of 1890 might have easily ended in failures and panic far more serious than those of any former years. It is probably quite true that the tremendous lessons of 1857 and 1866 were not lost on the financial

or the mercantile world, and that credit was maintained on a comparatively sound footing for many years. There has been abundance of enterprise since 1866, but those who have been familiar with the money market for thirty years will, we think, agree that a much larger proportion of business is now transacted on a cash basis, and without recourse to credit, than was possible a quarter of a century ago. But though this is so, and, in ordinary business, there may be less danger of "abuse of credit" than there was when the country was much less "capitalised" than it now is, the very abundance of means may have given rise to an inclination towards excessive confidence, as if the capital available for loans of all kinds had no limit. This feeling may also have been intensified by the great accumulation of capital in the hands of "trusts" or "investment companies" eager for profit, and not always so much alive as are individuals to the danger of great mistakes.

But, probably, the most important distinction which marked the position of 1890 as compared with 1857 and 1866 will be found in the condition of the Bank of England. When alarm began at the latter end of October 1857, the reserve of the Bank was under £5,000,000, and at the end of April 1866 it was under £6,000,000. In one day in 1866 £4,000,000 left the bank in notes and coin, in consequence of the failure of Overend, Gurney, & Co. Such a position was dangerous, and the publication of such returns, combined with the raising of the rate of discount to nine and ten per cent, was sure to aggravate alarms. But in 1890 the reserve stood at £14,500,000 when it became known that the great house of Baring had gone into liquidation, and that its liabilities would be paid by the Bank. The position of the Bank being so strong, and it being known or rumoured that the action of the Bank was approved and supported by the government, panic did not arise, except as to the price of securities directly affected by this great failure, or by failures in America, and no mercantile disaster of the least consequence occurred, nor was the rate of interest charged on discounts excessive. In fact, there was no general discredit. Of course there was uneasiness, it being known that other houses must have lost heavily through South American complications, but banking and other business went on as usual, and prices of produce were not seriously affected.

There were none of the usual symptoms of panic, except in the Stock Exchange, and the contrast to those who had lived through 1857 and 1866 was very remarkable. In those years people feared that the Bank would be unable, without an increased power of issue, to deal with the emergency, and it was never absolutely certain when, if at all, the government would come to the aid of the Bank. In 1890, thanks

to the forethought of the Bank in providing herself with an addition to her bullion by a loan, her position was so strong at the critical moment as to prevent the occurrence of any general alarm. Men did not rush to supply themselves with money one day, in fear that they might find it difficult to procure it on the following day, but attended to their businesses without excessive anxiety as to the supplies of capital. Caution prevailed, but not panic, and the distinction is a very clear one.¹

For the crisis of 1914 see DRAIN OF BULLION, Appendix.

It has been already pointed out that trading people soon recover their spirits and their confidence when the panic is once well over. Prices which, before and during panics, have been in some instances severely depressed, quickly rise to their former level, and men cease to consider the money market in their dealings, being no longer afraid of monetary trouble as to the discount of bills, or otherwise. The statistics of our trade seem to confirm this view. Spite of panics, our aggregate trade has gone on increasing, with fluctuations no doubt, but not with fluctuations which seem to point to panic as the great disturber of our commerce. We have had divers "depressions" in trade, often very difficult to account for, and they are generally followed by improvement and even speculation, often little expected, and arising no one knows why. But certainly, in recent years, neither depressions nor elevations can be traced to the effects of panic. Vast changes have taken place, thanks to "many inventions," and prices have fluctuated beyond all precedent without any very marked oscillations in credit. The supply of loanable capital since 1866 has been, on an average of years, ample, and this has no doubt lessened the tendency to panic amongst traders generally. But there have been these great fluctuations although the money market has been so stable, and this recent experience tends to confirm the opinion

¹ The contrast of the three great crises with reference to the reserves of the bank in its banking department, is shown by the following Table.

Notes in reserve in the Banking Department of the Bank of England.

1857.		1866.		1890.	
	£		£		£
Oct. 3	4,606,000	April 11	6,317,000	Oct. 15	10,275,000
" 10	4,024,000	" 25	5,844,000	" 29	10,600,000
" 17	5,217,000	May 9	4,950,000	Nov. 12	10,024,000
" 24	5,485,000	" 16	730,000	" 19	13,378,000
" 31	2,258,000	" 23	830,000	" 26	15,309,000
Nov. 4	2,155,000	" 30	415,000	Dec. 10	15,904,000
" 11	997,000	June 6	2,167,000	" 17	15,797,000
" 18	1,148,000	" 20	4,067,000	" 24	14,205,000
" 25	1,918,000	July 4	3,335,000		
Dec. 2	2,258,000	" 18	2,498,000		
" 9	3,900,000	Aug. 1	2,412,000		
" 16	5,737,000	" 15	3,611,000		
" 23	7,426,000	" 29	5,833,000		

[For returns from 18th November to 23rd December 1857, see note 1, p. 463.]

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that we should not attribute much permanent effect to the panics of former periods. No one is likely to forget the temporary effects of a panic if he has lived through one, but, as to permanent results, panics are probably not important.

But panics in the United States have been very severe. The sharpest were in 1837, 1857, 1873, 1893 and 1907. The closing months of 1907 were marked by an outburst of widespread and unreasoning alarm, and by the suspension of cash payments by many of the 16,000 banks of the country. Cash could not be obtained, and the use of an emergency currency of cheques guaranteed by the Clearing Houses, estimated at upwards of £100,000,000, was required. The crisis began in New York connected with two of the National Banks and continued with two of the Trust companies. (*Econ. Journ.*, London, 1908, "The American Crisis of 1907"; *Quart. Journ. of Econ.*, U.S.A., 1908, "Hoarding in the Panic of 1907.")

It is interesting to observe that countries where panics are rare, as France and Germany, do not appear to make greater commercial progress than England and the States, where panics have been, comparatively, not infrequent.

In fact, in countries of great enterprise, and where credit attains a great development, it is obvious that there must be a danger of undue expansion followed by excessive alarms. Such people use up their means too closely, no doubt, but, on the other hand, they do far more business and acquire far larger profits from their enterprise than can be secured by people who are no doubt more prudent, but are less energetic. The very prudent nations escape panic, but they at the same time must accept a smaller return on their capital. They no doubt keep larger reserves than less cautious traders, but such reserves are expensive to maintain, and it may be well doubted whether in the long run more is not gained by the more enterprising peoples, even though they may subject themselves to occasional alarms of a serious and painful nature.

The general result seems to be that, however remarkable the phenomena of crises may be, they are not of great permanent importance, nor are they to be regarded as an inevitable consequence of an active and enterprising conduct of business. They are really spasmodic symptoms, and not symptoms of any serious and continuous disease which has to be brought under some legislative remedy. They illustrate the results of a temporary suspension of the laws which regulate the ordinary currency of a nation when confidence between man and man is lost, but events so exceptional defy regulation, and the cure for such evils will probably be found rather in the practical good sense of men of business than in any expedients invented by ingenious law makers.

It has, however, been suggested that some kinds of legislation may aggravate panic; as, for instance, the law of the United States of

America as to bank reserves, and our own law as to the issues of the Bank of England. We certainly think that the experiences of 1847, 1857 and 1866 (to say nothing of 1890), show that such a law as ours, which gives no power of expansion to the bank, as such, no matter how grave may be the emergency, is one of very doubtful wisdom. It would, we believe, be far more reasonable to adopt something like the plan adopted by the German Bank law of 1875, whereby the bank can issue beyond the usual limit on paying at the rate of 5 per cent per annum to the government on all extraordinary issue, as a sort of penalty—an arrangement which ensures a reasonable charge to the public on such extra issues, and thus compels contraction of obligations by a sort of automatic process. Panic is thus avoided, while a wholesome warning is extended to the trading world, and the money market is brought under the rule of law, and is not, as with us, dependent in the worst times on the caprice of a Chancellor of the Exchequer, who may be a man ignorant of the dangers and difficulties of commerce, or who only knows them vaguely, as set forth in the books of mere theorists. W. F.

CRISES, PERIODICITY OF. In the world of physics the idea of "periodicity" of "cycles" is familiar. The twenty-eight years period of the sun is a simple illustration of a regular cycle.

The recurrence of commercial crises over a century, at intervals of ten or twelve years, has been frequently noticed by economists, and the suggestion made that possibly the physical law which, every ten or eleven years, brings good vintage years to Europe and droughts to India, may control the commercial fortunes of men. An enumeration of recorded years of acute commercial distress—1753, 1763, 1772-73, 1783, 1793, 1815, 1825, 1836-39, 1847, 1857, 1866, 1878, 1890—suggests periodicity. During these 140 years trade and banking have been carried on in war and peace, with a silver standard, with a gold standard, under a suspension of cash payments, in times of plenty, and in times of want; but the fatal years have come round with a considerable approach to cyclical regularity. While admitting that the commercial crises to which this generation has been exposed have been less acute than those which afflicted the close of the 18th and the beginning of the 19th century, the fact of their recurrence in something like periodicity remains—a fact which it is easier to record than to explain. Space only permits a statement of some of the more important crises, with a reference to works from which fuller information may be derived.

To commence with the beginning of this century, the question of the periodicity of cycles is discussed by Henry Thornton, whose well-known sagacity caused him to be greatly consulted on financial questions by William Pitt,

in his work, *An Enquiry into the Effects of the Paper Credit of Great Britain*, 1802. Thornton speaks of the crisis of 1793 as the first material one of the kind which had for a long time happened. He points out that the panic greatly abated, and mercantile credit began to be restored, so soon as the intention to issue exchequer bills was announced. He also mentions as worthy of notice that, though the failures had originated in an extraordinary demand for gold, it was not any supply of gold which effected the cure, but the idea of general solvency which was created by the promised issue of exchequer bills (pp. 49-51). He further mentions (p. 152) that the fluctuation in the balance of trade with foreign countries which we experience had also become larger than heretofore, in consequence of the greater extent of our population and commerce. "The scale of all things having increased, the scale of this balance may have increased also in a degree unexpected by the bank."

Tooke, in his *History of Prices*, vol. i. p. 176, gives a clear account of the progress of events leading up to the disasters of 1793. Tooke states that immediately preceding that crisis a great revulsion and derangement of commercial credit had occurred, due to a pre-existing and undue extension of credit and paper circulation.

In vol. ii. p. 5, in discussing the causes which led to the discredit of 1816, he explains that the speculation in exported commodities, which had its first rise in the prospect of the downfall of the power of Napoleon I. in Europe, reached its height in the spring of 1814, and that the tardy discovery that the effective demand of the continent had been over-rated precipitated the crisis of 1815-16.

The causes of the crisis of 1825 are discussed by Tooke (vol. ii. pp. 149-159). In 1822, the British 5 per cent had been reduced to 4 per cent; this had led to a general restlessness among those whose incomes were reduced, and a readiness to invest in foreign loans, the principal borrowing states being South American. The South American loans ultimately entailed a loss of nearly the whole of the sums subscribed. The exaggerated views of coming prosperity allowed full scope for an undue enlargement and abuse of credit.

The panic of 1836 is fully described by Tooke (vol. ii. p. 274). It is noticeable that whereas the disasters in 1825 were principally due to foreign speculations, those of 1835 were due to home speculations, an undue extension of credit arising from gambling in shares of railways, joint-stock banks, etc.

In vol. iv., speaking of the crisis of 1847, Tooke says: "In August 1845 the speculation assumed all the apparent characteristics of a mania. Symptoms of an approaching revulsion were, however, then clearly discernible."

It is noteworthy that the gradual develop-

ment and overgrowth of credit indicated by Langton, Jevons, and Mills, are clearly stated by Tooke.

A variety of causes brought about the serious crash in 1847—railway calls in excess of the means of the country, high price of corn, etc.; but the evidence of a culmination of previously developing causes is as clear on this occasion as on the others which have preceded and followed that date.

Mr. William Langton, of Manchester, speaking of periodicity says (*Transactions of the Manchester Statistical Society*, December 1857): "These disturbances are the accompaniment of another wave which appears to have a *decennial period*, and in the generation of which moral causes have no doubt an important part. The prompting cause of these convulsive movements appears to lie in the inordinate use of credit."

The doctrine of periodicity was held strongly by Professor Jevons, who carried his investigations into the subject over a great length of time, and with his noted ability. In a communication on the study of periodic fluctuations, *British Association 1862* (Cambridge), Jevons says, "There is a periodic tendency to commercial distress and difficulty during these months (October and November). It is when great irregular fluctuations aggravate this distress, as in the years 1836-39, 1847, 1857, that disastrous breaches of commercial credit occur." In elucidation of Jevons's allusion to "great irregular fluctuations," a quotation from his paper on "The frequent pressure in the money market," *Journal of the Statistical Society of London*, 1866, vol. xxix. p. 235, may be useful.

"These changes arise from deficient or excessive harvests, from sudden changes of supply or demand in any of our great staple articles, from periods of excessive investment or speculation, from wars and political disturbances, or other fortuitous occurrences which we cannot calculate upon, and allow for." Still further developing the notion of periodicity, Jevons (*Political Economy*, 1878, Science Primers) says, "Good vintage years on the continent of Europe, and droughts in India, recur every ten or eleven years, and it seems probable that commercial crises are connected with a periodic variation of weather affecting all parts of the earth, and probably arising from increased waves of heat received from the sun at average intervals of ten years and a fraction."

The influence of solar radiation, and the possibility of a relation between the sun-spot period and the price of corn and other events, formed a subject of inquiry suited to the exact and scientific mind of Jevons. For this the reader may be referred to his *Investigations in Currency and Finance*, in which his detached papers are collected, and *Letters and Journal of W. S. Jevons*.

The invention of the term "credit cycle" may

be traced to Mr. John Mills of Manchester (Paper on "Credit Cycles and the Origin of Commercial Panics," *Transactions of the Manchester Statistical Society*, December 1867). Mr. Mills discussed the pathology of crises; and after alluding to "the occult forces which swell or diminish the volume of transactions through a procession of years," thus spoke of periodicity. "It is an unquestionable fact that about every ten years there occurs a vast and sudden increase of demand in the loan market followed by a great revulsion and a temporary destruction of credit."

"The periodicity of commercial crises is at any rate a fact. The decades interposed between the great commercial crises are normal cycles of development of credit under certain existing conditions; that during each of these decades commercial credit runs through the mutations of a life, having its infancy, growth to maturity, diseased overgrowth, and death by collapse."

Mr. Mills enters into a minute examination of the life-history of a credit cycle in a communication made to the Manchester Statistical Society, *Transactions 1871*. Four years earlier, in his paper read before the Manchester Statistical Society in 1867, Mr. Mills had discussed the possibility of finding remedies for the periodic recurrence of commercial panics, in seeking for which he laid stress on the increased spread of information. Mr. Mills's anticipation appears to have been verified in some measure by the course of events.

[Max Wirth, *Geschichte der Handelskrisen*, 1883.—Clément Juglar, *Des Crises Commerciales et de leur retour périodique en France, en Angleterre, et aux Etats-Unis*, 1889.] G. H. P.

CROMBIE, ALEXANDER (1762-1842), born at Aberdeen, was for some time Presbyterian minister, and then schoolmaster, in London. He was known for his writings on etymology and syntax, especially for his *Gymnasium*, a book of exercises in Latin composition; but he wrote also on theology, philosophy, and political economy. Apart from his books, he seems to have had a wide personal influence. Major Torrens dedicated to Dr. Crombie his *Essay on Money and Paper Currency* (1812), and speaks of him with great deference in the *Essay on the External Corn Trade* (1815). In 1813 Crombie published, in the *Pamphleteer* (vol. x.) a *Letter to David Ricardo containing an analysis of his pamphlet on the Depreciation of Bank Notes*; but Ricardo did not regard him as a perfectly faithful exponent of his views. Crombie's *Letters on the Agricultural Interest* (1816) would seem to have been the last of his economical writings.

[Ricardo's letters to Malthus, 1887, Clar. Press, p. 82, sub dato 21st April 1815.] J. B.

CROME, AUGUST FRIEDRICH WILHELM (1753-1833), a distinguished German statistician.

—William Fowler

—C. H. Pownhall