Chapter 22

NOTES ON THE TRADE CYCLE

Since we claim to have shown in the preceding chapters what determines the volume of employment at any time, it follows, if we are right, that our theory must be capable of explaining the phenomena of the trade cycle.

If we examine the details of any actual instance of the trade cycle, we shall find that it is highly complex and that every element in our analysis will be required for its complete explanation. In particular we shall find that fluctuations in the propensity to consume, in the state of liquidity-preference, and in the marginal efficiency of capital have all played a part. But I suggest that the essential character of the trade cycle and, especially, the regularity of time-sequence and of duration which justifies us in calling it a *cycle*, is mainly due to the way in which the marginal efficiency of capital fluctuates. The trade cycle is best regarded, I think, as being occasioned by a cyclical change in the marginal efficiency of capital, though complicated and often aggravated by associated changes in the other significant short-period variables of the economic system. To develop this thesis would occupy a book rather than a chapter, and would require a close examination of facts. But the following short notes will be sufficient to indicate the line of investigation which our preceding theory suggests.

I

By a *cyclical* movement we mean that as the system progresses in, e.g. the upward direction, the forces propelling it upwards at first gather force and have a cumulative effect on one another but gradually lose their strength until at a certain point they tend to be replaced by forces operating in the opposite direction; which in turn gather force for a time and accentuate one another, until they too, having reached their maximum development, wane and give place to their opposite. We do not, however, merely mean by a *cyclical* movement that upward and downward tendencies, once started, do not persist for ever in the same direction but are ultimately reversed. We mean also that there is some recognisable degree of regularity in the time-sequence and duration of the upward and downward movements.

There is, however, another characteristic of what we call the trade cycle which our explanation must cover if it is to be adequate; namely, the phenomenon of the *crisis*—the fact that the substitution of a downward for an upward tendency often takes place suddenly and violently, whereas there is, as a rule, no such sharp turning-point when an upward is substituted for a downward tendency.

Any fluctuation in investment not offset by a corresponding change in the propensity to consume will, of course, result in a fluctuation in employment. Since, therefore, the volume of investment is subject to highly complex influences, it is highly improbable that all fluctuations either in investment itself or in the marginal efficiency of capital will be of a cyclical character. One special case, in particular, namely, that which is associated with agricultural fluctuations, will be separately considered in a later section of this chapter. I suggest, however, that there are certain definite reasons why, in the case of a typical industrial trade cycle in the nineteenth-century environment, fluctuations in the marginal efficiency of capital should have had cyclical characteristics. These reasons are by no means unfamiliar either in themselves or as explanations of the trade cycle. My only purpose here is to link them up with the preceding theory.

II

I can best introduce what I have to say by beginning with the later stages of the boom and the onset of the 'crisis'.

We have seen above that the marginal efficiency of capital[1] depends, not only on the existing abundance or scarcity of capital-goods and the current cost of production of capital-goods, but also on current expectations as to the future yield of capital-goods. In the case of durable assets it is, therefore, natural and reasonable that expectations of the future should play a dominant part in determining the scale on which new investment is deemed advisable. But, as we have seen, the basis for such expectations is very precarious. Being based on shifting and unreliable evidence, they are subject to sudden and violent changes.

Now, we have been accustomed in explaining the 'crisis' to lay stress on the rising tendency of the rate of interest under the influence of the increased demand for money both for trade and speculative purposes. At times this factor may certainly play an aggravating and, occasionally perhaps, an initiating part. But I suggest that a more typical, and often the predominant, explanation of the crisis is, not primarily a rise in the rate of interest, but a sudden collapse in the marginal efficiency of capital.

The later stages of the boom are characterised by optimistic expectations as to the future yield of capital-goods sufficiently strong to offset their growing abundance and their rising costs of production and, probably, a rise in the rate of interest also. It is of the nature of

[1] It is often convenient in contexts where there is no room for misunderstanding to write 'the marginal efficiency of capital', where 'the schedule of the marginal efficiency of capital' is meant.

organised investment markets, under the influence of purchasers largely ignorant of what they are buying and of speculators who are more concerned with forecasting the next shift of market sentiment than with a reasonable estimate of the future yield of capital-assets, that, when disillusion falls upon an over-optimistic and over-bought market, it should fall with sudden and even catastrophic force.[1] Moreover, the dismay and uncertainty as to the future which accompanies a collapse in the marginal efficiency of capital naturally precipitates a sharp increase in liquidity-preference—and hence a rise in the rate of interest. Thus the fact that a collapse in the marginal efficiency of capital tends to be associated with a rise in the rate of interest may seriously aggravate the decline in investment. But the essence of the situation is to be found, nevertheless, in the collapse in the marginal efficiency of capital, particularly in the case of those types of capital which have been contributing most to the previous phase of heavy new investment. Liquidity-preference, except those manifestations of it which are associated with increasing trade and speculation, does not increase until *after* the collapse in the marginal efficiency of capital.

It is this, indeed, which renders the slump so intractable. Later on, a decline in the rate of interest will be a great aid to recovery and, probably, a necessary condition of it. But, for the moment, the collapse in the marginal efficiency of capital may be so complete that no practicable reduction in the rate of interest will be enough. If a reduction in the rate of interest was capable of proving an effective remedy by itself, it might be possible to achieve a recovery without the elapse of any considerable interval of time and by means more or less directly under the control of the monetary

[1] I have shown above (chapter 12) that, although the private investor is seldom himself directly responsible for new investment, nevertheless the entrepreneurs, who are directly responsible, will find it financially advantageous, and often unavoidable, to fall in with the ideas of the market, even though they themselves are better instructed.

authority. But, in fact, this is not usually the case; and it is not so easy to revive the marginal efficiency of capital, determined, as it is, by the uncontrollable and disobedient psychology of the business world. It is the return of confidence, to speak in ordinary language, which is so insusceptible to control in an economy of individualistic capitalism. This is the aspect of the slump which bankers and business men have been right in emphasising, and which the economists who have put their faith in a 'purely monetary' remedy have underestimated.

This brings me to my point. The explanation of the *time-element* in the trade cycle, of the fact that an interval of time of a particular order of magnitude must usually elapse before recovery begins, is to be sought in the influences which govern the recovery of the marginal efficiency of capital. There are reasons, given firstly by the length of life of durable assets in relation to the normal rate of growth in a given epoch, and secondly by the carrying-costs of surplus stocks, why the duration of the downward movement should have an order of magnitude which is not fortuitous, which does not fluctuate between, say, one year this time and ten years next time, but which shows some regularity of habit between, let us say, three and five years.

Let us recur to what happens at the crisis. So long as the boom was continuing, much of the new investment showed a not unsatisfactory current yield. The disillusion comes because doubts suddenly arise concerning the reliability of the prospective yield, perhaps because the current yield shows signs of falling off, as the stock of newly produced durable goods steadily increases. If current costs of production are thought to be higher than they will be later on, that will be a further reason for a fall in the marginal efficiency of capital. Once doubt begins it spreads rapidly. Thus at the outset of the slump there is probably much capital of which the marginal efficiency has become negligible or even negative. But the interval of time, which will have to elapse before the shortage of capital through use, decay and obsolescence causes a sufficiently obvious scarcity to increase the marginal efficiency, may be a somewhat stable function of the average durability of capital in a given epoch. If the characteristics of the epoch shift, the standard time-interval will change. If, for example, we pass from a period of increasing population into one of declining population, the characteristic phase of the cycle will be lengthened. But we have in the above a substantial reason why the duration of the slump should have a definite relationship to the length of life of durable assets and to the normal rate of growth in a given epoch.

The second stable time-factor is due to the carrying-costs of surplus stocks which force their absorption within a certain period, neither very short nor very long. The sudden cessation of new investment after the crisis will probably lead to an accumulation of surplus stocks of unfinished goods. The carrying-costs of these stocks will seldom be less than 10 per cent. per annum. Thus the fall in their price needs to be sufficient to bring about a restriction which provides for their absorption within a period of, say, three to five years at the outside. Now the process of absorbing the stocks represents negative investment, which is a further deterrent to employment; and, when it is over, a manifest relief will be experienced.

Moreover, the reduction in working capital, which is necessarily attendant on the decline in output on the downward phase, represents a further element of dis-investment, which may be large; and, once the recession has begun, this exerts a strong cumulative influence in the downward direction. In the earliest phase of a typical slump there will probably be an investment in increasing stocks which helps to offset disinvestment in working-capital; in the next phase there may be a short period of disinvestment both in stocks and in working-capital; after the lowest point has been passed there is likely to be a further disinvestment in stocks which partially offsets reinvestment in working-capital; and, finally, after the recovery is well on its way, both factors will be simultaneously favourable to investment. It is against this background that the additional and superimposed effects of fluctuations of investment in durable goods must be examined. When a decline in this type of investment has set a cyclical fluctuation in motion there will be little encouragement to a recovery in such investment until the cycle has partly run its course.[1]

Unfortunately a serious fall in the marginal efficiency of capital also tends to affect adversely the propensity to consume. For it involves a severe decline in the market value of stock exchange equities. Now, on the class who take an active interest in their stock exchange investments, especially if they are employing borrowed funds, this naturally exerts a very depressing influence. These people are, perhaps, even more influenced in their readiness to spend by rises and falls in the value of their investments than by the state of their incomes. With a 'stock-minded' public as in the United States to-day, a rising stock-market may be an almost essential condition of a satisfactory propensity to consume; and this circumstance, generally overlooked until lately, obviously serves to aggravate still further the depressing effect of a decline in the marginal efficiency of capital.

When once the recovery has been started, the manner in which it feeds on itself and cumulates is obvious. But during the downward phase, when both fixed capital and stocks of materials are for the time being redundant and working-capital is being reduced, the schedule of the marginal efficiency of capital may fall so low that it can scarcely be corrected, so as to

[1] Some part of the discussion in my *Treatise on Money* [*JMK*, vol. v], Book IV, bears upon the above.

secure a satisfactory rate of new investment, by any practicable reduction in the rate of interest. Thus with markets organised and influenced as they are at present, the market estimation of the marginal efficiency of capital may suffer such enormously wide fluctuations that it cannot be sufficiently offset by corresponding fluctuations in the rate of interest. Moreover, the corresponding movements in the stock-market may, as we have seen above, depress the propensity to consume just when it is most needed. In conditions of *laissez-faire* the avoidance of wide fluctuations in employment may, therefore, prove impossible without a far-reaching change in the psychology of investment markets such as there is no reason to expect. I conclude that the duty of ordering the current volume of investment cannot safely be left in private hands.

III

The preceding analysis may appear to be in conformity with the view of those who hold that over-investment is the characteristic of the boom, that the avoidance of this over-investment is the only possible remedy for the ensuing slump, and that, whilst for the reasons given above the slump cannot be prevented by a low rate of interest, nevertheless the boom can be avoided by a high rate of interest. There is, indeed, force in the argument that a high rate of interest is much more effective against a boom than a low rate of interest against a slump.

To infer these conclusions from the above would, however, misinterpret my analysis; and would, according to my way of thinking, involve serious error. For the term over-investment is ambiguous. It may refer to investments which are destined to disappoint the expectations which prompted them or for which there is no use in conditions of severe unemployment, or it may indicate a state of affairs where every kind of capital-goods is so abundant that there is no new investment which is expected, even in conditions of full employment, to earn in the course of its life more than its replacement cost. It is only the latter state of affairs which is one of over-investment, strictly speaking, in the sense that any further investment would be a sheer waste of resources.[1] Moreover, even if over-investment in this sense was a normal characteristic of the boom, the remedy would not lie in clapping on a high rate of interest which would probably deter some useful investments and might further diminish the propensity to consume, but in taking drastic steps, by redistributing incomes or otherwise, to stimulate the propensity to consume.

According to my analysis, however, it is only in the former sense that the boom can be said to be characterised by over-investment. The situation, which I am indicating as typical, is not one in which capital is so abundant that the community as a whole has no reasonable use for any more, but where investment is being made in conditions which are unstable and cannot endure, because it is prompted by expectations which are destined to disappointment.

It may, of course, be the case—indeed it is likely to be—that the illusions of the boom cause particular types of capital-assets to be produced in such excessive abundance that some part of the output is, on any criterion, a waste of resources;—which sometimes happens, we may add, even when there is no boom. It leads, that is to say, to *misdirected* investment. But over and above this it is an essential characteristic of the boom that investments which will in fact yield, say, 2 per cent in conditions of full employment are made in the expectation of a yield of, say, 6 per cent, and are valued accordingly. When the disillusion comes, this expectation is

[1] On certain assumptions, however, as to the distribution of the propensity to consume through time, investment which yielded a negative return might be advantageous in the sense that, for the community as a whole, it would maximise satisfaction.

replaced by a contrary 'error of pessimism', with the result that the investments, which would in fact yield 2 per cent in conditions of full employment, are expected to yield less than nothing; and the resulting collapse of new investment then leads to a state of unemployment in which the investments, which would have yielded 2 per cent in conditions of full employment, in fact yield less than nothing. We reach a condition where there is a shortage of houses, but where nevertheless no one can afford to live in the houses that there are.

Thus the remedy for the boom is not a higher rate of interest but a lower rate of interest![1] For that may enable the so-called boom to last. The right remedy for the trade cycle is not to be found in abolishing booms and thus keeping us permanently in a semi-slump; but in abolishing slumps and thus keeping us permanently in a quasi-boom.

The boom which is destined to end in a slump is caused, therefore, by the combination of a rate of interest, which in a correct state of expectation would be too high for full employment, with a misguided state of expectation which, so long as it lasts, prevents this rate of interest from being in fact deterrent. A boom is a situation in which over-optimism triumphs over a rate of interest which, in a cooler light, would be seen to be excessive.

Except during the war, I doubt if we have any recent experience of a boom so strong that it led to full employment. In the United States employment was very satisfactory in 1928–29 on normal standards; but I have seen no evidence of a shortage of labour, except, perhaps, in the case of a few groups of highly specialised workers. Some 'bottle-necks' were reached, but output as a whole was still capable of further expansion. Nor was there over-investment in the sense that the

[1] See below (p. 327) for some arguments which can be urged on the other side. For, if we are precluded from making large changes in our present methods, I should agree that to raise the rate of interest during a boom may be, in conceivable circumstances, the lesser evil.

standard and equipment of housing was so high that everyone, assuming full employment, had all he wanted at a rate which would no more than cover the replacement cost, without any allowance for interest, over the life of the house; and that transport, public services and agricultural improvement had been carried to a point where further additions could not reasonably be expected to yield even their replacement cost. Quite the contrary. It would be absurd to assert of the United States in 1929 the existence of over-investment in the strict sense. The true state of affairs was of a different character. New investment during the previous five years had been, indeed, on so enormous a scale in the aggregate that the prospective yield of further additions was, coolly considered, falling rapidly. Correct foresight would have brought down the marginal efficiency of capital to an unprecedentedly low figure; so that the 'boom' could not have continued on a sound basis except with a very low long-term rate of interest, and an avoidance of misdirected investment in the particular directions which were in danger of being over-exploited. In fact, the rate of interest was high enough to deter new investment except in those particular directions which were under the influence of speculative excitement and, therefore, in special danger of being over-exploited; and a rate of interest, high enough to overcome the speculative excitement, would have checked, at the same time, every kind of reasonable new investment. Thus an increase in the rate of interest, as a remedy for the state of affairs arising out of a prolonged period of abnormally heavy new investment, belongs to the species of remedy which cures the disease by killing the patient.

It is, indeed, very possible that the prolongation of approximately full employment over a period of years would be associated in countries so wealthy as Great Britain or the United States with a volume of new investment, assuming the existing propensity to consume, so great that it would eventually lead to a state of full investment in the sense that an aggregate gross yield in excess of replacement cost could no longer be expected on a reasonable calculation from a further increment of durable goods of any type whatever. Moreover, this situation might be reached comparatively soon—say within twenty-five years or less. I must not be taken to deny this, because I assert that a state of full investment in the strict sense has never yet occurred, not even momentarily.

Furthermore, even if we were to suppose that contemporary booms are apt to be associated with a momentary condition of full investment or over-investment in the strict sense, it would still be absurd to regard a higher rate of interest as the appropriate remedy. For in this event the case of those who attribute the disease to under-consumption would be wholly established. The remedy would lie in various measures designed to increase the propensity to consume by the redistribution of incomes or otherwise; so that a given level of employment would require a smaller volume of current investment to support it.

IV

It may be convenient at this point to say a word about the important schools of thought which maintain, from various points of view, that the chronic tendency of contemporary societies to under-employment is to be traced to under-consumption;—that is to say, to social practices and to a distribution of wealth which result in a propensity to consume which is unduly low.

In existing conditions—or, at least, in the condition which existed until lately—where the volume of investment is unplanned and uncontrolled, subject to the vagaries of the marginal efficiency of capital as determined by the private judgment of individuals ignorant or speculative, and to a long-term rate of interest which seldom or never falls below a conventional level, these schools of thought are, as guides to practical policy, undoubtedly in the right. For in such conditions there is no other means of raising the average level of employment to a more satisfactory level. If it is impracticable materially to increase investment, obviously there is no means of securing a higher level of employment except by increasing consumption.

Practically I only differ from these schools of thought in thinking that they may lay a little too much emphasis on increased consumption at a time when there is still much social advantage to be obtained from increased investment. Theoretically, however, they are open to the criticism of neglecting the fact that there are *two* ways to expand output. Even if we were to decide that it would be better to increase capital more slowly and to concentrate effort on increasing consumption, we must decide this with open eyes after well considering the alternative. I am myself impressed by the great social advantages of increasing the stock of capital until it ceases to be scarce. But this is a practical judgment, not a theoretical imperative.

Moreover, I should readily concede that the wisest course is to advance on both fronts at once. Whilst aiming at a socially controlled rate of investment with a view to a progressive decline in the marginal efficiency of capital, I should support at the same time all sorts of policies for increasing the propensity to consume. For it is unlikely that full employment can be maintained, whatever we may do about investment, with the existing propensity to consume. There is room, therefore, for both policies to operate together;—to promote investment and, at the same time, to promote consumption, not merely to the level which with the existing propensity to consume would correspond to the increased investment, but to a higher level still.

If—to take round figures for the purpose of illustration—the average level of output of to-day is 15 per cent below what it would be with continuous full employment, and if 10 per cent of this output represents net investment and 90 per cent of it consumption—if, furthermore, net investment would have to rise 50 per cent in order to secure full employment with the existing propensity to consume, so that with full employment output would rise from 100 to 115, consumption from 90 to 100 and net investment from 10 to 15:—then we might aim, perhaps, at so modifying the propensity to consume that with full employment consumption would rise from 90 to 103 and net investment from 10 to 12.

V

Another school of thought finds the solution of the trade cycle, not in increasing either consumption or investment, but in diminishing the supply of labour seeking employment; i.e. by redistributing the existing volume of employment without increasing employment or output.

This seems to me to be a premature policy—much more clearly so than the plan of increasing consumption. A point comes where every individual weighs the advantages of increased leisure against increased income. But at present the evidence is, I think, strong that the great majority of individuals would prefer increased income to increased leisure; and I see no sufficient reason for compelling those who would prefer more income to enjoy more leisure.

VI

It may appear extraordinary that a school of thought should exist which finds the solution for the trade cycle in checking the boom in its early stages by a higher rate of interest. The only line of argument, along which any justification for this policy can be discovered, is that put forward by Mr D. H. Robertson, who assumes, in effect, that full employment is an impracticable ideal and that the best that we can hope for is a level of employment much more stable than at present and averaging, perhaps, a little higher.

If we rule out major changes of policy affecting either the control of investment or the propensity to consume, and assume, broadly speaking, a continuance of the existing state of affairs, it is, I think, arguable that a more advantageous average state of expectation might result from a banking policy which always nipped in the bud an incipient boom by a rate of interest high enough to deter even the most misguided optimists. The disappointment of expectation, characteristic of the slump, may lead to so much loss and waste that the average level of useful investment might be higher if a deterrent is applied. It is difficult to be sure whether or not this is correct on its own assumptions; it is a matter for practical judgment where detailed evidence is wanting. It may be that it overlooks the social advantage which accrues from the increased consumption which attends even on investment which proves to have been totally misdirected, so that even such investment may be more beneficial than no investment at all. Nevertheless, the most enlightened monetary control might find itself in difficulties, faced with a boom of the 1929 type in America, and armed with no other weapons than those possessed at that time by the Federal Reserve System; and none of the alternatives within its power might make much difference to the result. However this may be, such an outlook seems to me to be dangerously and unnecessarily defeatist. It recommends, or at least assumes, for permanent acceptance too much that is defective in our existing economic scheme.

The austere view, which would employ a high rate of interest to check at once any tendency in the level of employment to rise appreciably above the average of, say, the previous decade, is, however, more usually supported by arguments which have no foundation at all apart from confusion of mind. It flows, in some cases, from the belief that in a boom investment tends to outrun saving, and that a higher rate of interest will restore equilibrium by checking investment on the one hand and stimulating savings on the other. This implies that saving and investment can be unequal, and has, therefore, no meaning until these terms have been defined in some special sense. Or it is sometimes suggested that the increased saving which accompanies increased investment is undesirable and unjust because it is, as a rule, also associated with rising prices. But if this were so, *any* upward change in the existing level of output and employment is to be deprecated. For the rise in prices is not essentially due to the increase in investment;—it is due to the fact that in the short period supply price usually increases with increasing output, on account either of the physical fact of diminishing return or of the tendency of the cost-unit to rise in terms of money when output increases. If the conditions were those of constant supply-price, there would, of course, be no rise of prices; yet, all the same, increased saving would accompany increased investment. It is the increased output which produces the increased saving; and the rise of prices is merely a by-product of the increased output, which will occur equally if there is no increased saving but, instead, an increased propensity to consume. No one has a legitimate vested interest in being able to buy at prices which are only low because output is low.

Or, again, the evil is supposed to creep in if the increased investment has been promoted by a fall in the rate of interest engineered by an increase in the quantity of money. Yet there is no special virtue in the pre-existing rate of interest, and the new money is not 'forced' on anyone;—it is created in order to satisfy the increased liquidity-preference which corresponds to the lower rate of interest or the increased volume of transactions, and it is held by those individuals who *prefer* to hold money rather than to lend it at the lower rate of interest. Or, once more, it is suggested that a boom is characterised by 'capital consumption', which presumably means negative net investment, i.e. by an excessive propensity to consume. Unless the phenomena of the trade cycle have been confused with those of a flight from the currency such as occurred during the post-war European currency collapses, the evidence is wholly to the contrary. Moreover, even if it were so, a reduction in the rate of interest would be a more plausible remedy than a rise in the rate of interest for conditions of under-investment. I can make no sense at all of these schools of thought; except, perhaps, by supplying a tacit assumption that aggregate output is incapable of change. But a theory which assumes constant output is obviously not very serviceable for explaining the trade cycle.

VII

In the earlier studies of the trade cycle, notably by Jevons, an explanation was found in agricultural fluctuations due to the seasons, rather than in the phenomena of industry. In the light of the above theory this appears as an extremely plausible approach to the problem. For even to-day fluctuation in the stocks of agricultural products as between one year and another is one of the largest individual items amongst the causes of changes in the rate of current investment; whilst at the time when Jevons wrote—and more particularly over the period to which most of his statistics applied—this factor must have far outweighed all others.

Jevons's theory, that the trade cycle was primarily due to the fluctuations in the bounty of the harvest, can be re-stated as follows. When an exceptionally large harvest is gathered in, an important addition is usually made to the quantity carried over into later years. The proceeds of this addition are added to the current incomes of the farmers and are treated by them as income; whereas the increased carry-over involves no drain on the income-expenditure of other sections of the community but is financed out of savings. That is to say, the addition to the carry-over is an addition to current investment. This conclusion is not invalidated even if prices fall sharply. Similarly when there is a poor harvest, the carry-over is drawn upon for current consumption, so that a corresponding part of the income-expenditure of the consumers creates no current income for the farmers. That is to say, what is taken from the carry-over involves a corresponding reduction in current investment. Thus, if investment in other directions is taken to be constant, the difference in aggregate investment between a year in which there is a substantial addition to the carry-over and a year in which there is a substantial subtraction from it may be large; and in a community where agriculture is the predominant industry it will be overwhelmingly large compared with any other usual cause of investment fluctuations. Thus it is natural that we should find the upward turning-point to be marked by bountiful harvests and the downward turning-point by deficient harvests. The further theory, that there are physical causes for a regular cycle of good and bad harvests, is, of course, a different matter with which we are not concerned here.

More recently, the theory has been advanced that it is bad harvests, not good harvests, which are good for trade, either because bad harvests make the population ready to work for a smaller real reward or because the resulting redistribution of purchasing-power is held to be favourable to consumption. Needless to say, it is not these theories which I have in mind in the above description of harvest phenomena as an explanation of the trade cycle.

The agricultural causes of fluctuation are, however, much less important in the modern world for two reasons. In the first place agricultural output is a much smaller proportion of total output. And in the second place the development of a world market for most agricultural products, drawing upon both hemispheres, leads to an averaging out of the effects of good and bad seasons, the percentage fluctuation in the amount of the world harvest being far less than the percentage fluctuations in the harvests of individual countries. But in old days, when a country was mainly dependent on its own harvest, it is difficult to see any possible cause of fluctuations in investment, except war, which was in any way comparable in magnitude with changes in the carry-over of agricultural products.

Even to-day it is important to pay close attention to the part played by changes in the stocks of raw materials, both agricultural and mineral, in the determination of the rate of current investment. I should attribute the slow rate of recovery from a slump, after the turning-point has been reached, mainly to the deflationary effect of the reduction of redundant stocks to a normal level. At first the accumulation of stocks, which occurs after the boom has broken, moderates the rate of the collapse; but we have to pay for this relief later on in the damping-down of the subsequent rate of recovery. Sometimes, indeed, the reduction of stocks may have to be virtually completed before any measurable degree of recovery can be detected. For a rate of investment in other directions, which is sufficient to produce an upward movement when there is no current disinvestment in stocks to set off against it, may be quite inadequate so long as such disinvestment is still proceeding.

We have seen, I think, a signal example of this in the earlier phases of America's 'New Deal'. When President Roosevelt's substantial loan expenditure began, stocks of all kinds—and particularly of agricultural products—still stood at a very high level. The 'New Deal' partly consisted in a strenuous attempt to reduce these stocks—by curtailment of current output and in all sorts of ways. The reduction of stocks to a normal level was a necessary process—a phase which had to be endured. But so long as it lasted, namely, about two years, it constituted a substantial offset to the loan expenditure which was being incurred in other directions. Only when it had been completed was the way prepared for substantial recovery.

Recent American experience has also afforded good examples of the part played by fluctuations in the stocks of finished and unfinished goods—'inventories' as it is becoming usual to call them—in causing the minor oscillations within the main movement of the trade cycle. Manufacturers, setting industry in motion to provide for a scale of consumption which is expected to prevail some months later, are apt to make minor miscalculations, generally in the direction of running a little ahead of the facts. When they discover their mistake they have to contract for a short time to a level below that of current consumption so as to allow for the absorption of the excess inventories; and the difference of pace between running a little ahead and dropping back again has proved sufficient in its effect on the current rate of investment to display itself quite clearly against the background of the excellently complete statistics now available in the United States.