

U N I V E R S I T Y O F S T I R L I N G

J M KEYNES' GENERAL THEORY OF EMPLOYMENT,
INTEREST AND MONEY: A GUIDE FOR READERS.

by

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Introduction

Anyone who is attempting to get to grips with a complicated set of ideas by starting with the book in which they originally appeared usually finds it helpful to know what to look for, and to understand why the book has been written in the way it has. Of course, there are many things that might be found by looking, and many interpretations that can be placed upon such things as are discovered. It all depends on the blinkers with which the reader constricts (knowingly or unknowingly) his or her vision. The purpose of this pamphlet is to provide a set of blinkers and signposts rather different from those found in conventional textbooks or Alvin Hansen's original Guide to Keynes (1953, New York: McGraw-Hill). But it is a set which I have found rather more helpful for understanding problems of inflation and unemployment as Keynes saw them than the conventional approaches.

The interpretation and guide which I offer has its origins in the attempted interpretations of Keynes' ideas of Joan Robinson, Axel Leijonhufvud, George Shackle, Robert Clower and Hyman Minsky. These earlier readers of Keynes did not always agree with each other but I have found that a very powerful whole can be fashioned by joining together the compatible parts of what they have said about Keynes. Having achieved my own understanding of the theory of employment, interest and money by synthesising these ideas over a period of several years I then re-read Keynes' book from beginning to end, noting his basic ideas and, with the benefit of hindsight, what happened to them. The pages that follow this one contain the impression I formed on reading his book again with my blinkers in place. Readers who use this pamphlet as an aid to reading the General Theory may not emerge with the same impression, but I hope it makes their task easier all the same and, who knows, their impression might be the true view of what Keynes said, or ought to have said.

I have found it convenient to consider two or three chapters at a time. Sometimes the notes look quite a long way ahead to explain why particular chapters will turn out to be important; at other times they are more descriptive. At all times the reader of Keynes should bear in mind that Keynes' concern was to explain why the mechanism of supply and demand might not work properly at all times and permit workers always to find employment if they wanted it, and why his policy solution would not fail in the way his critics had attempted to suggest. His concentration on unemployment and how to get rid of it should not lull the reader into thinking at an economy can never attain full employment without government intervention; rather, the point is that this won't always happen and that even if we start at full employment and suffer a disturbance we may be taken away from full employment for a very long time before we begin to move back towards our starting point. If "in the long run we are all dead" and if we deplore misery and waste in the short run we may have to intervene to adjust the way the 'hidden hand' works. Economists before Keynes, and those since who have not understood his work, believed that the policies he advocated would make things worse and delay a swift movement towards the long run. Keynes and his followers have been inclined to believe that the hidden hand of the price mechanism might point in

the wrong direction if left to its own devices and do its work by strangulation instead of efficiently providing correct signposts for individual action.

Chapters 1 and 2

Keynes claimed he was writing the General theory of employment to replace the special case which the earlier economists had provided and which was not applicable to the real world economic system. Unfortunately his work was not accepted as having done this. His theory of how an economy could languish for long periods in a state of unemployment which workers were powerless to alter by individual action was claimed to be just a special case of a 'general' theory of supply and demand. In this latter 'general' theory it is hypothesised that in the absence of rigidities, of imperfections in the market mechanism, the forces of supply and demand will ensure that all markets, including the labour market, clear and that no one will be unable to sell his or her labour services at the prevailing wage.

Keynes' General Theory was claimed to be a special case on the grounds that his arguments rested on a number of restrictive assumptions, none of which he really did make. All the remaining chapters must be read with this in mind. He was accused of assuming:

- a) Money wages are fixed and workers are not prepared to accept wage cuts in order to get or keep their jobs. While for much of the time he writes as if wages can be taken as being fixed he only does this because he realizes that highly flexible wages would cause chaos every time there was a tendency towards over-full or under-full employment. This is why he saw that the classical model with highly flexible wages is 'disastrous if we attempt to apply it to the facts of experience.' Not only does he later show why flexible wages lead to chaos, he also shows that they do nothing directly to make unemployment vanish. Now, although this may seem a weak conclusion for countries that engage in trade, taken individually - lower wages would lower prices and increase exports - it should not be forgotten that Keynes is concerned with the behaviour of whole systems and that a country which increases its employment by reducing wages only does so by exporting unemployment to the rest of the world. Keynes was concerned with a world economy that suffered from unemployment, a world economy in which unemployment had been accompanied by some tendency for wages to fall. So it would have been rather foolish for him to assume rigid wages in the face of changes in the demand for labour, or to complicate the analysis with more frequent references to trade. Taking wages as given simply makes the analysis easier to manage.
- b) Those economists who realized that he did consider wage flexibility often accused him of assuming that the economy was prevented from reaching full employment by a 'liquidity trap'. This, as we shall see, is the hypothetical situation where feedback effects of falling prices and wages at a time of unemployment fail to drive the interest rate down to a low enough level to make the right amount of spending occur. After inventing the liquidity trap Keynes said he knew of 'no example hitherto'. Hence it is not an assumption of his book.

- c) Investment did not respond to changes in the rate of interest. This is simply untrue as an assumption of Keynes' book, though empirical work certainly does suggest that it may not always be too unrealistic an assumption to make about the real world.
- d) Changes in prices did not affect the value of people's total wealth and thereby affect their expenditure. While it is true that Keynes doesn't spot what has been subsequently discovered and labelled the 'real balance effect' (a particular kind of 'wealth effect' caused by the value of money in people's pockets rising as the price level falls) it is not at all correct to say that Keynes totally ignored the ways in which price changes could affect expenditure by making people feel wealthier. Moreover, as we shall eventually see, the real balance effect is logically rather questionable in a real world economy where most money wealth is kept in banks, not pockets.

Despite condemning his work as a special case, most economists then 'conceded' that in practice wages weren't flexible because workers refused to accept money wage cuts when the demand for labour declined, thinking they entailed real wage cuts. Liquidity traps and real balance effects then were irrelevant for policy making. What mattered was the possibility that workers who resisted money wage cuts could be fooled into accepting real wage cuts by a policy of expanding the money supply or government expenditure which would pull up prices relative to wages and make firms wish to expand employment. Workers would foolishly think that money wage changes were real wage changes and fail to notice the higher prices. Such workers could be said to suffer from a 'money illusion'.

The suggestion that Keynes relied on 'money illusion' to fool workers back into employment probably has its origins in the way he defined what he meant by involuntary unemployment. He assumed that firm supply curves were upward sloping (an unnecessary concession to orthodox microeconomics in the view of many of his followers but an assumption which might be necessary in industries without big production lines where firms can choose to use their most modern, and least costly, machines first) and as a result real wages necessarily had to be reduced to permit a rise in employment. In his definition of involuntary unemployment (p.15) he speaks of a rise in the cost of living relative to wages, and because he took wages as given to make the analysis easier it was assumed that a rise in the price level was the way he thought the relative adjustment could be achieved. This rise in the relative cost of living should be seen as a one-shot affair and it is merely bringing workers' standards of living back down to where it was before the unemployment occurred: previously the economic downturn had caused a fall in prices relative to wages and now an economic upturn (however engineered) must produce the opposite result.

According to Keynes' definition, anyone who refuses to work because the cost of living rises relative to money wages is voluntarily unemployed. There are people around who are involuntarily unemployed if, when the cost of living rises relative to money wages, more workers than are currently employed would still wish to work and employers would wish, other things equal, to employ more workers than they do at present. The problem is that a flexibility of money wages in

general will tend to be associated with a similar flexibility in the general price level and unchanged average real wages. Hence workers in general will be powerless directly to make it more attractive for firms to hire more of them. All wage flexibility may do is change wage differentials. Keynes suggests that the downward stickiness (n.b. not rigidity) of wages in times of unemployment arises because workers do not want their relativities changed, rather than because they are not prepared to suffer a cut in living standards if everyone else suffers too (as they would if wages were fixed and there was a rise in the general price level). Just because the demand for, say, steel has fallen a steel worker doing a similar labouring job to, say, a car worker cannot see why only he should suffer if there is a fall in the total demand for labourers. However, if the car market happens not to be in trouble why should the car firms upset things by breaking existing contracts and trying to impose wage cuts? If workers were hired by the day, like dockers used to be at dockside auctions, it might be reasonable to expect firms always to be trying to get the lowest wage the market might take, but they are not and it is entirely conceivable that wage stickiness might arise from the firms' side of the labour market. (Keith Glaister and I have explored this possibility in some detail in 'Wage Stickiness From the Demand Side' (1979) University of Stirling Discussion Papers in Economics, Finance, and Investment, No. 78).

Workers who refuse to work because the cost of living has risen relative to money wages or because dole payments have increased are, in Keynes' terms, voluntarily unemployed, and he is not concerned with their problems. The subject of his concern are those workers who are unable, rather than unwilling, to price themselves into employment by offering their services at lower wages than in the past.

At the end of Chapter 2 Keynes criticises the faith of previous economists in Say's Law - the idea that supply creates its own demand since the people who make things are only at work to get money to buy things that are on sale in the marketplace. The difficulty which Keynes had spotted with this idea was that people might not want to buy things right now (or they might want to buy existing assets, e.g. oil paintings). In the previous theory the possibility that people might want to save didn't cause a problem. A greater desire to save would lead to more money being available for firms or other consumers to spend and interest rates would fall until all the extra savings got spent by someone. Keynes argues in subsequent chapters that this classical theory of interest rate determination is wrong. Because of this, the supposed feedback mechanism, and hence Say's Law also, will not necessarily work.

Chapters 3 and 4

Keynes' concern with the choice of units and definitions in these two chapters may strike the modern reader as somewhat bizarre. However, it must be remembered that National Income Accounting is one of the fruits of the Keynesian revolution. Nowadays we have a reasonable idea of the productive potential and extent of capacity utilization at a point in time but we still suffer from problems in measuring real output changes in a world of changing prices, relative

outputs, and depreciating machinery. But without even this imperfect data it would be impossible to apply monetary or budgetary adjustments of the kind Keynes suggested without an extreme concern that they might be highly inappropriate. Lacking modern statistics, Keynes had to use some strange sounding terms to convey his ideas about the aggregate intentions and expectations of firms with regard to the volume of output they were producing and the associated level of employment.

Two particularly odd sounding terms are 'User Cost' and 'Wage Units'. User cost is simply the expected fall in the value of an asset if it is used and partially wears out, or the expected cost of restoring an asset to its present condition after use - i.e. Keynes is concerned with the problem of depreciation. The wage unit is equal to the total wage bill divided by the number of workers employed. It is Keynes' proxy for the typical wage and by taking tastes and current potential output to be given, along with relative wages, he escapes the problem of weighting workers of different skills, who will be worth different wage units, as the level of employment fluctuates. Given the state of expectations, aggregate employment will only rise in Keynes' model if the price level rises relative to the wage unit. However, it should be noted that Keynes does not have a theory of what determines the wage unit, merely views on why it might be prone to sluggish adjustments.

At all times it must be remembered that Keynes is assuming a given technology and capital stock. In doing this he rather leaves aside the question of what happens in subsequent periods when this period's new investment goods (which help generate employment when they are being made) increase next period's potential output. Unless unemployment is to increase next period's expenditure will have to be higher than in this period. The extra expenditure can come from extra spending on consumption, exports, by the government, or on investment. Evidently, if it comes from investment the possibility of future unemployment arises yet again. Investment expenditure, by adding to current demand, increases current employment. By adding to future capacity it necessitates, in the absence of other increases in expenditure, more investment unless future employment is to fall. When, some years later, Harrod examined this problem he found that there was no obvious way in which the market would generate the signals to bring about just the right amount of investment in each period to cause demand to be high enough to employ all the capacity created in the previous periods. Keynes' static conclusions about the lack of self-righting properties of economics became even more dramatic in a dynamic context.

For a given set of expectations, tastes and stock of factors, and with a given wage unit, the price and output levels at which the economy will settle down are determined by the intersection of the aggregate supply and demand functions implied by these 'givens'.

Output depends on the number of wage units being used, but firms will only hire a particular number of workers (and go on doing so) if, given the wage unit, the expected price level is (and continues to be) sufficiently high. The relationship between the expected price level and the number of wage units contracted (and hence the planned volume of output) is the aggregate supply function. The firms' expectations of the prices they can get for their output depend on how much output they attempt to offer on to the market. To plan offer a particular

volume of output implies a particular set of expectations about the price at which it can be sold and the number of wage units that will have to be hired. The aggregate of these expectations about the relationship between output and selling prices is the aggregate demand function. A diagram showing aggregate supply and demand functions would take the following form:

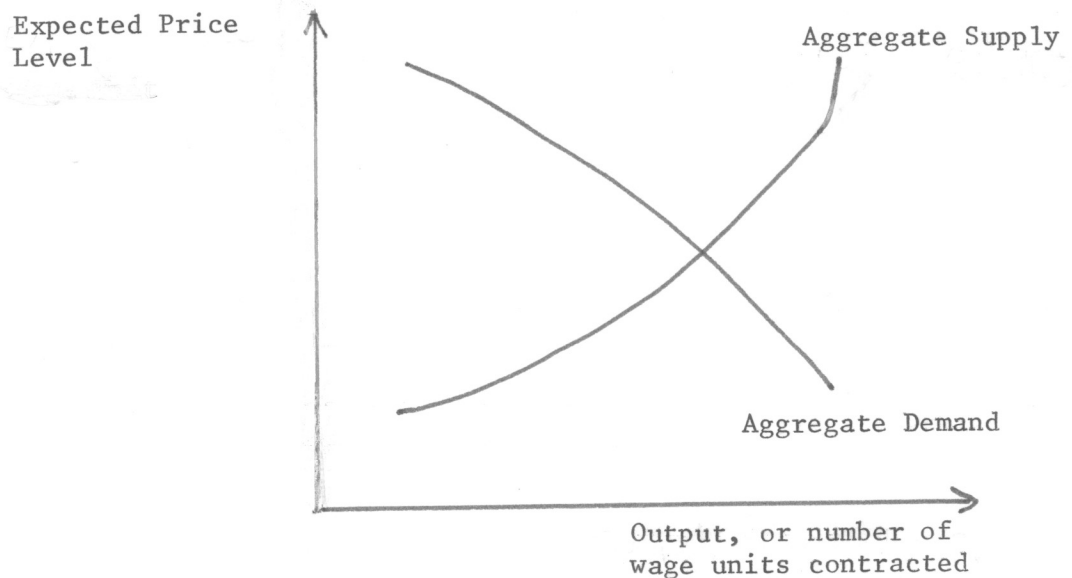


Figure 1

There are several important points to note concerning these aggregate functions. First, there is no presumption that the actual price level will correspond to that which firms expect, for firms cannot know the aggregate implications of the plans of their rivals. If all firms have happier views of the prospects for their own markets and expand their investments without realizing that everyone else is doing the same thing they may well find that even their new expectations are unduly pessimistic. This is because as they invest they increase the demand for each other's output. A second point to note is that although there is a functional relationship between the aggregate expected demand price and employment it should not be thought to have anything to do with the expenditure implications of each individual firm's decision to hire more or less labour. The individual firm is not concerned directly with the possibility of selling output in general, only with the things it is planning to sell. It cannot see why the expenditure from the incomes it pays to its hired factors should necessarily find its way back, directly or indirectly, as higher sales. The relationship encapsulated in the aggregate demand function is simply a consequence of the fact that a higher output, which firms think can only be sold by lowering the price, can only be achieved if more wage units are contracted.

If expected demand prices are typically higher than supply prices firms in the aggregate will be expanding employment; and vice versa.

The process of adjustment continues until expected demand and supply price levels are equal. Of course, expectations may be completely unjustified - once produced, the output may prove much harder to sell than has been anticipated because industrial and individual consumers, or the government, are insufficiently willing to spend money - but this will affect output and employment only in the future. In the meantime, in the example given, more workers will have the good fortune to be employed and the corporate sector, instead, suffers a fall in its income below what it had expected. If workers are under-hired, by contrast, potentially saleable output is lost forever.

Where the two aggregate curves intersect is the point of effective demand: the number of workers hired times the wage unit represents the expenditure the workers will be able to make without running down their past accumulations of funds. If the workers want to save from this total wage bill more than the corporate sector or government wish to spend on investment the actual price level must fall below the expected price level, or stocks must pile up in shops and factories as a form of forced investment.

Note that the level of effective demand is an ex ante (forward looking) concept. It refers to what the economy is going to produce and the expected price level at which it can be sold. The level of effective demand is not necessarily what people would wish to spend on the basis of their preferences if only they had the income, nor does it correspond necessarily to what the economy notionally could produce at full employment. Workers who don't currently have jobs may have preferences for current consumption goods but unless they have current income (or an ability and willingness to borrow or run down their reserves of liquidity) they cannot communicate their preferences to firms. As a result of this lack of signal the firms do not hire them and the income they might use as a signal does not get paid - a "Catch 22" situation exists. This Catch 22 problem should not distract us from the possibility that even if they had income the workers might not wish to spend it all on current goods, so that if firms did hire them and didn't increase their investment they would make losses, but it helps us to see a possible defect in Say's Law explanations of the impossibility of persistent unemployment.

Having introduced us to the aggregate supply and demand functions Keynes considers - without using the Catch 22 problem to do it (that is an idea of Robert Clower) - how these functions would have to behave for Say's Law to work. If Say's Law is operating then it must be the case that when firms hire more labour (which, by assumption, entails a rising supply cost per unit as output is also increased) the aggregate demand function shifts, if necessary, by the amount which will provide an expected and sustainable price level equal to the supply price at that level of employment. This would mean that with a given wage/ perfectly elastic labour supply firms would want to expand output infinitely. They would wish to do this even despite the rising supply price as older machines are bought back into use because as they expanded output and employment the expected price level would always rise by just the right amount to stop them from incurring losses.

In a world where Say's Law operated to produce such shifts in the aggregate demand function the thing which would provide a ceiling

to output and employment would be an inelastic supply curve for labour. Such a labour supply curve, due to a rising marginal disutility of employment, would produce a steeply rising portion on the aggregate supply curve. Thus although, in the Say's Law situation, if more workers could be hired at the previous wage the price level would rise sufficiently to make this production cost level viable, the associated reduction in real wages would reduce the supply of people willing to work at the existing money wage rate, i.e. voluntary unemployment would grow. A maximum level of employment would be reached when the rise in price level associated with an increase in employment deterred people from working to such a degree that the aggregate supply curve became completely vertical.

Keynes views effective demand as an expectational concept resultant from the decisions of a multitude of independently acting employers. Because of this he can see no inherent reason why the aggregate demand function must necessarily cut the vertical portion of the aggregate supply function, and, if it does not, there must be involuntary unemployment. Clearly, to reduce the amount of such unemployment something must happen to shift the aggregate demand curve upwards, or the aggregate supply curve downwards, without the other curve being affected in a completely offsetting way. Much of what happens in the rest of the book should be seen as Keynes' attempt to show that if the aggregate supply curve is shifted downwards by cuts in wages firms will soon come to notice that expenditure falls when this happens and revise downwards their price expectations. Shifts in the aggregate supply curve due to wage changes may thus be entirely offset by shifts in a similar direction by the aggregate demand curve unless, indirectly, wage changes can favourably affect expectations of real expenditure.

Chapters 5 and 6

In these two chapters Keynes continues to think, without the benefit of modern national income accounts, about what determines a sustainable flow of aggregate supply. Although much of the discussion refers only to the sorts of calculations firms may make before committing themselves to employing factors, the ideas may easily be seen to encompass the sorts of things that may concern consumers before they decide what activities to undertake, be they consumption decisions or decisions about where to work.

Firms and consumers start any given period with a set of assets and experiences resultant from the forward-looking decisions they have made in previous periods. They have to decide whether or not to keep the assets idle for future use, to use them to earn profit or utility, or sell them and purchase other assets that could give them a greater return. Usually, to get a return from an asset involves first putting in additional resources obtained by selling other assets or using up reserves of borrowing power. For example, a firm must finance holdings of stocks and purchases of raw materials and labour services in advance of getting receipts from selling its output. Furthermore, during the production process the value of the assets it already had may depreciate.

A Firm will only continue to use its assets in a production process

and thereby employ workers if the expected yield of doing so is no worse than the next best thing of which it can conceiye. The next best thing might appear to be merely to sell the assets and hold on to the money realised from their sale while also not using up borrowing capacity at the present. To decide what to do it is necessary to examine the returns that might be gained from using existing assets in production or consumption schemes of various kinds, and the returns from not using them at all. The person taking a decision will carry out the set of schemes with the highest total of expected net incomes. The aggregate supply and (expected) aggregate demand curves discussed in chapters 3 and 4 embody the results of such calculations.

A Scheme's expected Net Income = Expected Proceeds (or Utility)

Plus: The expected value of additions to stocks of materials and work in progress by the end of the period.

Less: a) The value of factors purchased for producing the scheme's output.

b) User cost, less the sum it would have paid the owner to spend on maintaining and improving the asset had it not been used.

c) Supplementary Loss.

User cost, as we have earlier noted, refers to the fall in the value of the asset due to it wearing out with normal use or, alternatively, what it would cost at the end of the period of use to restore it to its previous condition.

Supplementary loss refers to additional falls in value that are not certain to take place but which are actuarially sufficiently predictable to be insured against (e.g. fires, compensation for industrial accidents). The actual net income of the scheme will differ from expectations as a result not only of an incorrect expectation of its proceeds but also as the result of any windfall losses. Windfall losses are such losses as are insufficiently predictable to be insured against. Keynes prefers to exclude these from the income account because of the impossibility of using measures of probability to give them an expected value. He prefers to regard them as affecting the value of people's capital and their behaviour as and when they occur.

A decision taker who is concerned about when things happen will discount the figures in the income account to get a net present value for the scheme in question. If this is less than could be got by selling the assets and elsewhere using the proceeds (plus the additional money which would have had to be used or borrowed for use with the assets) the scheme will not be implemented. Calculations of the present value of expected net income can, in principle, be made for any scheme of action, even for jobs that might be accepted. For example, accepting a particular job entails an expected income in the period in question, plus accumulated holiday rights, less expenses,

less any loss of leisure and life expectancy (and any doctors' bills), less unemployment benefit contributions, less income lost due to short time working. A windfall loss would be something such as the destruction of a worker's skills by the invention of the micro-processor.

Keynes argues that the expectations about values which are plugged into the net income calculations will usually be based on the assumption that current values and trends will continue. It would be too costly and complicated to work things out afresh as well as a waste of time unless conditions are changing dramatically. When current trends have broken down and we cannot use experience as a guide it may be very difficult to take any kind of decision other than that to wait and see what happens; to see, particularly, what other people do and what happens to them.

Keynes at last goes on to define the relationship between income, savings and investment once he has concluded his lengthy discussion of the evaluation of net income, a discussion which is unusual in its emphasis on the costs of attaining income which must be borne on top of regular factor purchases. He defines the relationship as follows:

Income = Value of Output = Consumption + Investment.

Saving = Income - Consumption

Saving = Investment.

If output produced in a particular period is not sold for consumption it must either be sold as investment goods that will contribute to future outputs or be held by firms as additions to stocks. The value of income recorded depends on the price level. If prices are unexpectedly depressed then, given the wage bill paid in the period in question, profits or rent incomes must be lower than expected.

If investment increases saving must always increase by an identical amount. If investment falls savings must fall by an equal amount. Keynes argues that if people try to stop this happening the price level will either explode towards infinity or plunge towards zero each time there is a change in the rate of investment. This is because savings are a mere residual. If people attempt to change them in the aggregate without making a similar change in investment then income will change, leaving the total saved unchanged but the proportion saved different. People can take their decisions about how they will dispose of their incomes independently of what others are planning to invest but, in implementing their decisions, they may cause others to have income levels rather different from what they had expected. To avoid scope for confusion it is better not to think of people in the aggregate deciding to save but merely as taking decisions about what proportion of their incomes to consume. Their choices imply a savings residual, a residual that cannot, in the aggregate, be other than a residual except in the very short run when the rate of output is fixed and decisions not to consume force firms to invest in stocks.

Chapter 7

In the first part of chapter 7 Keynes examines how economists had previously attempted to define savings and investment, and what might be meant by the concept of 'forced saving' that was sometimes mentioned in the literature. He argues that the concept makes reasonable sense at times of full employment. In such circumstances more resources can only be devoted to investment production if less consumption takes place as a result of would-be consumers somehow being made to be more frugal. This problem is particularly obvious in wartime when consumers are being paid for producing weapons instead of consumption goods but cannot spend their incomes as they would please. One way in which reduced levels of real consumption might come about is if prices rise before planned consumption expenditures take place from recent income flows. As a result people have less command over real goods and services than they would have done. Meanwhile, firms selling the goods at the new high prices may do extra saving in money terms since the higher prices, relative to the production costs they have paid, mean their profits are higher than they would otherwise have been. The source of the higher prices in wartime is likely to be the result of a given volume of purchasing power in search of a smaller volume of consumables - military output is not marketed to, or desired by, individual consumers.

In this wartime example the extra expenditure which firms will be able to finance from this period's profits will generate similar problems next period in the investment goods sector. Rising prices there will give unexpected profits to the firms producing investment goods, while the firms attempting to buy investment goods will find their accumulated funds not buying as much as they had expected. Rising investment goods prices thus force firms to buy less in real terms too. Evidently, if firms and consumers realize that if they don't attempt to consume as soon as they get income their total consumption will be reduced, and consequently increase their rates of spending, they will exacerbate the inflationary problem.

Savings and investment are always equal, however long the time period considered and even at the moment when an investment good is purchased, before any ripple effects on expenditure elsewhere have time to happen. The firm selling the investment good has income which it would not otherwise have had. Until it spends part of the receipts from the sale it is clearly saving the whole amount; it is neither consuming nor investing. When it does spend part of it the remainder is still being saved, while the part spent now represents income for yet another firm and must, till it is spent, be saved; and so on.

Anyone can choose to save as much from their current income as they like, but they cannot always choose the income level from which they do their saving. The person who, say, chooses not to buy a car this period reduces the profits of those who would have sold him the car. The car sellers are less able to add to their wealth than they otherwise would have been. The company that is afraid of investing in a new factory likewise deprives other companies and workers of income from which they might wish to save. Evidently, the more willing to spend people are, the more income gets generated. Mindful of this, Keynes then turns in the next two chapters to consider factors affecting the propensity to consume.

Chapters 8 and 9

The average propensity to consume is defined by Keynes as the relationship between a given level of income expressed in wage units and consumption out of that level of income. The marginal propensity to consume is the relationship between a change in the level of income paid out and the increase in consumption expenditure which results from the increase in incomes received. Keynes argues that as income rises consumption rises, but at a decreasing rate. He thus believes that the marginal propensity to consume is less than the average propensity to consume. If we look at data for a cross section of the community at a particular moment this seems to confirm Keynes' opinion. However, it does not seem to work out like this if we look at data referring to behaviour of groups of people whose incomes are rising through time. Time series data tend to suggest that the average propensity to consume is fairly constant, despite not being equal to the marginal propensity to consume. Such findings about the behaviour of the consumption function do not, it must be emphasised, overturn Keynes' essential theoretical arguments.

Keynes suggests that the propensity to consume depends on the following six objective factors:

- 1) The level of real income;
- 2) The difference between income and disposable income (after allowing for expected depreciation and supplementary costs likely to affect the assets a person owns);
- 3) Windfall changes in capital values that have already taken place;
- 4) Changes in the ratio at which present and future goods can be exchanged for each other;
- 5) The distribution of income as affected by fiscal policy (other things equal, a more equitable distribution of income will lead to a higher propensity to consume);
- 6) Changes in expectations of the relation between present and future levels of income.

Factors 3, 4 and 6 deserve more attention than they are usually given as they may have a big role to play in determining how responsive an economy will be to disturbances. In affluent economies such as the U.S.A. many ordinary people own stocks and shares. Falls in share values will thus make many people feel less wealthy and reduce their expenditure. If share prices have fallen because of an economic downturn such expenditure reductions may make things even worse and give rise to further falls in asset prices. In affluent societies it is very easy (social pressures aside) to cut expenditure since a large part of it is on luxury goods to replace possessions that have not yet worn out and can continue to be used, such as cars and electrical appliances. Similarly if people try to maintain what Keynes calls 'sinking funds' (where they accumulate funds to buy replacements for goods that are wearing out) there may be a depressing effect on the economy if many are adding to such funds simultaneously. Eventually they may all attempt to spend them and add to demand as they do so, but in the meantime they do little to encourage firms to add to future capacity.

Although Keynes calls the factors we have listed "objective" it seems at times rather difficult to consider them without reference to the kinds of expectations which affect what he later categorizes as

subjective factors. For example, consider factors 5 and 6. If the price of consumer goods is expected to fall in the future (as with, say, home video equipment) then it will be a good idea to postpone expenditure, while if the Chancellor of the Exchequer is likely to raise Value Added Tax it will be sensible to buy now. Similarly, if you expect to lose your job and not be able to find a comparable one (or any job) for a long time it is rather unwise to rush out and take on a lot of hire purchase commitments, whereas if you know you will receive salary increments it may seem safe to live now and pay later. In each of these cases the basis for holding expectations may be exceedingly flimsy.

Keynes lists eight subjective factors causing people to refrain from spending:

- 1) Precaution - to build up a reserve for unforeseen contingencies;
- 2) Foresight - e.g. saving up for retirement or education;
- 3) Calculation - to enjoy interest and capital appreciation for higher consumption at a later date;
- 4) Improvement - to look forward to an improving standard of living in the future;
- 5) Independence - though not necessary with a clear idea of how the power of choice will later be used;
- 6) Enterprise - for speculative or business projects;
- 7) Pride - to bequeath a fortune;
- 8) Avarice - inhibitions against expenditure as such.

It is important to note how Keynes differs from the pre Keynesian economists with regard to the relationship between savings and the rate of interest. The classical economists saw the rate of interest as something which balanced the desire to borrow funds with the willingness of people to wait, the willingness to refrain from current consumption. Interest was, in the classical theories, the reward for waiting. A rise in the desire to invest would cause a rise in the interest rate and savings would thus be attracted to finance the investment. A rise in the "willingness to wait" would cause a fall in the rate of interest and an offsetting increase in investment.

Keynes allows for the rate of interest to affect the willingness of people to save (c.f. subjective factor 3 and objective factor 4) but otherwise disagrees fundamentally with the view of the earlier theorists. As we shall see when discussing Chapters 13 and 14, he argues that the rate of interest is not determined by the intersection of savings and investment schedules. While a rise in the rate of interest may cause people to want to save a bigger proportion of their incomes, the attempt to increase the rate of saving will cause the level of income from which saving is done to fall. Savings in total will remain equal to investment even if the propensity to save rises. Not only this, but a rise in the rate of interest, as well as causing reduced consumption expenditure, may also cause a decline in investment which reduces the level of income still further. When the interest rate rises income will only be maintained if an increased propensity to save is offset by a rise in investment.

Chapter 10

It is in this chapter that the concept of the marginal propensity to consume is shown to have a key role to play in determining the effects a change in non-consumption expenditure will have on employment through time. In the equilibrium treatments of textbooks the multiplier - the relation between the total change in expenditure and an initial change in non-consumption expenditure - is discussed as if it works instantaneously. This 'as if' simplification arises from this chapter of Keynes' book but Keynes also liked to keep in mind the disequilibrium process of the multiplier and the complications that might prevent it from having the value derived by simple mathematical manipulations. In this section of our guide to the General Theory the emphasis will be on the disequilibrium view of the multiplier and the marginal propensity to consume since, all too often, students can do acceptable manipulations of the income-expenditure treatments of the multiplier but are barely able to articulate on the subject of the underlying processes.

The timeless multiplier idea which can be derived from this chapter is most easily put down with a few mathematical manipulations.

Let C = Total Consumption, Y = Total Income, and I = Total Investment. Further, call c = The Marginal Propensity to Consume, and a = a constant, which is greater than zero. It is then possible to write:

$$(1) \quad Y = C + I$$

$$(2) \quad C = a + cY$$

Equation (2) is the consumption function. With $a > 0$ we have a consumption function in which the average propensity to consume, C/Y , is greater than the marginal propensity to consume. We can substitute equation (2) into equation (1) to get equation (3) below.

$$(3) \quad Y = a + cY + I.$$

Re-arranging this we can write:

$$(4) \quad Y = \frac{a + I}{1 - c}$$

In equation (4), $1 - c$ is simply the marginal propensity to save. Now, if we use delta signs to indicate changes in income and investment we can leave aside the constant, a , (which implicitly indicates what people would consume in the economy if they had no current income) and write:

$$(5) \quad \Delta Y = \frac{\Delta I}{1 - c} \quad \text{or} \quad \frac{\Delta Y}{\Delta I} = \frac{1}{1 - c}$$

The ratio in the right hand version of equation (5) is the multiplier. In equilibrium terms it is best understood as follows. The multiplier is the ratio of a continuing net increase in income (relative to a previous period's steady level of income) to a continuing net increase in investment (relative to a previous period's steady level of investment). This ratio is equal to the reciprocal of $(1 - c)$. In dealing with economies with Government and foreign trade sectors it is necessary to speak of 'net increases in demand for domestically produced goods other than those for private consumption' instead of 'net increases in investment', and

(1-the marginal propensity to spend personal disposable income on domestically produced consumption goods) instead of (1-c).

It is most important, when speaking of the multiplier in such mechanical terms, to keep the word 'net' in mind at all times. It will not usually be the case that an increase in government expenditure will represent a straightforward 'net' increase in non-consumption demand. Often the expansionary affects of additional government expenditure result in total not merely from the rate at which recipients of such spending respond their new incomes but also as a result of the indirect effects the extra government expenditure has on private expenditure. These indirect effects may either amplify or dampen the expansionary effects of the increased rate of government expenditure.

If an increase in government expenditure harms business confidence and/or raises the cost of private sector borrowing, because of attempts to finance it without increasing the money supply, the net increase in non-consumption expenditures may be somewhat smaller than the addition to government expenditure as a result of a reduction in private investment expenditure. Rising interest rates might also affect consumer expenditure (and hence the marginal propensity to consume) if they affect consumer credit availability and further reduce the effect of the government's attempted expansion. This partial displacement of private expenditure by increased government expenditure (or even by increased private expenditure, if the cost of finance is affected) is nowadays called 'crowding out'. To the extent that it doesn't arise due to adverse effects on confidence but because of rising interest rates it can be offset by having an expansionary monetary policy at the same time as expenditure is being increased.

If the adverse offsetting effects of crowding out are only partial then the multiplier still works, even if its value is rather small, such as little more than one, or even fractional. Crowding out is only a worry in such a situation to the extent that public investment crowds out more productive private investment. To the extent that increasing the level of government expenditure does add to aggregate demand it may not even have to be 'productive' to be worth having in most cases even if rises in interest rates deter some firms from investing. This is because the rise in aggregate demand will usually cause other firms to become more willing to invest despite the rise in interest rates. This kind of response will mean that the net increase in non consumption expenditure is greater than the extra government expenditure and there is negative crowding out, what could be called a super multiplier effect. However, it is obvious that if a government is attempting to reduce unemployment by increasing its expenditure it should try to introduce productive public works schemes wherever possible so that people do not benefit merely from employment and the indirect multiplier effects of the expenditure but also from the intrinsic usefulness of the schemes.

A disequilibrium view of the multiplier concentrates on the underlying micro behaviour processes associated with shifts in the aggregate demand function from period to period. Consider what happens to this function when firms' sales expectations fall. This causes the aggregate demand curve of figure 1 to shift to the left. Fewer workers will be hired and fewer wage units paid out as income. This is the first round effect of the change in expectations but the expectational change could itself be a second round result of an unexpected shortfall of sales

revenue in the previous period due to reduced expenditure by consumers, firms, the government or the foreign sector. What happens next depends crucially on the consumption behaviour of the newly unemployed workers.

People who lose their sources of income will be forced to dissave or borrow in order to survive. To the extent that they are willing and able to do this they keep up the aggregate propensity to consume and stop the loss of income from spreading to others. In fact, the more people or firms do carry on spending regardless of reduced income or profit flows the less likely it is that unemployment will spread and the multiplier begin to work by causing expectational revisions which shift the aggregate demand curve further to the left. If people and firms are rather reluctant to do this, or their banks uncooperative because their cash reserves and collateral are tending to ebb away the government can make it easier for them to keep on spending by cutting taxes or increasing the availability of credit.

The possibility that multiplier effects of an initial contraction in expenditure (actual or expected) can be avoided to the extent agents losing income flows carry on spending rather suggests that the size of the multiplier will vary according to the size of the initial reduction in activity. If there is just a small shock then groups losing income may carry on spending. If, say, consumers decide to reduce their spending somewhat because they feel nervous about their prospects but firms expect them to buy more in the near future they may be prepared to produce for stock at a current loss. Unemployment thus doesn't emerge, nor are purchasing tendencies constrained by a loss of income. If consumer nervousness then seems ill-founded people will make their postponed purchases and the firms' optimistic expectations will seem to have been correct. But if there is a big withdrawal of expenditure firms will be unwilling to carry on employing workers, dissaving to do so, because they will see it as representing a downward shift in the aggregate demand curve. In such circumstances the workers who lose their jobs, and with them their current incomes, will not expect to find new jobs very rapidly. Thus they will be reluctant to try to maintain their usual rates of consumption by running down their financial asset holdings or getting into debt. In this situation the second round contractionary effect is considerable. The consequent group of second round unemployed workers, who see jobless figures rising rapidly, will come to similar pessimistic conclusions.

In each round of the hiring/spending process during an economic downturn the level of income payments is likely to fall faster than the level of expenditure, unless people who still have jobs become pessimistic and cut their expenditure despite not losing their incomes. This is partly because people are willing to borrow or deplete their reserves to keep spending but also because they would have saved part of their incomes had they received them. As a result of income decreasing faster than expenditure in each period the ripple effects of successive reductions in employment must gradually become smaller - if wage payments fall faster than expenditure the size of loss the corporate sector is suffering must be falling, so production and employment will be cut at a slower and slower rate. The process will eventually converge unless something intervenes to shift the willingness of firms and consumers to spend. The timeless, comparative equilibrium view of the multiplier, which was described above, only looks at the ultimate position of rest implied by a given marginal propensity to consume and level of investment.

Until the multiplier has finished working through the system the corporate sector is always making incorrect guesses about the level of demand. In a contraction this means that actual demand is repeatedly less than expected (effective) demand and losses are repeatedly being made. The condition for the downward multiplier process ceasing is that firms should find that the fall in actual expenditure which occurs as they cut employment and production should be less than or equal to the difference between current factor payments (which include expected profits) and the previous period's level of expenditure, and that actual profits should not be less than expected profits. Since last period's expenditure is necessarily equal to last period's income (factor payments by firms plus realized profits) we are saying, in effect, that a floor to output and employment is reached when the fall in income is smaller than or equal to the fall in expenditure. If investment rates are unchanging between periods this means that in the period when the multiplier comes to an end the marginal propensity to consume cannot be greater than one. If consumer confidence is collapsing and expenditure is falling faster than income unemployment will not be tending to level out as the marginal propensity to consume will be greater than one. Where investment is falling convergence will require a correspondingly smaller marginal propensity to consume, possibly even one which has a negative value (which would imply that total consumption spending is rising when total income is falling).

It should now be easy to see why textbook models deal with given investment functions and marginal propensities to consume that are always fractional. But these models never consider the effects of the losses made by firms before the downward multiplier comes to an end on the investment function. In their timeless comparative equilibrium models such losses do not appear. Even Keynes, assuming for much of the time that the multiplier works instantaneously, devotes little attention to the possible implications of these interim losses. However, if we spend some time investigating them at this juncture we shall find his analysis in, particularly, Chapters 18 and 19 much easier to follow.

If firms are rather slow to adjust output and employment and simply cut output each period to the level that could be sold in the previous period the multiplier process takes a long time to work through (an infinite number of stage by stage output reductions of decreasing size). This means that for a long while the corporate sector is making a loss, albeit one of a smaller size in each period as time goes on. It seems rather implausible to suggest that such mounting losses in a depression will not affect the scale of corporate investment. Not only will repeated losses deter investment to create new capacity but they will also make any given volume of investment more difficult to finance without a rundown of assets or increasing recourse to external financing.

If firms cut their investment programmes and attempt to increase their rates of saving they will add to the losses of investment goods producers. If they carry on with their investment programmes despite their losses they will need to borrow more or sell off their financial asset holdings. This will tend to make interest rates rise and asset prices fall, reducing the wealth of owners of stocks and shares and making it likely that they too will reduce their expenditure. Firms accumulate losses, then, because they don't reduce output far enough, soon enough, when there is a fall in the propensity to spend. They don't know where an unemployment equilibrium might be for sure and cannot take a short, sharp jump to it.

Because the multiplier is thus not instantaneous in its operation the losses occur, making matters worse, and the scale of the contraction greater. So, we may well ask, with collapsing investment what stops the economy plunging into a bottomless pit of economic calamity?

One answer has been offered by trade cycle theorists who have constructed capital stock adjustment models in which there is a floor to the level of investment provided by replacement investments necessary to keep going those parts of the economy which have not yet closed down. An additional answer, which also provides scope for an automatic upturn, can be constructed by taking note of our earlier remarks about marginal propensities to consume which are consistent with expectations being realized. If investment is falling as effective demand and factor incomes are falling it is important that total consumption falls more slowly or even rises, i.e. we need a barely fractional and reducing, or even negative, marginal propensity to consume. Although cross-sectional data may suggest a fractional marginal propensity to consume between income bands, a fraction which falls as incomes rise, (i.e. rich people consume less from marginal pounds of income than poor people) a number of reasons can be advanced to suggest that the economy wide marginal propensity to consume falls as total income falls in a depression and may eventually acquire the negative value that provides the key to some kind of upturn.

Unless the unemployed are eventually to starve to death due to running out of borrowing power and exhausting their financial reserves either the government will be forced to make dole payments (financed by credit creation or borrowing from/taxing the rich, the employed and firms with reserves) or relatives and charities will have to help out. To the extent that money transferred to the unemployed would otherwise not have been used to finance current spending, aggregate demand will not decline by as much as it would have done had the unemployed been left to starve or rely solely on their dwindling reserves. In such a situation, as income falls, the average propensity to consume will be rising towards one. The marginal propensity to consume will be a decreasing, though still positive, fraction as time goes on and the contraction process continues.

The less that people who lose their jobs are willing or able to support themselves from their reserves and have instead to be supported by others the more rapidly the marginal propensity to consume drops to zero as a depression spreads. Once the zero value is reached a reduction in income payments due to reduced employment is not associated with a fall in consumption expenditure. So, if investment is not collapsing, further reductions in employment help firms rapidly to reduce their losses since factor payments can be cut without there being a decline in sales. If investment is collapsing the bottoming out of consumer expenditure is at least some form of offsetting event. In both cases it helps explain why, aside from exogenous expansion-promoting shocks, it will not take an infinite number of production periods for the floor to output and employment to be reached.

Now, we have already suggested that the initial impact of the multiplier will be large if there is a collapse in consumer confidence. This may affect even those who do not initially lose their jobs and they may react by postponing expenditures on durable goods, helping to generate an initial marginal propensity to consume of greater than one as income declines. But, sooner or later, the durable goods will wear out and expenditure on them becomes less discretionary. Despite being taxed to finance dole payments or lending to support unemployed relations people in employment may begin to start

spending again on durable items by cutting their savings and drawing on their financial reserves. Total consumption expenditure can thus start rising even if total income and investment are falling, i.e. the marginal propensity to consume becomes negative. A boom in consumer durables replacement expenditure may thus begin to eliminate the losses of the corporate sector and eventually bring about an upturn. Workers who get their jobs back will have a backlog of similar expenditure to make up. Thus as income begins to rise again the average propensity to consume will remain high, with the marginal propensity to consume, having changed its sign to positive as income started to rise, having a large value, possibly greater than one. In time we should expect the consumer boom to burn itself out and, unless investment has begun to recover, the economy will turn down again.

This disequilibrium view of the multiplier with a shifting marginal propensity to consume seems to be much more in keeping with the period by period view of aggregate supply and demand about which Keynes talks in his early chapters than does the more common equilibrium formulation. The two views are also rather hard to marry together: in the situations where the marginal propensity to consume is equal to nought, is negative, or is greater than one some very curious values are obtained if the reciprocal of $(1-c)$ is worked out to get the value of the 'instantaneous multiplier' of the equilibrium approach. By often talking as if the multiplier works instantaneously Keynes himself seems to get confused and forget his earlier chapters' period by period approach. The rest of the book is much easier to understand if the reader abandons the equilibrium/instantaneous multiplier for a period by period view such as we have suggested, and concentrates on the difference between sales revenues and factor payments (wages plus expected profits). By adopting this method of analysis the reader should come to realize that the book is a means of understanding the mechanisms of business cycles - irregular, expectations-dependent disequilibrium phenomena - rather than equilibrium levels of income and employment.

Chapters 11 and 12

Along with Chapter 17 these two chapters contain some of the most neglected parts of Keynes' contribution to economic theory. Despite this, for a minority of economists, particularly those whose ideas have helped shape the interpretation in this pamphlet, these chapters are seen as fundamental to an understanding of how employment is determined. These are chapters where consideration is given to the fact that investment decisions are inevitably looking forward into a world which will be different from what it is like today or has been like in the past. If we have not yet experienced the future we clearly cannot be certain about what it will entail and we will often be faced with the prospect that our decisions, particularly those concerned with business investment, could turn out to be expensively wrong. Somehow we must take decisions despite the incompleteness of our information.

On the surface Keynes' theory of how investment gets determined

resembles very closely the earlier marginal productivity of capital approach, with the word efficiency substituted for productivity. Firms are assumed to expand their volumes of investment until the marginal efficiency of capital is equal to the (opportunity) cost of finance. Keynes defines the marginal efficiency of capital as 'being equal to that rate of discount which would make the present value of the series of returns expected by the asset during its life just equal to its supply price'. In modern jargon we say that firms will invest in projects so long as they have an internal rate of return (i.e. that rate of return which makes the net discounted value of a project equal to zero) equal to or greater than the rate of interest. To state the criterion is easy enough, but to decide on what set of costs and returns to expect is rather difficult if our information is restricted. The greater deficiency of information about the more distant future is partly ameliorated by the discounting process, yet we still need a means of assessing uncertain outcomes.

In neoclassical economics a simple procedure is suggested for coping with uncertainty. People are assumed to have an idea (which need not be objectively correct) of the probabilities of occurrence of particular outcomes. They use the probability values as weights when comparing competing schemes involving the same levels of expenditure. Keynes wrote a dissertation on the theory of probability in order to become a Fellow of King's College, Cambridge many years before he wrote The General Theory. In this early work he argues that we should be careful to distinguish between risk and uncertainty. A risky investment venture is one whose outcome is not known for sure in advance but one who undertakers know (or think they know) that if they tried to implement it a particular number of times there would be a definite ratio of successes to failures, or a particular distribution of net returns. The conventional neoclassical economists' way of handling 'uncertainty' is, in fact, a way of treating risk, for true uncertainty is something rather different.

In his writings on uncertainty Keynes emphasizes two problems with the use of the probabilistic approach to decision taking. Often we do not have sufficient information to be able to say with any degree of confidence what the probability of a particular outcome will be. In such situations we must either assume the past and present will be a good guide to the future or just act according to instinct, according to what Keynes calls "Animal Spirits". Animal Spirits seem to be particularly necessary when we are faced with the second problem, namely that the notion of probability is something rather odd to apply to unique events involving crucial decisions which cannot be repeated should they turn out unexpectedly. A company which goes bankrupt can hardly claim that its failed investment schemes had a two thirds probability of success and that it was just unfortunate that they failed first time round.

Keynes' realization of the difficulties besetting the probabilistic method of decision taking does not prevent him from talking about the role of risk in investment during these chapters. He distinguishes between borrowers' and lenders' risks. Borrowers risk refers to the likelihood that an investment scheme will fail as it is seen by the managers in the firm borrowing the finance (or foregoing alternative uses of internally generated funds). Even if the managers are using other people's money they will still be concerned to avoid failure to safeguard their careers. As investment is increased in a given period they will expect its marginal yield to fall for two reasons: diminishing returns to the exploitation

of perceived markets even if returns are known with certainty; and because schemes may be ranked according to the likelihood of failure. Obviously, for a firm breaking into a new market or one where it lacks experience borrowers risk will tend to be high. Lenders, too, will obviously be concerned with the prospect of failure and will be less and less willing to lend to a given firm in greater amounts unless compensated by a higher and higher rate of interest. Lenders may have very different views of the prospect of a scheme's success from those held by the borrowers. To the extent they are pessimistic the borrowers will need to pay a higher risk premium to attract funds.

Now while Keynes talks about these kinds of risks as if they are calculable in some reasoned way for some of the time he seems unable to prevent his 'Animal Spirits' view of the behaviour of decision takers in conditions of extreme uncertainty from impinging on his presentation. He notes how both borrowers' and lenders' estimations of the prospect of failure swing around during the course of the business cycle, ranging from extreme and often unwarranted pessimism to euphoric and imprudent optimism. Such behaviour inevitably increases the amplitude of business cycles and, because mistakes get made in situations of euphoria, makes them more likely to occur than in the neoclassical economist's vision of how the system works. This theme in Keynes' work is greatly developed in Hyman Minsky's book John Maynard Keynes (1976, London: Macmillan).

Keynes' predisposition to take the Animal Spirits view, which necessarily forces us to regard the marginal efficiency of capital schedule as an unreliable function prone to wild shifts, and not the aggregate of sets of careful calculations, is most obvious in his discussion of the stock market in chapter 12. This discussion, based on his experiences as a speculator of some success (after early failures), is of great importance for understanding his theory of the rate of interest in the next three chapters. Mention of the functioning of the stock exchange is also important to a theory of employment since effective demand is directly affected by share prices.

Employment is only created by firms if they believe they will be able to sell the new goods and services produced by the workers at an acceptable price. But no one will order newly produced assets if the current supply price is greater than the cost of making a secondhand purchase of existing assets of the same kind. If share prices are depressed it will often make sense to take over an existing company that is already a going concern instead of buying new buildings and machinery. More profits may be made by reorganizing the existing firm than by starting from scratch, even if the latter method might be perfectly able at least to cover its monetary costs. However, while buying an existing company may enable the firm doing the takeover to make more money, the act does not represent a demand for current output. The higher the price of existing shares the more firms will wish to set up production lines from scratch instead of buying existing companies and reorganizing them. High share prices thus go hand in hand with employment, especially if they also cause people to feel optimistic about the economy's prospects; the Financial Times and Dow Jones indices of share prices are more significant than most economists choose to realise.

The state of the stock market is highly significant for the determination of employment but, unfortunately, Keynes shows that there are reasons to believe that share prices have no firm foundation in the facts

of economic life. He shows how their prices are determined by the activities of speculators who are not interested in long run underlying economic facts, but in short term gains. This is a consequence of the ease with which assets can be traded on the stock market. Because a shareholder owns a paper title to an unspecified slice of a company's assets he or she believes that it is a much more liquid asset, an asset of more predictable resale value, than would be a title to a particular machine. The market for secondhand machines is 'thin' and erratic, with buyers and sellers entering unevenly and it being costly for an intermediary to hold stocks to smooth things out owing to the bulkiness, immobility and specificity of much machinery. Shares, by contrast, are homogeneous for a given company and do not entail great carrying costs for dealers who hold them in stock. Hence intermediaries are prepared to enter the stock market much more willingly than the market for used machines and factories, and hold buffer reserves of particular company shares.

The greater perceived liquidity of shares compared with direct ownership of machines can often turn out to be an illusion. If all or a large part of a company's shares are offered for sale simultaneously there will be a dramatic fall in their price unless an offsetting group of new buyers just happens to have entered the market or dealers are prepared to let their portfolios become top heavy by taking up the shares on the expectation that they can be sold for a profit in future. Trying to sell a large proportion of a company's shares is rather like trying to sell off the company's assets: a great block of shares in a particular company is practically as specific as a machine or building. Stability in prices either depends on the presence of residual purchasers holding opinions substantially different from those of the sellers, or on a dispersion of beliefs about the prospects of the company so that not many people are trying to buy or sell its shares at any one moment and any imbalance can be soaked up by the stock adjustments of the dealers (without causing them either to run out or acquire top heavy portfolios of the shares in question).

Once expectations become one-sided or dealers' stock adjustments cannot cope with the imbalance of buyers and sellers share prices change discontinuously and it becomes very hard to decide where they might go in the long run. Because stock markets are easy to enter if brokerage fees and taxes on share transfers are low it is cheap to switch between shares in a short space of time - only a small change in their value will be necessary to make a switch worthwhile. As a result of this it pays speculators to focus on short term capital gains and losses. If the stock market was costly to use they would have to think very carefully about the long run prospects of various shares before making any adjustments. Keynes argues that the concentration on short term gains makes the market operate like a casino and suggests that, like a casino, it should be made difficult to enter. He observes that even if a speculator believes the value of a share will rise in distant future he may have every reason to sell it now if he believes that its price will fall in the near future, for he will then be able to buy it back at a profit. The task of the successful speculator is to predict correctly what the market thinks the values of shares will be in the near future and to hold those shares which the market believes will rise in price most in the near future, always switching once a share's price is expected to cease to be the one rising most rapidly.

The nature of the stock market encourages speculators to predict short

run turning points in price movements rather than long run price levels. The short run movements depend on the actions of other speculators, whereas long run price levels ought to depend on underlying real forces. Since the speculator's profit is made from the correct prediction of successive short period price configurations 'underlying real forces' may be swamped entirely. When everyone is watching and taking their behavioural cues from everyone else we cannot expect the market to behave in an orderly way. If the market for existing financial assets is often disorderly then the investment function seems likely also to be unstable.

Chapters 13, 14 and 15

In these three chapters Keynes exposes fatal flaws in the previously accepted theory of the determination of the rate of interest and proposes a novel alternative approach. Just as in Chapters 11 and 12 there is much emphasis on the roles played by conventions and expectations whose stability cannot be guaranteed. Keynes argues that interest is simply a compensation that a person receives for parting with immediate command over a reserve of generalised purchasing power. It is a reward for not hoarding cash. We can hoard cash in our pockets and homes or in demand deposits in banks without receiving any reward for doing so. To the extent we deposit it in a bank we reduce the possibility of having it stolen but increase the possibility of losing it due to a failure of the bank. If we make a time deposit we lose the right of instant access to our money and are paid interest in compensation for this loss. If we choose neither to hoard our wealth as cash nor lend it to a bank we must either hold it as physical assets or lend it to someone else by purchasing financial assets.

It is most important to notice that we can change the amount of hoarding or lending we are doing from our stock of wealth without necessarily changing the amount of consumption we are doing. I may be doing absolutely no saving from my current income but feel it is a good time to buy stocks and shares (I expect their prices to rise in the near future) instead of holding my wealth (accumulated from previous periods' non-consumption from income) in a building society. The adjustment I make to my portfolio will tend to affect interest rates even though my current consumption behaviour is unchanged. Evidently, the rate of interest cannot be a reward for not consuming, or for waiting. It is simply a reward one earns for lending money to someone rather than someone else, or for lending money out at all instead of hoarding it in one's pockets.

Economists before Keynes argued that the rate of interest was a device which balanced the willingness of society to save with the demand for funds for investment. If the desire to invest fell so too would the rate of interest, encouraging people to consume rather than lend out their incomes. In the Classical theory, then, it was as if incomes (which are a flow and not, like wealth, a stock) were either consumed or lent out to others to finance expenditure on current output. Any tendency for people to prefer to consume in the future rather than the present would mean that banks or issuers of shares and bonds would not have to offer such a high rate of interest to attract funds and banks could charge a lower rate of interest to borrowers, encouraging current spending.

However, as Keynes points out, the Classical argument assumed in the process of relating the rate of interest and the tendency to save out of income that the level of income was given. But the level of income out

of which savings might be made depends, in fact, on the level of effective demand, on firms' expectations of the demand for investment and consumption goods. To finance current activity it is necessary to borrow from the stock of funds accumulated in previous periods. Having thus received their incomes workers may be willing to lend them to companies directly to finance investment expenditure on current output (e.g. if they buy new issues of debentures) but if they have not received incomes because effective demand is not sufficiently high they cannot do so. Even if they receive income they will not necessarily lend it out in a way which increases spending should they decide not to consume it. If they simply leave it in their bank accounts instead of writing out cheques to spend it the volume of money banks can lend may be unchanged. All that is happening is that the money is not moving so rapidly between bank accounts.

If the expected level of investment and consumption demand falls factor hiring and income payments will fall too. It is thus expected expenditure which determines how much income people have and how much they can save. A fall in investment last period may be what has caused current expectations of expenditure to fall. The lower level of investment may reduce the demand for funds and thus reduce interest rates. This may deter the postponement of consumption in this period to some extent, but the lower level of factor payments is simultaneously reducing the ability to consume. That lower investment tends to cause interest rates to fall is not something that we can take for granted, since firms which still wish to invest may need to borrow more on money markets because the reduction in investment by other firms has reduced their profits. Furthermore, even if a reduction in investment does by some means cause interest rates to fall such additional expenditure as occurs may not go on currently produced output and firms' expectations may be disappointed, whatever the level of effective demand - full employment or otherwise - that they had in mind.

With the rate of interest thus seen not necessarily as the reward for saving, but as the reward for lending rather than hoarding wealth (savings from current income represent merely the increment to an existing wealth stock), the question inevitably arises as to why anyone should wish to hold wealth as cash and forego interest earnings on it, or earn a relatively low return in a bank when there are bonds and shares apparently offering a higher effective rate of return. Keynes suggests that there are three reasons why people like to have immediate command over generalised purchasing power:

- a) The Transactions Motive - firms and individuals hold cash to bridge the interval between the receipt of income and its disbursement. They are willing to sacrifice interest payments in order to economize on trips to banks to withdraw money or on brokers' fees for selling bonds in small batches.
- b) The Precautionary Motive - cash is held to meet unplanned expenditures which a person or firm expects might suddenly become necessary at a time when it is inconvenient to sell bonds or withdraw funds from financial institution.
- c) The Speculative Motive - cash is held despite not offering a high interest yield because it is expected that assets offering high returns at present may fall in value by an amount greater than the extra interest yield. Obviously, if a bond offers £5 interest a year and can be sold for £100 there is no sense in keeping it if you expect the effective rate of interest to rise to 10% tomorrow since your £5 interest will be gained at the loss of £50 in

the capital value of the bond. Speculative balances are not held on the expectation that they will shortly be needed to purchase goods or services for immediate use; they are held because people or firms fear capital losses should they part with their generalised purchasing power.

If everyone expects the rate of interest to rise and capital values to fall they will all try to get out of bonds and into cash and the price of bonds will fall to zero; and vice versa. The existence of a rate of interest between zero and infinity depends on there being a difference of opinions about what the rate of interest will be in the near future. The stability of any such rate of interest depends on the balance of these differing opinions remaining stable. Since stability depends on a balance of opinions about how interest rates are going to change many wealth holders are going to feel they have chosen an inappropriate combination of assets if interest rates fail to change in the direction they expect. Should those speculators who expected a rise decide to buy bonds when interest rates fail to increase they will tend to bid up bond prices and drive down the rate of interest, confirming their belief that their earlier opinions had been ill-founded. Meanwhile those who could have bought more of the bond at the cost of having less diversified portfolios will be regretting not having done so - but not nearly so much as those who earned on holding cash expecting the rate of interest to rise. It should now be easy to see why the bond market may at times be inherently jittery, just like the stock market.

Extreme instability in interest rates is frequently avoided because while wealth holders are not unanimous in their expectations about precisely what will happen to the rate of interest there exists a fairly strong consensus about the range within which it is likely to move around. The expectation of a relatively narrow range of movement makes it easy for a Central Bank to control the money supply (but not the interest rate itself) by open market operations. A relatively slight rise in bond prices will be thought by many people to be unlikely to last and they will be very willing to sell their bonds to the Central Bank. Thus a large amount of money may enter the system with only a small change in the rate of interest. In the extreme case where the rate of interest is already at the bottom of a commonly perceived range the Central Bank will be able to increase the money supply as much as it cares to without a fall in the rate of interest occurring. This limiting case Keynes calls the 'liquidity trap', but he does not suggest it has ever occurred. It is a 'trap' in the sense that no matter how interest-elastic consumption or investment expenditures are it is impossible to increase them by monetary means alone since there is no way of driving interest rates down to make people or firms request more loans. In a liquidity trap situation direct government spending or tax cuts will be necessary to increase aggregate demand.

To emphasise how Keynes' view differs here from the monetarists we must note that when the money supply is increased in Keynes' theory it is not the quantity of money that affects employment (except where previously there has been credit rationing) but the fall in interest rates. If the return on bonds falls and their prices rise people and firms may sell them to those who value them more highly (in either the private sector or the Central Bank) and use the receipts to buy new goods or factories, thus increasing employment. But this need not happen. They may simply put the money into bank deposits or short term bonds (on which the risks of

capital loss are small) while waiting for the bond rates to rise again. In such a case there will be no increase in output and employment if banks are afraid to expand loans (if they cannot, in the depths of a depression, find any new creditworthy customers) or the sellers of the short term bonds do not spend their returns on new goods.

Chapters 16 and 17

I shall devote most of my comments to the latter of this pair of chapters since very few economists seem to have understood the simple but fundamental idea that Keynes is attempting to convey in it. Keynes' mode of exposition is not easy to follow in Chapter 17 so readers must be warned that they may find yet a different interpretation from the one I offer here when they read the original. What follows is very much a personal, rather than generally accepted interpretation of these difficult pages in Keynes' book. However, it is helpful to begin by considering what he says in the first two pages of Chapter 16 concerning market signalling and acts of saving.

The most significant passage is on page 210:

"An act of saving means - so to speak - a decision not to have dinner today. But it does not necessitate a decision to have dinner or to buy a pair of boots a week hence or to consume any specified thing at any specified date. Thus it depresses the business of preparing today's dinner without stimulating the business of making ready for some future act of consumption."

The Keynesian consumer who decides to refrain from current spending does not always have any precise idea of what he will eventually do with his accumulated wealth. Even if he does, he will rarely place advance orders for the goods in question, preferring instead to avoid commitment and keep his options open. After all, a better buy might be available when the time for spending comes, his tastes might have changed, or he might lose his source of income before he has accumulated enough money to meet the contracted price, and then be forced to submit to a penalty clause or sell something else at a possibly inopportune moment in order to raise the money.

If, when a consumer decides to reduce his current rate of consumption, he places an advance order for a correspondingly larger future purchase of goods firms will know that their existing plans for satisfying future demand need revising upwards and they will expand their current orders for future capacity. The extra investment demand will, problems of structural mismatch aside, employ the machines and workers who would otherwise produce output for current consumption. Similar arrangements can be envisaged for handling shifts in the corporate propensity to spend profits on current output. Under such a system of advance ordering the economy effectively has a marginal and average propensity to spend from current income of one, so the only possible source of involuntary unemployment is Robert Clower's 'Catch 22' problem which was mentioned earlier - factors cannot make advance orders if they lack financial reserves and no one offers to hire them and pay them, and firms will only hire factors when they have grounds for expecting to sell the output they can produce. Once it is recognized that savings are not attached to contracts for future purchases the problem of signalling is

is seen to be much more dramatic than in the simple 'Catch 22' case. If savers have not made up their minds about what they wish to consume at a later date it may not be meaningful to assume there exist even notional demands which could employ all willing workers if the Catch 22 problem could be overcome and notional demand equated with effective demand.

The Catch 22 problem aside, if we did have a complete system of advance ordering every increase in saving would be accompanied by a rightward shift in the marginal efficiency of capital schedule by just the right amount to keep aggregate demand constant. Without such a system, however, it is likely that a reduction in the propensity to consume will cause a leftward shift in the marginal efficiency of capital schedule. The reduction in current consumption will disappoint entrepreneurial expectations and make investors less optimistic about prospects for the economy. The saving decision simply fails to generate excess demand in any market for which firms are currently producing. If such adverse expectational shifts are a frequent response to a fall in the propensity to consume it may be highly misleading to follow the conventional textbook practice of treating consumption and investment functions as being independent of each other.

To the extent that money income flows are spent on the current output of brand new consumption or investment goods they are obviously helping to sustain the present level of employment and income payments. The trouble is that firms and consumers are not obliged to use their latest additions to their wealth to buy new things. Insofar as they fail to do so the shortfall of expenditure must be made up by other agents disposing of previously accumulated wealth (or increasing their borrowing from new sources of finance) in exchange for current output. Otherwise producers will sustain losses and effective demand will fall as they revise their expectations downwards; and vice versa if there is excess demand and unexpected profits. People who decide not to consume their current incomes will only help generate demand to offset the shortfall they are directly bringing about if their chosen way of holding their new wealth affects the ways in which other holders of pre-existing wealth choose to behave.

There seems to be seven ways in which owners of wealth and recipients of income flows can allocate their resources:

- 1) Spend them on instantly perishable (and obviously newly produced) goods and services;
- 2) Spend them on durable consumption goods or titles to future services;
- 3) Spend them on new investment goods (or equities being issued by firms to purchase new investment goods);
- 4) Spend them on secondhand produced goods;
- 5) Spend them on secondhand financial assets;
- 6) Spend them on secondhand goods not currently reproducible (or nearly so), such as land, antiques, old masters or gold;
- 7) Keep them as cash or as deposits in financial institutions.

In allocating their resources they will buy and sell until they can gain nothing from further trading, i.e. the yields on marginal expenditures on all assets must be identical. These psychic yields are something that it is not possible to observe but Keynes suggests that the total yield of a good may usually be broken down into three basic components:

- a) Its yield or output in the normal sense (e.g. expected profits from an investment scheme or expected enjoyment from using a ticket to gain admission to a concert or sporting event);

- b) Its carrying cost, which is a negative component arising where it is necessary to pay for the asset to be stored or maintained;
- c) Its liquidity premium, which is its ability to make its owner feel relatively secure while holding it and mindful of the possibility of having to make a forced sale or of its price changing (e.g. if you buy a ticket for a concert now you may not be able to go when the time comes, yet if you do not it may only be possible to purchase one from a tout at an inflated price).

In the case of money held outside of financial institutions its whole return consists of its liquidity premium, for it offers no interest yield and has a negligible carrying cost. Its liquidity premium originates in its instant purchasing power (if one is in the appropriate country); its uncommitted nature since it can, inflation aside, be exchanged against a basket of goods in general and then used to repurchase a similar basket of goods without loss in value; and its security from loss owing to bank failure, though this may be offset by the prospect of theft. The key to liquidity which a money asset must possess is the expectation that its generalised purchasing power over other goods will not be falling while it is being held. Hence in times of inflation money as conventionally understood loses ground against other goods usually disadvantaged by their carrying costs exceeding their output yields. In times of depression, when prices of current output and existing assets are falling, the liquidity premium element in the yield of money rises relative to that for other assets, encouraging people to retreat further into money.

The problem of involuntary unemployment arises from the fact that money is a non reproducible asset par excellence. If people decide increasingly to use their current incomes and wealth to add to their holdings of money they bring about an excess supply of goods and an excess demand for money relative to what has been expected. This contradiction in the pattern of supply and demand is resolved by a fall in the price of producible assets (and/or, subsequently, by a reduction in their output) against money. It cannot be resolved by a contraction in the supply of normal consumption and investment goods and increased employment in producing money. Bear this in mind and refer back to the seven ways of allocating a firm's or a person's resources which we have listed above.

If people and firms decide to allocate less on 1, 2 and 3 they may decide to use their wealth to acquire more of 4, 5 and 6 than they would have done. If they do this the money prices of assets in categories 4, 5 and 6 will be higher than they otherwise would have been (apart from the effects of reduced expenditure on 1, 2 and 3 on expectations and hence on share prices). The sellers of the existing assets may then use the cash realized in the sale to purchase newly produced goods. If they do so unemployment will not tend to appear. Indeed, the higher prices of existing assets will tend to increase effective demand in subsequent period if they exceed the supply prices of new substitutes. If sellers of existing assets hoard some of the proceeds instead there is still some hope of maintaining employment so long as existing asset prices have risen. If antiques become more sought-after the demand for, say, modern furniture may fall but employment in making reproductions will rise to offset, at least in part, layoffs in modern furniture production. When people stop buying, say, cars and start buying gold as a hedge against inflation, employment in mining gold and in the production of mining equipment will rise somewhat.

Unfortunately, there is no guarantee that liquidity premium attractions of holding money will not be so high as to cause recipients of money from income or the sale of assets to cease passing it on to others at a rate conducive to the generation of full employment. So long as money is being spent it is either helping to generate business profits or drive up existing asset prices and thus make it attractive to expand the production of new substitutes. If the velocity of circulation of money slows down it is harder to sell current output and asset prices will be lower relative to the costs of production. What may start out as a simple structural shift - e.g. of demand for reproduction furniture instead of modern furniture - may easily turn into a problem of effective demand if the response of a losing sector is more immediate in terms of employment and current income payments than that of the gaining sector.

The implication of Keynes' theory of liquidity preference is that the rate of return on money dominates everything; it rules the roost. It is the size of the return on money which causes money holders to keep it in preference to buying new goods, which would preserve employment, or existing assets, which would encourage an expansion of output. Because liquidity preference components in total yields are entirely subjective and often based heavily on ill-concerned ideas or gossip and the state of 'the news' they may be unstable and unlikely to generate a pattern of asset prices always consistent with full employment. Liquidity preference may set in too soon, while there are workers involuntarily unemployed, or too late, in which case there will be an excess of demand for goods in general.

Chapters 18 and 19

In the first of this pair of chapters Keynes simply presents a recap of his theory of how employment levels are determined. He draws together the arguments of all the previous chapters while keeping his simplifying assumption that the wage unit is fixed in money terms. Since the arguments lead, as we have already seen, to the conclusion that a level of output may be chosen which leaves some workers involuntarily unemployed Keynes necessarily has to consider whether or not the classical remedy for unemployment - wage cuts - will tend to reduce the scale of the problem. This he does in Chapter 19. His conclusion is that money wage cuts do nothing directly to reduce real wages and make it attractive for employers generally to wish to hire more workers. Money wage cuts will, he argues, be associated with a proportionate fall in the price level unless the wage cuts have indirect effects on the scale of real demand. Hence real wages and employment will be unchanged unless the indirect effects, which were ignored by previous economists, come into operation.

The analysis of the disequilibrium problem of unemployment in Chapter 19 is quite tortuous since with wages allowed to be flexible in money terms all money variables can be shifting around simultaneously. Not only this but, to the extent that the indirect unemployment-reducing effects of wage cuts work, they will be coming into operation while the disequilibrium multiplier process is working in the opposite direction. To make sure of not falling into the trap which has ensnared most versions of 'Keynesian' theory which have found their way into the conventional literature the new reader of the General Theory should return to pages 15-19 of the present guide and revise the disequilibrium view of the multiplier before proceeding with Chapters 18 and 19.

The treatments of 'Keynesian' theory in the textbooks and conventional literature make the mistake of attempting to collapse everything into sets of multi quadrant diagrams or sets of simultaneous equations where all functions are assumed to be stable and where all the feedback processes work instantaneously. In the real world Keynes is attempting to analyse things do not all happen at once. The possession of money gives us time to think before we consume or invest or commit ourselves to particular ways of storing our wealth. Workers and other inputs are not hired or bought on a daily basis but according to contracts which are expected often to be long-lasting. Changing contracts, prices or the composition of portfolios can be a very costly business unless markets are arranged like the stock exchange. Coupled with these factors is the necessity for firms to have finance - reserves or an ability to borrow - to pay for factor inputs and stocks in advance of sales, the precise value of which cannot be known in advance.

If the nature of business activity is that it is held together by contracts, price lists and, we may add in normal times, a set of conventional expectations we should not expect adjustments to occur instantaneously when the system is disturbed by a change in consumption or investment spending. If people are not buying as much as usual the first response of shopkeepers will be to build up stocks. Later, when it becomes apparent the fall in sales is not merely transitory, orders for stocks will be reduced. While the process of building up stocks instead of cutting prices and orders delays the time when the contraction in demand spreads further down the line, the fact that excess stocks have been allowed to accumulate in the meantime will make the cut in orders all the greater - if a typical turnover will now be lower than previously fewer stocks will need to be held, as well as a smaller throughput needing to be ordered, but stocks are now larger than even the previous normal level.

The fact that business activity is often only adjusted sluggishly in response to changes, despite not necessarily being prevented from moving by inherent system rigidities, must not be forgotten when one is reading Chapter 19 of Keynes' book where possible feedback processes relating money wage changes and employment are considered. If it is forgotten, along with the existence of contracts and the fact that any prices may be affected by speculation, it will be all too easy to make textbookish mistakes and conclude that Keynes' theory requires either fixed money wages or a liquidity trap situation to make it work.

If the demand for current output is less than contracted payments to factors plus expected profits (with output and payments both measured in wage units) the current level of employment will not be sustainable. Firms will begin to lay off workers and cut production. The number of workers they continue to hire depends on the level of effective demand - i.e. the expected value of sales - relative to costs. The actual value of sales depends on the propensity to consume from wage advances and past accumulations of wealth (which can be influenced by the return to be earned by lending out money rather than hoarding it in a more accessible form), and on the demand for investment goods. Investment demand depends on expected yields (which determine the marginal efficiency of capital), the interest rate (changes in which can affect expectations) and the prices of existing capital goods (which are heavily affected by expectations). The relevant rate of return which schemes have to earn to be thought worth implementing may not be an observable market rate but merely the decision taker's subjective return on money which he has (or could obtain) and which,

by not being spent today, is available for spending in the future. Since people cannot usually buy assets and add to demand for current output unless they can first obtain money by selling something they have (e.g. their labour services) it is this psychic return on money that dominates the whole system and may constrain it on the way to achieving full employment. The rate of interest also affects the willingness of firms to supply at any given level of effective demand by using assets they already possess since they have to decide whether or not to sell them and do something else with the returns (even just hoard them) or increase their net indebtedness by borrowing to finance production if they put them to use.

If expectations improve firms will require more money to finance a greater scale of business activity. They will spend more on otherwise unsold contributions of the previous period's output or on the advance hiring of factors. Consumers will also increase their borrowing to finance durable goods purchases if perceived returns rise. This extra demand for loan finance may tend to drive up the rate of interest somewhat - banks can raise charges on loans to deter would-be borrowers, while owners of securities might sell them and lend the receipts to others, causing security prices to fall and effective returns to rise. However, interest rates must not be thought of as inherently likely to rise in this kind of situation. With increasing confidence people may be prepared to lend out cash they otherwise would have kept idle in hoards, companies may increase trade credit and allow their bank balances to be smaller, and their customers' bank balances bigger, than they otherwise would have been. Banks which have been afraid to lend to the limits of their reserve asset holdings may become less cautious and expand loans without there being any increase in the cash base of the economy. So, the state of the money markets and expectations about the future yields of existing and soon to be purchased assets combine to generate a state where factors are being hired (a hired worker's promised services constitute an asset for a firm, his wages being a liability) and receiving incomes; where firms wish to spend on investment and where consumers wish to spend on consumption. Flows of consumption and investment demand then indicate to firms whether they have planned the correct flow of output.

If there is not enough expenditure in the system to ensure that no one is involuntarily unemployed it is necessary to find a means of expanding real effective demand relative to real production costs to eliminate unemployment. In classical theory the remedy for unemployment was a wage cut. A money wage reduction would lead directly to a real wage reduction which would encourage firms to expand their hirings of workers for any given state of expectations. Acting individually firms might well see things in this way and be induced to increase hiring/not make workers redundant if money wages are cut. But on Keynes' arguments they will be disappointed by the outcome. Actual demand will turn out to be less, in sum, than the aggregate of their expectations of effective demand. The trouble is that while the firms may each feel it safe to ignore the feedback effects of their workers reduced money wages on their own sales, in the aggregate they are reducing each other's sales by a non-trivial amount.

If we start with a wage reduction being accepted by workers to ensure that there are no redundancies despite the corporate sector having made an aggregate loss in the previous period on the same volume of output as they are to produce this period, we shall find at the end of this period that money demand has fallen in the same proportion as factor payments. A cut in money wages thus causes an equiproportional fall in the price

level which leaves real wages unchanged. To make this level of employment viable either the propensity to consume or the rate of investment must increase in real terms, but there is no direct mechanism originating in the labour market to make either happen. Because of this Keynes examines indirect routes from money wage changes to real wage or real expenditure changes and employment shifts.

Lower wages might enable a country's firms to compete more effectively on world markets but this would merely cause the unemployment problem to be exported to the rest of the world. Reduced money wages might change the propensity to consume by changing the distribution of income between groups with differing marginal propensities to consume. A fall in the price level following a cut in wages would certainly make people on fixed incomes or owners of securities with fixed money interest payments better off. However, their marginal propensities to consume from real income would probably be lower than most wage earners if they were already a wealthier group, so the redistribution might just make things worse. Furthermore, somewhere else in the system people or firms will be facing a higher burden of financing these income or interest payments. Even firms and individuals with constant real profits or wage incomes that are tied to contracts forcing them to use their income flows to meet fixed money debt or interest repayments may find they cannot meet them and go bankrupt. Bankruptcies in one area can spread through the system as well as causing confidence to collapse: they are not conducive to the maintenance of stable behaviour functions. This is particularly so in a modern financial system where credit is often layered in a complex way as banks lend to other banks and firms lend each other money.

If wages are expected to rise again in future it may pay to order investment goods and consumer durables now, in case their prices rise in future. So long as prices and costs are falling, however, it seems likely that people are more likely to postpone purchases than increase speculative ordering. This objection can also be applied to Pigou's well-known suggestion that as the price level falls there will be an increase in the propensity to consume because the value of money balances will be rising. If such a shift in the propensity to consume did take place the additional real expenditure would remove the tendency for firms to continue to make losses despite cutting wages at a given level of output. But speculation against the behaviour of prices is not the most important reason for rejecting Pigou's so-called real balance effect as the device which ensures that wage changes indirectly have the desired effect. The biggest problem with it is that it can only work on money held outside of the banking system. It cannot be presumed to work for bank money since while a falling price level causes bank deposits to become worth more - so long as the banks are still solvent - debts owed to banks will become more burdensome, causing debtors to feel poorer and reduce their expenditure. Given that most money in modern economic systems is held in financial institutions the real balance effect will only exert a slight leverage on real expenditure unless there is an absolutely massive fall in the price level. Unfortunately, as we have already observed, the greater the fall in the price level the greater the real burden of debts already contracted and the greater the likelihood of bankruptcies.

The greatest hope for a successful indirect feedback mechanism from falling money wages to higher sustainable levels of employment must lie in the effect on interest rates of the fall in the price level caused by the collapse of purchasing power as money wages fall. It should be emphasised

before we go any further with this possibility that the money supply in a modern economy, which includes deposits in clearing banks, building societies, "fringe banks" and other financial institutions, may be highly dependent on the state of confidence and the level of economic activity, as well as the non-appearance of bankrupt debtors. Keynes explains that, with a given state of expectations, a fall in prices consequent on a fall in the wage unit will reduce the transactions demand for money. There will thus be more money available for speculation and the extra demand for bonds should reduce the rate of interest. Thinking about this in terms of a modern banking system we can say that with a given credit base and a falling price level banks will be lending less money to companies to finance current operations at a given real level. They will thus have more funds available in real terms to lend out on consumer spending, on investment, or to be used by the banks themselves to buy more bonds or equities for their portfolios. In order to attract more customers to take up these loans they will lower their interest charges, while, to the extent that they are buying bonds or equities, the prices of financial assets will rise and their effective returns will fall.

Keynes is not convinced that the interest rate feedback mechanism will work very well. People or financial institutions with an increasing ability to lend to others are under no obligation to do so, or to spend more themselves. Banks are not obliged to expand credit to the limit set by their holdings of eligible reserve assets. If returns on marginal schemes are very dubious banks may prefer to forego the possibility of earning interest by expanding loans and facing the prospect of defaults by their customers. Similarly, in the bond market the expectation of a normal minimum rate of interest may, in a liquidity trap situation, lead to a peak being reached in bond prices. Even if the extreme of a liquidity trap is never reached such speculation may delay the fall in interest rates and the expansion of real expenditure.

So long as firms persist in hiring workers at lower and lower money wages in the absence of a rise in real demand, their total losses will continue to mount, making it likely that they will cut their expenditure on investment. Delays in the fall in interest rates thus make it more likely that the multiplier process will get started. The repeated falsification of expectations, manifesting itself as ever mounting unsold stocks and business losses as well as growing surplus capacity as investment goods are delivered, will eventually cause firms to call a halt to the process. They will start to fire workers even if wages are continuing to fall, and cut production and real income payments.

If we start out at a position of full employment and then allow the system to be disturbed by a fall in the marginal efficiency of capital it may be the case that, say, a fall in interest rates from 10% to 8% would generate sufficient alternative expenditure to plug the deflationary gap in demand if the interest rate fall were immediate. However, it is unlikely that it will take place immediately unless it is engineered by the monetary authorities. Transactions are not all concluded simultaneously. It is an initial set of unexpected losses that will cause firms to consider laying off workers or asking them to accept lower wages. To the extent that wages do not fall immediately and some workers are laid off, their loss in incomes will start the ripple effects of the multiplier. Even if wages do fall immediately to a level low enough to cause firms to carry on hiring all the willing workers, speculation may delay the fall in the interest rate as the real supply of money increases. There will in either

case still be a gap between expected (effective) demand and actual demand. This gap and the associated loss will cause a further shift in the marginal efficiency of capital schedule so that even if the 8% interest rate level is eventually reached it will then be insufficiently low; and so on.

Pure theorists object that eventually a zero rate of interest, at which any expenditure scheme would be worth financing by a fixed interest contract, will be reached so it must be that Keynes has the liquidity trap in mind (and that he has forgotten the real balance effect) when he suggests that there is no necessary reason for an economy system to lend towards a state characterized by zero involuntary unemployment. Such theorists are surely missing the main point. Keynes' characterization of the adjustment process suggests that it may be a very lengthy and messy affair. If a deflation continues for a very long while in the manner described it is likely that the liquidity trap will bind and that bankruptcies will hinder the operation of real balance effects as declining money wages pull down the price level. If we have to wait a long while for these indirect mechanisms to operate it would seem not unreasonable, bearing in mind that "in the long run we are all dead", to take more direct action to increase demand. Expansionary government policy, financed by an increase in the supply of money is likely to be more effective than interest rate adjustments by monetary expansion since, if confidence is low, people may be rather afraid to borrow.

The pure disequilibrium reading of Keynes' book leads to the conclusion that it is concerned with how the level of employment is determined at any point in time, and with the forces generating an irregular pattern of cycles through time. We have shown that, even without the sort of indirect effects Keynes himself considers in detail, a recovery of some kind is likely automatically to lift an economy from stagnation for a time as depreciated assets are replaced by agents who pay for them by running down idle balances. Subsequent trade cycle theorists such as Hicks, Harrod and Matthews attempted to construct formal models with similar ideas in mind, but in doing so they rather lost sight of the importance of speculative shifts and crowd behaviour in Keynes' book.

The equilibrium versions of Keynes' ideas that are to be found in the textbooks make everything happen instantaneously and conclude that Keynes fails to prove that economic systems are not stabilized by wage changes around the equilibrium level of output consistent with zero involuntary unemployment. Time, and the possibility that behaviour functions are not stable make such models a potentially dangerous approximation of how things really work. If the movement towards full employment takes a long time and, even if the indirect mechanisms tend to work, often suffers many setbacks along the way there seems a case for positive intervention to make things better and avoid the waste of unemployment, the chaos of bankruptcy, and industrial strife if organized labour resists money wage cuts.

Chapters 20-24

Having completed his theory of employment Keynes goes on in these remaining chapters to consider some of its policy implications. He also looks at the writings of earlier economists who had in some respects unwittingly come fairly close to his conclusions. In this last section of our guide we shall concentrate on the policy implications of the book,

looking at his thoughts in four particular areas still relevant today.

i) Keynes on Inflation

Perhaps the most pertinent comment in the General Theory for policy-makers in the 1980s is one which Keynes makes on page 304:

"The view that any increase in the quantity of money is inflationary is bound up with the underlying assumption of the classical theory that we are always in a condition where a reduction in the real rewards of factors of production will lead to a curtailment of their supply."

If there is involuntary unemployment in the sense of Keynes' definition and an increase in the money supply causes (via a lower interest rate or a shortening of the queue of would-be borrowers at a given rate of interest) an increase in expenditure there will be a rise in the price level if the aggregate supply curve is upward sloping. But this is merely a once and for all increase unless the higher price level affects factor prices and thence purchasing power and aggregate demand. It is not ongoing inflation. If the aggregate supply curve in the range in question is not upward sloping because firms produce under conditions of constant or decreasing costs an increase in demand consequent on an increase in the quantity of money need not even have a once and for all price raising effect and may simply lead to more output and employment. Keynes' theory suggests that growth in the money supply can only add to inflationary pressures if the economy has no involuntary unemployment or if the reduction of involuntary unemployment leads to more vigorous collective bargaining for higher wages, over the heads of individual workers. Let us consider demand and cost inflation in turn.

If there is zero involuntary unemployment firms needing to hire more workers on the expectation of higher future sales will need to bid up wages to attract more workers into employment. To the extent that their optimistic expectations arise from a previous underestimate of the scale of demand, which was reconciled with their production levels by a rise in prices, the rise in wages will have to be all the more as marginal workers will be tending to leave the labour force in response to the effective cut in real wages they have suffered. Rising money wages will mean that, unless something happens to reduce demand, there will be even more purchasing power in the system and prices will rise once more. Just as wage cuts do not directly solve unemployment, so higher wages do not directly remove excess demand for labour. Whereas in a downturn, deflationary gap, situation firms repeatedly make losses, in an inflationary gap situation workers repeatedly find their real wages lower than they were expecting and firms find that their profits are unexpectedly high. Firms think they are paying out higher real wages. Their sales expectations deter them from attempting to attract still more voluntarily unemployed workers into the labour force by paying even higher money wages. They then find there is an excess demand for even their more costly marginal additions to output and put up their prices still further, causing marginal workers to retreat from the labour force. But the firms can now pay even higher wage rates to keep them, and so the process continues.

Even if firms do not change prices in response to demand changes but only when their costs rises an inflationary problem can still occur if there is an excess of demand at full employment. Firms will try to attract extra labour and wages will rise until firms believe they have got enough

workers to make output that can be sold at some cost-plus-mark-up posted price. They raise their list prices and expand their output slightly, expecting not to find excess waiting lists or stock rundowns, but they find there is still an unexpected demand for their output. Having put up their prices they also find marginal workers attempting to leave, dissatisfied with their real wages. But now, having found there is still an excess demand, the firms will be willing to pay more in order to keep on producing the extra output and will plan to pass on their higher costs as higher prices; and so on.

The only way excess demand inflation of these kinds will stop is if real expenditure is reduced by some indirect means as money wages rise. The indirect means that Keynes considers are the exact opposites of the stabilizing forces he mentions with regard to a deflation in Chapter 19: a reduction in the real money supply causing higher interest rates; rising prices leading to a leakage of demand via a worsening of the foreign trade position; or distributional changes reducing the propensity to consume. Keynes is not convinced that these forces will work very effectively to remove the excess demand. If prices are rising people may prefer to spend money now. Even if strict control of the monetary base by the Central Bank leads to a rise in interest rates it may not be sufficient to choke off demand. Speculation may prevent rises in the rate of interest outside normally expected ranges. Firms will be more willing to extend credit to each other due to rising confidence. Individuals may seek higher returns on their savings by buying equities instead of hoarding them in bank deposits. In short, we can have a kind of reverse liquidity trap situation where the supply of finance expands pretty well in line with the inflationary demand for it, despite the best efforts of the Central Bank in controlling the monetary base. To control demand direct action is needed, in the form of higher taxes or reduced government expenditure.

Keynes' analysis can also be applied to cost inflation in times of involuntary unemployment and leads to the conclusion that in such a situation the appropriate policy is one which controls incomes, not the level of aggregate demand. Keynes emphasizes the importance of structural bottlenecks as features which will cause wages to rise at less than full employment. Rigid relativities will ensure that if some sectors which are booming are characterized by rising wages these rises will spread to other sectors where there are no demand pull forces at work on wage rates. Adrian Wood has developed this basic idea in great detail in his book A Theory of Pay (1978, Cambridge: Cambridge University Press).

If wages rise in growth sectors as a result of a shortage of workers of certain kinds firms in these sectors will pass on their higher wage costs as higher prices. Other workers will, in collective bargaining situations, argue that their relativities have been squeezed and demand pay increases which will restore their places in the wages league (regardless of the wishes of unemployed workers). Costs will thus rise generally and be passed on as higher posted prices. Since factor disbursements have risen money demand will rise too and the higher prices will not cause firms to suffer a reduced sales volume unless their indirect effects on, particularly, the real supply of finance reduce real expenditure. To the extent there is some kind of monetary squeeze it is not at all obvious this will have much effect on wage bargaining except insofar as rising unemployment frightens workers. In such a situation an institutional prices and incomes policy seems an essential kind of remedy to followers of Keynes' ideas. Keynes' theory of employment suggests that wage and price indexation is not a very

sensible idea (in contrast to the monetarist's view) since once we make the wage unit relatively free to move we unhitch the price level too and pave the way for cumulative movements.

ii) Keynes on the Trade Cycle

It has been emphasized that Keynes' book is best seen not as a tool analysing equilibrium levels of unemployment but for investigating the determinants of the irregular up and down dynamics of business cycles (though not, due to the importance it assigns to expectational shifts, cycles of the mechanistic kind found in most theories). In his 'Notes on the Trade Cycle' Keynes suggests that the main driving force causing cyclical swings in aggregate economic activity is the behaviour of the marginal efficiency of capital schedule as expectations shift in the light of outcomes. He also emphasizes how mistaken stock adjustments ultimately serve to amplify deviations.

Keynes argues that booms cease as the marginal efficiency of capital declines (due to entrepreneurs running out of good ideas or becoming pessimistic or some seemingly good schemes turn out to be failures) and comes up against rising rates of interest and production costs. The situation can then turn rapidly into a crises in which a collapsing stock market and general scramble for liquidity serve to deter investment, with the rising liquidity preference exacerbating things by driving up the rate of interest. Keynes also points out that the fall in asset prices will shift the propensity to consume because it reduces the wealth of the more affluent consumers. It should be emphasized that such a collapse originates not in some objective problem of over-investment in the economy as a whole, but because people start to think this has happened when some schemes fail or demand ceases to grow fast enough because entrepreneurs have run out of good investment ideas.

iii) Keynes on Mercantilism

In the seventeenth and eighteenth centuries the governments of many European countries pursued highly protectionist policies in order to generate balance of trade surpluses. This behaviour, known as Mercantilism, ensured that, insofar as the governments were successful, countries acquired larger gold stocks. The governments benefited directly from tariff revenues and because it became easier to borrow to finance State expenditure. Keynes observes that successful mercantilist countries benefitted in two ways from their policies as far as their economic activity levels were concerned. There was a direct boost to employment from increased net exports while the inflow of gold (and, later, foreign currency) increased their money supplies, lowered interest rates and encouraged investment. Unsuccessful countries in the battle for shares in international trade, who refused to operate sufficiently stringent import controls or lower their currency parities, suffered doubly for the reverse of these reasons. They imported both goods and unemployment from the rest of the world.

The relevance of an understanding of the mercantilist era to policy-making in the 1980s should be as obvious to readers as it was to Keynes in the 1930s. However, nowadays the increasing efficiency of world money markets (as far as costs of switching money balances around the world are concerned) and gradual removal of foreign exchange controls limit the extent to which interest rates can diverge between countries except where holders of currency expect exchange rates to change. Keynes' comments on

the speculative nature of markets are increasingly pertinent to the analysis of international currency flows as well as stock and bond markets.

iv) Keynes on Underconsumption and the Demise of the Rentier

In considering the long term prospects of capitalist economies Keynes looked at his consumption function hypothesis and was concerned that there might be a tendency for economies to stagnate as they grew richer. Since he believed the marginal propensity to consume to be less than the average propensity to consume (an idea that has turned out to be incorrect when applied to time-series data) the average propensity to consume would tend to be pulled down as incomes rose. Unless unemployment was to appear, investment would have to rise (and at a faster and faster rate, since investment output would augment productive capacity for subsequent periods) by an amount sufficient to offset the shortfall in consumption demand.

Keynes did not expect to see a mushrooming of investment activity, such as has occurred since his death, since he greatly underestimated the scope for technical progress and the creation of new products. He thus felt that investment was, if anything, more likely to contract due to a falling marginal efficiency of capital. To offset this it would be necessary to lower interest rates towards zero by an expansionary monetary policy or increase public sector investment and welfare programmes. Evidently, a disappearing return on financial assets would not be welcomed by those groups living on 'unearned income'. Keynes argued that the demise of the rentier was not a great cause for concern since their earnings were not a reward for abstinence but merely a payment for lending out a scarce resource. If the resource ceased to be scarce then it would be perfectly correct that its return should fall. Such a fall would, indeed, be a good thing insofar as it encouraged the rich to run down their wealth holdings and increase their rates of current consumption.