1. Two Theories of Employment

The General Theory is not primarily a theory of the determination of the level and distribution of income, and it is certainly not a theory of growth through the accumulation of wealth or the advance of technology. As its title indicates, *The General Theory of Employment, Interest and Money* is first and foremost a theory of employment. Employment here means wage labour, the hire of labour for a sum of money, and not merely occupation or self-employment. A theory of employment is then a theory of the decisions of employers to hire labour and of employees to offer their services.

A theory of self-employment is rather different, since there is no hiring decision. In an economy composed of self-employed farmers and artisans the employment decision is simply a production decision, how much effort to exert to obtain goods other than leisure.[1] A decision by a self-employed worker to produce for sale (rather than for stock or for personal consumption) may involve money, as the medium of exchange for other goods, but money does not enter directly into the production process. Where an economy is based on employment, production requires the payment of a money-wage, and this arrangement can be described as an 'entrepreneur' or 'monetary production' economy.[2]

Keynes argues that *The General Theory* is necessary in order to explain how unemployment can arise from a lack of aggregate demand. The Classical theory is essentially a theory of self-employment in which, if prices are perfectly flexible, involuntary unemployment can arise only from frictional delays in the physical change-over from serving one market to another. In the Classical theory, the level of (self-)employment is limited only by the supply of labour available at a given real wage, so that 'non-employment' is either voluntary or frictional.

In modern Walrasian theory, the distinction between firms and households is merely convenient, not essential. It is convenient in order to analyse production and consumption activities separately, but the distinction is really between these types of activity, not the domains in which they are carried out. Households can be assumed to both produce and consume without altering the basic result, and there is no intrinsic need for a market for labour, as opposed to goods produced by the self-employed household. The implication

is that nothing fundamental changes if households supply labour services as one, or indeed their only, produced output. It is simply a matter of choice and endowment. Not only money, but wage labour, are inessential to the Walrasian scheme.

The General Theory takes 'the skill and quantity of available labour' as one of its initial conditions and does not consider the weighty question of why a wage-dependent labour force exists. The distinction between entrepreneurs (employers) and workers (employees) is essential, but taken as given. Entrepreneurs alone, and not workers, sell to product markets and decide what, and how, to produce. Entrepreneurs and workers necessarily bargain over money-wages and not real wages. The idea of real wage bargains is based on the self-employment model, and for it to be generally valid, all firms would have to be producer co-operatives, in which labour was paid according to the sales value of its output. Although this type of firm does exist, as a species of collective self-employment, along with skilled artisans from plumbers to barristers, the main concern of *The General Theory* is with employers and employees, who put a price on labour time that must necessarily be arrived at independently of the value of the subsequent output to which the labour may give rise. In a co-operative or self-employed economy, given competitive product markets, the exertion of labour to produce saleable output will generate revenue. If the product price is low, the revenue may not be worth the effort, and leisure may be preferred (i.e. may offer higher utility at the margin). The difference between an economy of self-employed households in perfect competition and Robinson Crusoe lies only in the division of labour. In a monetary production economy, by contrast, labour cannot insist on being employed, even if its marginal revenue product and real wage exceed the marginal disutility of that amount of employment (*G.T.* 291). Entrepreneurial firms exist, not to hire labour, but to make profit. By definition, wage-labour does not make the hiring decision, and the primary purpose of *The General Theory* is to explain how firms can find it unprofitable to employ labour, even though unemployed labour is for hire at the going rate.[3]

The following sections consider in turn the first three *G.T.* Chapters, beginning with Keynes's claim to offer a *general* theory in *G.T.* Chapter 1; his critique of the Classical theory of employment in *G.T.* Chapter 2; and finally, the core of Keynes's own theory, the principle of effective demand, set out in *G.T.* Chapter 3.

1.1   GENERAL THEORY OR SPECIAL CASE?

The modern Classical view is that contrary to Keynes's claim in *G.T.* Chapter 1, *The General Theory* is a special case of Classical theory. Keynes's involuntary unemployment is to be understood as a symptom of disequilibrium, of departure from full employment general equilibrium, associated with 'sticky' wages, interest rates and expectations. The New Keynesian variant of Classical theory emphasises that such disequilibrium may not be self-correcting, since the failure of prices to adjust may reflect permanent features of the real world, especially the asymmetric distribution of information among the bargaining parties. Nevertheless the diagnosis of the problem in terms of disequilibrium leads to a set of policy prescriptions that might have found favour with Professor Pigou, but not with Keynes (Darity and Young, 1997).

Although *The General Theory* cannot be reduced to the assumption of sticky interest rates, this point has some merit as will become clear in Chapter 4 of this book. What is surprising, as noted in the Prologue, is the continued widespread assertion that *The General Theory* depends on sticky money-wages. Although sticky money-wages may be a condition of the stability of the price system, that is not the same thing as a condition of under-employment equilibrium.

As noted above, Keynes assumes that workers do not supply product markets directly. Can this be regarded as a special case? In the purest Walrasian system, the decision to offer labour services rather than products, to be a worker rather than an entrepreneur, is a matter of endowment and choice. Yet Keynes was here no different from Marshall and Pigou and their predecessors, who recognised the distinctive character of wage-labour (along with the services of non-produced capital-goods such as land) as 'factors of production' requiring separate treatment from goods produced by entrepreneurs. *The General Theory* was addressed to the Marshallian form of Classical theory, so the assumption that labour works only for wages cannot be the point of departure.

Keynes himself emphasises Say's Law (as defined by Mill, Marshall and Ricardo, *G.T.* 18–19, 369) as the special assumption required for Classical theory to apply to the monetary production economy, creating a 'Neutral' economy. This implies 'a nexus which unites decisions to abstain from present consumption with decisions to provide for future consumption [i.e. invest]; whereas the motives which determine the latter are not linked in any simple way with the motives which determine the former' (*G.T.* 21). As Keynes puts it, 'An act of individual 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 a year hence or to consume any specified thing at any specified date' (*G.T.* 210, a clear reference to the inter-temporal theory of consumption in Fisher, 1930).

Keynes's proposition has been formalised in modern Classical terms as the incompleteness of the necessary futures markets for all possible consumption plans. Provided at least one futures market exists (e.g. for money) a short-period full employment 'temporary equilibrium' (in the sense of Hicks, not Marshall) can still exist, so that the argument comes to centre on the relationship between saving (strictly, income not consumed) and investment, and on the rate of interest as the rate of time discount bringing non-consumption into line with investment opportunities.

The Neutral economy can also be interpreted as the assumption that no-one will hold money in the long term except for its convenience value as the medium of exchange. The disequilibrium strand of pre-Keynesian Classical theory (what Keynes called the 'neo-classical' strand, *G.T.* 183) had always been concerned with the problem of 'hoarding', the refusal either to consume or invest in new goods. Sooner or later, particularly if the price-level fell, people would prefer capital-assets or consumption to money hoards, and money would again become neutral. Since *The General Theory*, Milton Friedman among others has argued that even if money interest rates are sticky and new capital-assets remain relatively unattractive, consumption-goods (particularly durables) are preferable to sterile hoards, especially as the real value of base money increases (and of government debt, to the extent not offset by the prospect of an increased tax burden in real terms). The Pigou, or 'real balance', effect (Pigou, 1943) has become the core of the modern Classical theory of aggregate demand, even if for policy purposes it is recognised as more desirable to increase the money supply to offset serious 'monetary shocks', rather than attempt general wage cuts and put the financial system at risk through debt deflation. This amounts to a claim that, given the level of investment, consumption will in the long term rise to bring about the full employment equilibrium of the Neutral economy. Although Keynes recognises the influence of unexpected capital gains and losses, he deliberately ignores the Pigou effect, and regards an increase in wealth as more likely to reduce, rather than increase, the propensity to consume. The Pigou effect is discussed further in Chapters 3, 4 and 5 of this book.

It has thus become possible for modern Classical theory to reject Keynes's propensity to consume, along with liquidity-preference, as 'ad hoc', albeit on the rather thin foundation of the real balance effect (to which we shall return). *The General Theory* becomes a special disequilibrium case of 'elasticity

pessimism', where consumption is inelastic to wealth, interest rates inelastic to money supply, and investment inelastic to interest rates. Behind this criticism ultimately lie two assumptions: (a) that flexible prices would tend to move a monetary production economy, trading at 'false' disequilibrium prices, to a unique and stable full employment equilibrium, and (b) that the psychological propensities of *The General Theory* have no solid long-term foundation in rational choice. The purpose of this book is partly to demonstrate that *The General Theory* does in fact answer this criticism and undermine the underlying assumptions upon which it is based, thereby substantiating Keynes's claim to generality.

1.2   THE CLASSICAL THEORY OF EMPLOYMENT

The purpose of *G.T.* Chapter 2 is to refute the Classical theory of employment and unemployment on both empirical and logical grounds. By *reductio ad absurdum*, Keynes demonstrates that the predictions of Classical theory do not accord with the observed response of workers to changes in real wages. Secondly, he challenges at root the assumption that bargains in money-wages determine real wages, so that unemployment is a matter of money-wages. This second point leads to the core proposition that only at full employment does the real wage determine (or rather, constrain) the level of employment, while in general it is the level of employment that determines the real wage. The rest of *The General Theory* offers an alternative explanation of the level of employment compatible with the possibility of involuntary unemployment, something that cannot logically exist in Classical theory.

   Keynes's definition of involuntary unemployment in *G.T.* Chapter 2 is that 'Men are involuntarily unemployed if, in the event of a small rise in the price of wage-goods relatively to the money-wage, both the aggregate supply of labour willing to work for the current money-wage and the aggregate demand for it at that wage would be greater than the existing volume of employment' (*G.T.* 15). The reason for this convoluted definition is that it allows Keynes to identify his point of departure from the Classical theory of employment on its own terms. The clearer definition (in his own terms, of inelastic employment) has to await the definition of effective demand in *G.T.* Chapter 3.

   In the Classical theory, the real wage is determined by the bargains between employers and workers, and the real wage in turn determines the level of employment. In *The General Theory*, the level of employment determines the real wage and has nothing directly to do with the bargains in

terms of money-wages between employers and workers, taken in aggregate. In the Classical theory, observed levels of unemployment *reflect* a real wage (or strictly, labour cost) above the market-clearing level, and the solution lies in wage reductions, increased labour market flexibility, etc. In *The General Theory*, observed levels of unemployment are *associated* with a real wage above the market-clearing level, but employers and workers cannot reduce the real wage simply by agreeing lower money-wages.

Keynes's definition of involuntary unemployment in Classical terms is needed for an appeal to the facts of experience, a simple offer of empirical evidence against the Classical theory of unemployment. Leaving aside the question of how the real wage can be reduced, he drives the Classical theory to its logical conclusion, that if such a reduction takes place, the supply of available labour will fall below the amount actually employed before the reduction. This implies that 'all those now unemployed though willing to work will withdraw the offer of their labour in the event of even a small rise in the cost of living' (*G.T.* 13). This can be illustrated in a diagram plotting the real wage ω against the level of employment N (see Figure 1.1).

The point (N^*, ω^*) represents the point of market-clearing equilibrium given competitive Classical supply (S) and demand (D) curves for labour. Nothing hangs in this example on the particular elasticities. Unemployment exists in the Classical account because obstacles to competition in the form of restrictions on the movement of labour shift the supply curve to the left (S_U). This curve relates the amount of labour *actually available to employers* at a given real wage, which is less than the amount of labour individual workers are willing to provide in aggregate. The point of 'unemployment equilibrium' is given by (N_1, ω_1), and the level of unemployment is U_1. Note that at ω_1 the supply of labour is higher than at ω^*.

Keynes's *reductio ad absurdum* runs as follows. Given the restricted supply (S_U) and the demand (D) curves for labour, assume the real wage is reduced from ω_1 to ω_2. This defines a point of Classical disequilibrium (N_C, ω_2) where demand exceeds supply (by $N_K - N_C$, shown by the double-headed arrow), and employment is rationed by supply. N_C is less than N_1, so that some of the workers employed at (N_1, ω_1) withdraw their services *and so do all those unemployed* at ω_1, despite an excess demand for labour. If not *all* the unemployed represented by U_1 do so withdraw, employment must lie somewhere between N_C and N_K.
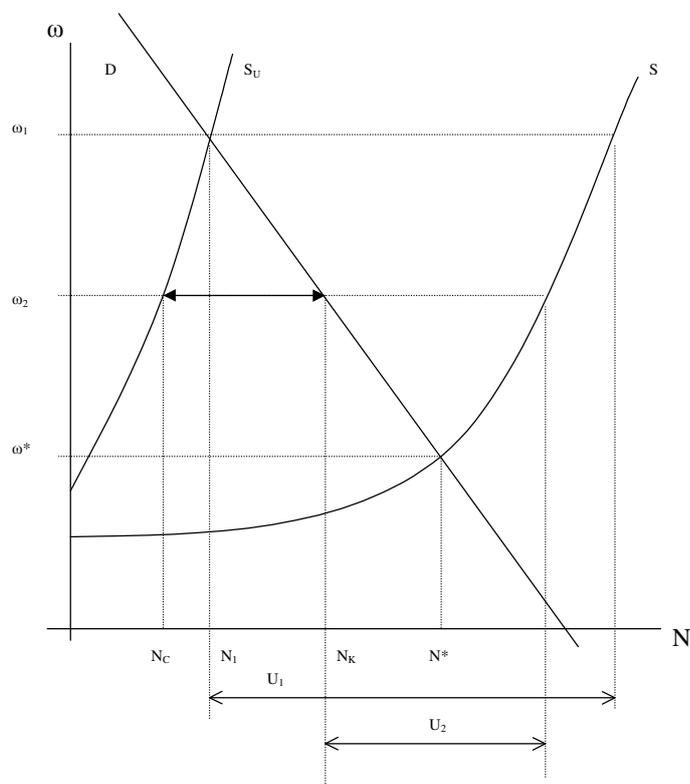
Figure 1.1 Employment and the real wage

The diagram also illustrates Keynes's definition of involuntary unemployment in Classical terms. This time we use the perfectly competitive labour supply curve (S). At (N_1, ω_1) the labour market is in disequilibrium, with supply exceeding demand, and employment is rationed by demand. U_1 is as before the level of unemployment. If now the real wage is reduced from ω_1 to ω_2, actual employment increases from N_1 to N_K, and unemployment reduces from U_1 to U_2, as a result partly of increased demand and partly of reduced supply. Keynes is not suggesting that the reduction in the real wage causes the reduction in unemployment, but that the two are associated. His argument is that his definition of unemployment is in accordance with the facts of experience, while the Classical definition leads to an absurd prediction.

The second aspect of *G.T.* Chapter 2 considers how changes in real wages come about. Up to this point, the argument has considered the empirical implications of such changes without enquiring into the adjustment mechanism. Keynes observes that the assumption that the real wage depends on the money-wage bargains between employers and workers is not obviously true, and appears to depend on the tacit assumption that the price-level is determined independently by the quantity of money; indeed the assumption clashes with the Classical view that money is neutral. The Classical relationship between the real wage and the level of (full) employment makes the tacit assumption that all offers of wage-labour at given product prices will be accepted, and rewarded by the marginal revenue product of each class of labour. This abstraction from the determinants of the hiring decision assumes that a monetary production economy can be treated for these purposes as a self-employed or co-operative economy, in which involuntary unemployment cannot exist. In equilibrium, the Neutral economy behaves like a self-employed economy and exhibits Say's Law, namely that an increase in production generates revenue at the given market prices and a corresponding increase in expenditure. Keynes's task is therefore to explain what determines the level of employment, if Say's Law is not assumed automatically to hold in equilibrium, and if the possibility is admitted, in circumstances of perfect competition, of a difference between the demand prices for the products of each industry and the supply prices necessary to induce firms to hire sufficient labour to employ all the labour available at a given real wage. This is the cue for *G.T.* Chapter 3, The Principle of Effective Demand.

After some 70 years, Keynes's critique of the Classical theory of unemployment remains valid, even though new forms of the Classical theory dominate both the academic and the policy agenda. Theoretical developments in terms of the agency model and asymmetric information continue to concentrate on the difference between S_U and S, as in a different way did Pigou in his works on welfare and unemployment. The focus of Anglo-American employment policy (and increasingly that of continental Europe) is on labour market flexibility and work incentives. Keynes might have approved of at least some of these policies, if understood as aimed at increasing the mobility, productivity and availability of labour, but Keynes's involuntary unemployment remains possible even if the S curve in our diagram is relabelled S_U. To the extent that modern monetary policy is effective in delivering a steady growth of aggregate demand, it may be thought of, from a Classical perspective, as successful in eliminating the disequilibrium departures from Say's Law, which used to be expressed as

hoarding and dis-hoarding, while the 'natural rate of unemployment' remains a matter of (real) labour costs and obstacles to free competition. Only if one is convinced that long-term involuntary unemployment in Keynes's sense cannot exist, given stable growth of money demand and competitive conditions with flexible prices, can one disregard Keynes's *G.T.* Chapter 2 critique. Indeed such a conviction still appears at the present time, as in 1936, to be the open or tacit belief of most orthodox economists and policy makers; as a matter of scientific integrity, as Keynes puts it.

1.3   THE POINT OF EFFECTIVE DEMAND AS THE POSITION OF SYSTEM EQUILIBRIUM

The rather short *G.T.* Chapter 3 is the core of the book, and its brevity derives from the attempt to summarise a complex skein of ideas in a few words sufficient to orient the reader for what is to come. Unless its full significance is grasped, the rest will not really make sense; over the years the charge has repeatedly been made that *The General Theory* is unnecessarily obscure. The difficulty, Keynes maintains, is mainly in the hold of pre-existing ideas on the mind of the reader, and the manifold interpretations of the text are themselves conclusive evidence of the difficulty of conveying unambiguous meaning. Inevitably Keynes must in *G.T.* Chapter 3 draw upon concepts and ideas that he has not yet fully defined, which can lead readers to pursue all manner of wild geese, if they do not work through the detailed articulation of the later chapters.

There are several major preconceptions which the modern reader must put aside in approaching *G.T.* Chapter 3. First, the principle of effective demand defines a system equilibrium in which factor markets may not clear, although all goods and asset markets do so. Equilibrium is defined in terms of the decisions of employers, consumers and investors, rather than of the owners of factor services, because the owners of factors do not (in that capacity, although employers also own factors) make the hiring decisions in a monetary production economy. The principle of effective demand is a theory of short-period system equilibrium, which may converge to a long-period position, but only in the short-term sense of Keynes and not in the long-term sense of Marshall. The Classical reader must accept that it is legitimate for Keynes to define the point of effective demand, not as a position of disequilibrium in relation to the Classical general equilibrium, in which all parties make their preferred choices, but as a position of equilibrium, both in

the short and the long period, in which no party has both reason and power to change their position.

For the Old Keynesian and Post Keynesian reader, particular difficulties arise in the interpretation of income, aggregate and effective demand. The Post Keynesian notes the difference between aggregate and effective demand, but both traditions treat effective demand as equilibrium income, in the sense of our fourth criterion, that short-term expectations are fulfilled.[4] This book claims, by contrast, that in *The General Theory* the level of income, whether realised or expected, bears no simple relation to effective demand, and the equilibrium level of income in the (Post) Keynesian sense is conceptually different from the point of effective demand. Income, aggregate and effective demand are three entirely distinct and separate concepts. Income is linked to current output, and effective demand is linked through future output to current employment: both are equilibrium values in the mechanical sense we have defined, but the relation between them is subtle and indirect.[5]

Picking up the earlier cue, the purpose of *G.T.* Chapter 3 is to explain how differences can exist, in circumstances of perfect competition, between the demand prices for the products of each industry and the supply prices necessary to induce firms to hire sufficient labour to employ all the labour available at a given real wage. The analytical framework is a direct extension of Marshall's supply and demand apparatus, based on perfect competition and price flexibility, for use at the macroeconomic level, or in other words, to analyse system equilibrium. The aggregate demand function (D) relates the total money-income expected by industry as a whole to the total level of employment (N), where the direction of causation runs from employment to income. The aggregate supply function (Z) relates the total expected money-income to the total level of employment (N), where the direction of causation runs from expected income to employment. The intersection of the aggregate demand and supply functions determines as equilibrium values the effective demand (let us call it D^*) and the level of employment (let us call it N^*).

This definition of effective demand can be summarised (and Keynes does so) as the solution to three equations:

$$D = f(N) = D_1(N) + D_2 = \chi(N) + D_2 \qquad (1.1)$$

$$Z = Z(N) = \phi(N) \qquad (1.2)$$

$$D = Z \qquad (1.3)$$

where D_1 reflects the propensity to consume and is mainly a function of aggregate employment, and D_2 reflects the inducement to invest and is independent of D_1, and largely of N. These three equations define an equilibrium level of aggregate employment N^* which may be less than, or equal to, the supply of available labour.

It is then possible to plot, as an exercise in comparative statics, a further functional relation between the equilibrium values of effective demand D^* and aggregate employment N^*, such that $N^* = F(D^*)$, corresponding to different states of the independent variables of the system, namely the three psychological factors (the propensity to consume, and the schedules of the marginal efficiency of capital and of liquidity-preference) together with the quantity of money and the wage-unit. This relation between D^* and N^* (the 'employment function') is the backbone upon which the skeleton of *The General Theory* is constructed. Book II articulates the definitions and concepts anticipated in *G.T.* Chapter 3. Book III considers the propensity to consume $\chi(N)$ and Book IV the determinants of the rate of investment D_2. Book V unpacks the aggregate supply function $\phi(N)$ and considers the relationship between effective demand, money-wages and the price-level.

The principle of effective demand is part of the theory of value and, in moving from the consideration of the individual industry to industry as a whole, there is no suggestion by Keynes that supply and demand have ceased to determine the prices and quantities of each product. Apart from improvements such as the introduction of user cost to deal with the element of supply price attributable to the use of existing capital-goods, Keynes's theory of value remains essentially that of Marshall and Pigou. However, the principle of effective demand solves the problem that supply and demand in each industry depends on the output of industry as a whole, and brings precision to Marshall's claim that short-period and long-period *expected* prices, and not only the spot prices of the market period, can realistically be treated as determined by the equilibrium of supply and demand.

Most production takes time, so that today's employment will result in final output of finished goods only at a later date, at the end of the production period for each kind of good. Marshall recognises that employment is based on short-term expected prices, so that his short-period supply and demand curves must strictly be understood as relating expected, not spot market, prices to quantities. Each day firms must decide how much employment to offer today, based on their expectations of the market prices they will receive for the different kinds of final output that will emerge at the end of the various production periods. These expected prices may reflect, but are logically quite different from, the market prices which output finished today

will fetch if sold in the spot market at once, and which determine the value of today's income.

Keynes's effective demand relates directly to this Marshallian conception and is the expected present value of the final output resulting from the employment that firms choose to offer. Effective demand is accordingly an expectation of income (income being the value of output, *G.T.* 63), yet the expected income represented by effective demand does not correspond to the income expected on any one future day, but is spread over a number of days. This idea is more difficult to convey than those behind the Keynesian cross (see Section **A1.3.1** for a formal approach), but Figure 1.2 illustrates the central concepts, on the assumption that there is one production method which takes five days and is started up each day, so that there are five processes running in parallel at any time, say the construction of five log-cabins. There are no producible capital-goods other than work-in-progress, which is identifiable by date of production. The gross value of output on day t, before allowing for the value of work-in-progress depleted (user cost), is made up from the money-value A_1^t of the output of finished goods in process 1, together with the money-value of the addition to the work-in-progress in processes 2–5, represented by $-U_j^t$. The symbol U is a reference to user cost, which is the inverse of investment (the value of capital-goods produced), so that $I_j^t = -U_j^t$. The money-value of the outstanding work-in-progress, on which the production decisions of day t are partly based, is represented by all the cells for days prior to t, which may be written ${}^tG^{t-1}$, where the prefix t means that work-in-progress brought forward is valued at market prices on day t. The level of income on day t (Y^t) is given by the shaded area, which represents the value added in completing the first log-cabin after *deducting* the value already embodied in the work-in-progress, and so the value of consumption (one log-cabin delivered to consumers); together with the addition to the value of the work-in-progress on the other four cabins, being the value of investment. By contrast, the level of effective demand on day t (D^{*t}) is represented by the entire grid, treating cells as positive or negative as appropriate.

Process \ Day	t-4	t-3	t-2	t-1	t	t+1	t+2	t+3	t+4
1	$-U_1^{t-4}$	$-U_1^{t-3}$	$-U_1^{t-2}$	$-U_1^{t-1}$	A_1^t				
2		$-U_2^{t-3}$	$-U_2^{t-2}$	$-U_2^{t-1}$	$-U_2^t$	A_2^{t+1}			
3			$-U_3^{t-2}$	$-U_3^{t-1}$	$-U_3^t$	$-U_3^{t+1}$	A_3^{t+2}		
4				$-U_4^{t-1}$	$-U_4^t$	$-U_4^{t+1}$	$-U_4^{t+2}$	A_4^{t+3}	
5					$-U_5^t$	$-U_5^{t+1}$	$-U_5^{t+2}$	$-U_5^{t+3}$	A_5^{t+4}

Figure 1.2 Income and effective demand

The level of employment N^{*t} that entrepreneurs find it worthwhile to offer today depends on the expected sales values ${}^tA_j^{t+n}$, the expected costs of future construction work ${}^tU_j^{t+n}$, and the value of the work-in-progress to date ${}^tG^{t-1}$. It is clear from the diagram that the shapes of Y and D^* are quite different; income and effective demand at time t coincide only in the case of process 1 in isolation, and only then if prices have not changed during the production period. The income of the factors of production hired by an entrepreneur is indeed fixed when they are employed, and we shall see that this is important in allowing Keynes to switch from employment to income as the determinant of consumption, but here we are concerned with the expectations of the entrepreneur.

Many have been puzzled by the definition of aggregate demand as 'the proceeds which *entrepreneurs* expect to receive from the employment' (*G.T.* 25, emphasis added see also *G.T.* 28–9, 89), rather than in terms of the expenditure of consumers and investors, the aggregate demand of Old Keynesian economics. Yet this paradox is already implicit in Marshall's claim that Normal prices, which are prices expected by entrepreneurs *today*, are determined by the equilibrium of supply and demand. My answer is that Keynes's entrepreneurs must be understood as fulfilling two separate functions on either side of the market, as employers of labour on the one hand, and as self-employed wholesale and retail dealers on the other (see Marshall 1920, p. 283; *C.W.* XIII, p. 616).[6] Employers are specialised in managing the risks of production, and dealers in managing the risks of marketing finished goods; a division of enterprise commonly observed in practice. In this construction, production takes place when an employer

receives an order, usually from a dealer or another employer. Production to order implies, under perfect competition, the existence of a set of forward markets, for each good that is producible today, for delivery at the end of its production period. Competition between employers establishes a unique supply price for any given quantity, and competition between dealers, whatever their individual expectations about future spot prices, establishes a demand-price at which each dealer's demand is in equilibrium. If any speculation about future spot prices by employers is treated as a dealer activity, the equilibrium forward prices of current output become shared short-term expectations, which permits unique definition of 'the' state of expectation.[7]

The point of effective demand is a short-period equilibrium position, meaning that entrepreneurs as a whole adjust their employment of labour to maximise their expected profit with a given aggregate stock of capital-goods. Since Keynes's short period is his day, and the day is the quantum unit of time, this means that aggregate demand and supply are in static equilibrium at all times (every day); the equilibrium process of finding the point of effective demand described at *G.T.* 25 takes place on a single day, the present day. The equilibrium price of the output of each industry corresponding to *today's* aggregate employment is determined *today* as the price which clears the supply offers by employers and the demand bids by dealers in the forward market for delivery at the end of the production period. Each day employment moves directly to the equilibrium position corresponding to the set of forward prices, so that within the quantum limit of the day as the unit of time, employment is in continuous equilibrium.

The set of equilibrium expected prices that determines effective demand also corresponds to the state of short-term expectation (*G.T.* 46), so that it can properly be said that expectation determines output and employment, the title of *G.T.* Chapter 5, which we will consider further in the next chapter.

1.4 SUMMARY

The Classical theory describes an economy in which there is either no wage labour or no demand for money as a long-term store of value. The money-wage is the distinctive feature of the entrepreneur or monetary production economy, in which workers must be paid in money and not with a share of output. The Classical theory of employment can describe a self-employed or co-operative economy in which there is no decision to hire labour, only offers of labour, and involuntary unemployment in Keynes's sense is impossible.

Alternatively it describes a neutral economy in which there exists no long-term option to abstain from either consumption or investment, and involuntary unemployment is part of disequilibrium business cycle theory.

Keynes criticises the Classical theory of employment on both empirical and logical grounds. Unemployed workers do not behave as the theory predicts, and as a matter of logic, aggregate real wages cannot be determined by money-wages. In order to replace the Classical theory, Keynes extends Marshall's analysis of competitive supply and demand from partial to system equilibrium, by introducing the principle of effective demand. The position of competitive equilibrium of a monetary production economy is the point of effective demand, and does not automatically correspond to full employment. The distinctions between income, effective demand and aggregate demand are of great importance.

Keynes's Marshallian approach to system equilibrium differs from the Walrasian, not only in the comparative realism of its theory of price adjustment as a process in time, but also in the separate treatment of the factors of production. The modern Classical theory of aggregate demand, as summarised in text-book AD-AS analysis, is a new form of the quantity theory, in which the Pigou effect continues to deliver Say's Law in the long term; aggregate supply continues to be determined in the labour market by the choice between work and leisure; and money remains neutral in the long term, even if 'neo-classical' short-term disequilibrium is possible. *The General Theory* continues to be misinterpreted by Classical theory as a special case of fixed or sticky price disequilibrium, partly because of Keynes's entirely different concept of system equilibrium in terms of the decisions of employers, consumers and investors, rather than of the owners of factor services.

NOTES

1. Weitzman (1982) is a good example of such a theory, which produces a form of involuntary unemployment by dropping the Marshallian assumption of diminishing returns. Increasing returns may partly explain the existence of a wage-dependent labour force, but it is not the question addressed by Keynes.
2. See Torr (1988) for a full discussion of Keynes's use of the terms co-operative, neutral and entrepreneur economy in the drafts of *The General Theory* (*C.W.* XXIX, pp. 76–9).
3. The definition of a monetary production economy as one involving wage-labour is more specific than Pasinetti's (1997, 2001) but shares an emphasis on the decision to produce, rather than to spend, as the essence of the principle of effective demand. Pasinetti's broader 'pre-institutional' definition encompasses the possibility in a self-employed monetary economy of deficient demand such that actual production falls short of productive capacity, with involuntary under-employment rather than unemployment of wage-labour. By

contrast, a monetary production economy cannot properly be represented by a non-monetary 'corn model'.

4. Kregel (1976) associates the concept of equilibrium income (as here defined) with Keynes's stationary equilibrium (*G.T.* 293), emphasising that the disappointment of individual expectations does not affect the position of the point of effective demand based on a given 'state of general expectations' (i.e. what Keynes calls the state of expectation). He notes Keynes's rejection of the Swedish method of *ex ante* and *ex post*, but attributes this to the effect on the state of general expectations of the disappointment of individual expectations, an interaction which he associates (wrongly, if I am correct) with Keynes's shifting equilibrium (ibid.).

5. Keynes writes in the 1934 draft: 'But finally I have come to the conclusion … to call the actual sale proceeds income and the present value of the expected sales proceeds effective demand. Thus it is the present value of the expectation of income which constitutes the effective demand; and it is the effective demand which is the incentive to the employment of equipment and labour … the excess of income over effective demand is entrepreneur's windfall profit' (*C.W.* XIII, p. 425).

6. Employment by dealers is exogenous in the short period, and may perhaps be regarded as attached to the capital equipment and as capable of variation in the long period.

7. Chick (1983, 1992b) offers perhaps the most sophisticated development of the received idea that the equilibrium point of effective demand is discovered by the fulfilment of expectations. She (and Casarosa, 1981) distinguish between D^e, aggregate demand in terms of entrepreneurial expectations (which may be entirely individual to each firm, and thus does not permit definition of a unique and common state of expectation), and D, meaning aggregate demand in terms of expenditure. The point of effective demand is then defined by the intersection of Z and D^e, but equilibrium is not reached in terms of fulfilled expectations until (if ever) D^e coincides with D. A difficulty with her interpretation is that it leaves no room for Keynes's long-period employment, which various other authors have also found problematic (Asimakopulos, 1984, 1989; Hansson, 1985; Carvalho, 1990).