THEORIES OF EMPLOYMENT AND THE DEVELOPING ECONOMIES

by

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ABSTRACT

"Theories of Employment and the Developing Economies", is an attempt to prove that the existing employment theories are not applicable to developing countries, and to propound the wage-goods gap theory as a suitable alternative for the expansion of employment opportunities in these countries.

The study is based on the following four assumptions. Firstly, the model is more like a densely populated economy of the Asian type rather than a sparsely populated economy of the Latin American or of the African type. Secondly, as it is common to almost all developing countries, from 50 to 80 per cent of the labour force is engaged in the agricultural sector causing a vast magnitude of disguised unemployment. Thirdly, the terms, "employment", and "output", and for that matter, the terms, "economic development", and, "growth", have been used interchangeably. And finally, institutional factors have been assumed to be neutral in the sense that they do not arrest any tendency toward expansion of employment and output.

The study has been divided into three parts where each part is a logical development of the preceding part. Part I discusses the theories of employment as they exist witho

examining their validity in the context of the conditions prevailing in developing economies. In that sense this part provides the raw materials which have been used for further analysis in Part II and Part III.

Part II, which is also the theme of this paper, attempts to examine the relevance of these theories to the conditions of the developing economies and thereby to identify the points which are relevant and those which are not. Part III, which is a logical extension of Part II, examines the main thesis, that it is the shortage of real liquid capital and not of real fixed capital which is the main hurdle in the entire process of employment expansion in these countries. This part goes further to examine the recently experienced green revolution in some of the developing countries and its latent potentials for providing surplus wage-goods. The study concludes with a note of optimism so far as the chances of their success are concerned in their efforts to expand employment opportunities.

ACKNOWLEDGMENT

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INTRODUCTION

There is a growing realization on the part of many economists both in the developing as well as in developed countries, that none of the existing theories of employment are adequate for explaining the phenomenon of mass unemployment in these countries. No matter how much they differ on the details of their analysis and their modus operandi, there is at least one point on which there is consensus and this is, that the existing situation in these countries is substantially different from that existing in the advanced capitalist societies.

In the years following the Keynesian revolution there was a strong tendency to apply Keynesian prescriptions in order to expand employment and output regardless of the type of society and the degree of economic development already attained by a particular country. As a result, the advanced capitalist societies achieved a greater degree of success in their efforts, while the developing countries found themselves faced with the problem of inflation without being successful in solving their unemployment problem.

This folly was realized by many of the economists who recommended the solutions offered by the orthodox economics. They

maintained that in these countries there is deficiency of supply and not of demand. Shortage of capital is the main hurdle, which once removed, would lead to a cumulative process of expansion. According to them forced saving is inevitable. But the vicious circle of low income, low savings, low capital formation and low productivity is all too well known to be overemphasized, and the, "how to break this vicious circle", becambe the big question mark.

Thereupon came a number of economists like Nurkse, Lewis, Fei and Ranis, Enke, Jorgenson and many others, who following the classical tradition, pinned their hope on the existence of a vast magnitude of redundant labour force in these countries. They recommended utilization of this unlimited labour supply for the purpose of capital formation. While there is nothing wrong with their line of argument, they seem to have confused the existence of unlimited labour with what may be termed as employable labour force.

Attempts will be made in the following pages to examine the relevance of the existing theories to the conditions prevailing in the developing countries. However, efforts will be concentrated upon identifying the points of relevance or otherwise, of the Classical, Keynesian and Marxian theories of employment. Attempts will also be made to test the hypothesis, that shortage of real liquid capital and not of real fixed capital is the main problem before these countries. It is the

shortage of real liquid capital which is inhibiting the process of expansion of employment and output, and a surplus of wage-goods alone is capable of transforming the unlimited labour supply into an employable labour force. Given a surplus of wage-goods, employment in investment would increase, the total increase depending upon the size of the consumption multiplier which is inverse of the difference between the real wage, (w) and the average consumption of the disguised unemployed (d). That is, the consumption multiplier is equal to:

$$\frac{w}{w - d}$$

assuming that the marginal propensity of self-consumption is zero.

Since agriculture is the most predominant sector in a developing economy, and since the phenomenon of disguised unemployment is most prevalent in this sector, the real brunt of solving the problem will have to be borne by this sector. Thanks to the new hybrid variety of seeds, some of the developing countries have succeeded in attaining agricultural break-through. The green revolution offers immense opportunity of bridging the wage-goods gap and reducing the magnitude of unemployment in a relatively short run. In the long run, the problem of shortage of real fixed capital would be solved once the gestation period is over. Nurkse rightly maintained that since labour cannot produce consumer goods without capital, it is better to set them to work on producing real capital.

PART I

Chapter 1

THE CLASSICAL THEORY OF EMPLOYMENT

The phrase, "the classical theory of employment", is to some extent a misnomer because none of the writings of the leading classical economists contains an explicit account of what were thought to be the chief determinants of the level of income and employment. Nevertheless, there exists in widely scattered places in the literature of classical economics, ideas relating to employment, which when brought together, constitute a logical and coherent explanation of how the employment level is determined and why it is necessarily one of full employment. Awareness of the existence of these ideas has largely come about since the publication of Keynes' General Theory. Since Keynes asserted that a major objective of his treatise was to refute the classical theory, it was inevitable that the publication of the General Theory would stimulate much thought and discussion among professional economists concerning the nature of the classical system. As a result, there has emerged a reasonably clear conception of a classical employment theory.

Meaning of Employment and Unemployment

The simplest definition of full employment is a situation in the economy characterized by an absence of involuntary unemployment. The latter exists when members of the labour force are willing to work at the prevailing wage rate but are unable to obtain employment. If N' stands for labour force and N stands for the actual level of employment, then full employment exists in the economy as $N' - N$ approaches zero.

It should be noted that the phrase "approaches zero" rather than "equals zero" has been used. It is bacause the absolute full employment of the labour force which would prevail if $N' - N$ were equal to zero, is a condition that is seldom, if ever, attained in practice. In almost any society there is likely to be varying amounts of frictional unemployment, which results whenever persons in the labour force are temporarily out of work because of imperfections in the labour market. At any given time some workers will be in a process of changing jobs, others will be experiencing temporary lay-offs caused by the seasonal nature of their employment, by shortages of materials in some industries, by breakdowns of machines, or by shifts in demand that reduce the need for some types of workers and increase the need for others. Many other similar factors cause some proportion of the labour force to be out of work for short periods of time. In view of these imperfections in the labour

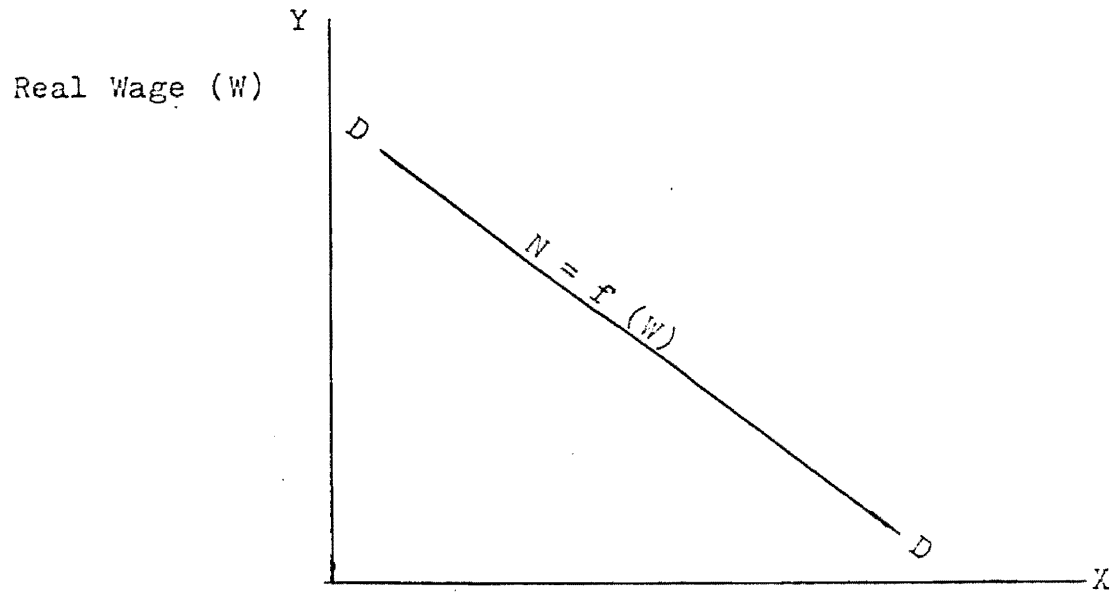
market, full employment can be said to exist when a society has minimized frictional unemployment and there is absence of involuntary unemployment. Since there is no precise way to distinguish unemployment that is frictional from unemployment that is either involuntary or even voluntary, the economists use a rough rule of thumb that defines full employment in the economy as a situation in which no more than 3 to 5 per cent of the total labour force is unemployed. However, there is no agreement among the economists regarding the precise percentage of unemployment that is commensurate with the concept of full employment.

Demand for Labour

In the classical system the level of employment, both in the individual firm and in the whole economy is determined by the demand for and supply of labour. The classical view of the nature of the demand for labour can be summed up in the proposition: the demand for labour is a function of the real wage. In equation form this idea is expressed as follows:

$$N = f(W)$$

The fundamental idea involved here is that, other things being equal, the firm will hire more labour only as the real wage declines. Thus, the demand for labour is the inverse function of the real wage, or the demand curve for labour has a negative slope. This relationship is shown in the following figure.



It follows from this relationship that in order to raise the level of employment it is necessary to reduce the real wage.

The reason for the presumed existence of an inverse functional relationship between the real wage and the level of employment can be best understood if the situation at the level of the individual firm is considered. Classical economics assumes that the businessman, or entrepreneur, attempts to maximize his profit. Essential to the most profitable use of labour is the principle of diminishing returns.

According to the principle of diminishing productivity, the physical output from the employment by the firm of additional units of labour will become smaller and smaller as the total volume of employment rises. In more technical language

this principle means that the marginal physical product of additional units of labour will decline. What interests the individual firm is the yield which results from the employment of additional amounts of labour. This depends, not only upon the additional output it gets from additional labour, but also on the price at which the additional units of output are sold. In a competitive setup all additional output will be sold at a single price. All this means that the value of the firm's marginal physical product will inevitably decline as more labour is employed.

The profit-maximization principle requires that the firm adjust its level of operations to the point at which the value of additional output is just equal to the cost of that output. When this principle is applied to employment, it means that the firm should adjust its level of employment to that point at which the cost for the employment of more labour is just equal to the value of the marginal physical product of that labour. This will be the equilibrium position of the firm in respect to its employment level. The cost to the firm of the additional amounts of employment depends simply upon the number of additional workers hired and the prevailing money wage.

The question may now be raised as to how it concerns the real wage. By the real wage is meant the purchasing power of a given money wage. But this depends upon the relationship

between the money wage and the general level of price. Symbolically, the real wage (W) can be defined as the money wage (w) divided by the general price level (p).

$$W = \frac{w}{p}$$

The real wage will fall if the general price level rises while money wages remain constant. The reverse will be true if the money wage increases while the general price level remains constant.

At this stage it is appropriate to see how the equilibrium position will be affected by a change in either the general price level or in money wage rates. If the firm is in equilibrium, then a fall in money wage rate will upset this equilibrium by reducing the cost to the firm of the labour. If this is the case, then the firm is in a position to employ additional labour. Eventually, the firm will reach a new equilibrium at which once again the value of the marginal physical product of the labour will be just equal to the cost of labour. But in the process the employment has increased. This is tantamount to saying that employment level is an inverse function of the real wage, for if money wage declines while the general price level remains constant, real wages will have declined.

This analysis of an individual firm can be extended to the economy as a whole. In the short run for the economy as a whole, as well as for the individual firm, labour is the variable resource. The aggregate demand curve of labour is

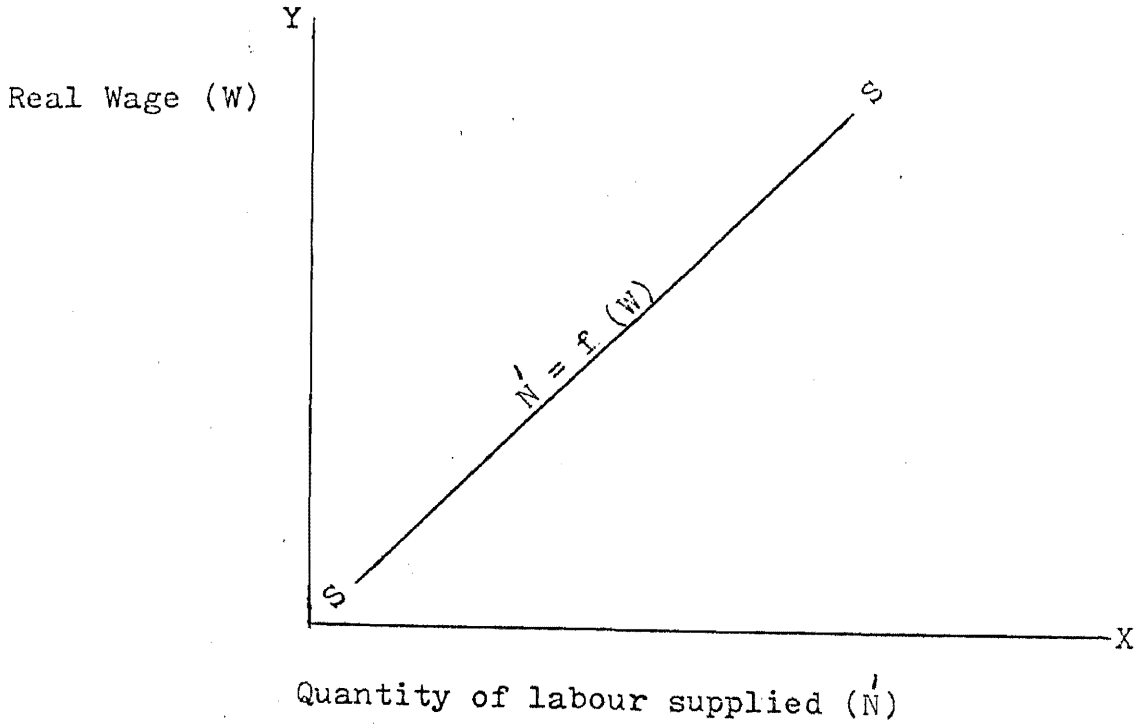
conceptually identical with the individual firm's demand schedule for labour. Such, in essence, is the classical concept of the economy's demand schedule for labour.

Supply of Labour

Classical ideas concerning the supply of labour may be expressed in the following equation:

$$N' = f(W)$$

In this equation N' represents the number of workers actually in the labour force and actively seeking employment. Supply, however, is interpreted to mean not only the number of workers but the hours of labour supplied by both old and new workers. Hence, the supply curve of labour in the classical system has a positive slope as is evident from the following figure.



The view that the supply of labour is a function of the real wage rests on two assumptions. Firstly, the worker, in offering his services, seeks to maximize his income in the same way as the entrepreneur seeks to maximize his profit. The real wage represents that which is necessary to overcome the irksomeness of work and thus actually induce people to become employed. It must be the real wage because it is the actual purchasing power in terms of goods and services of the money wage. Secondly, this functional relationship is based upon the classical assumption that workers do not suffer from money illusion. The term, "money illusion", was coined by the American economist, Irving Fisher, and refers to a "failure to perceive that the dollar or any other unit of money expands and shrinks in value".[1] In other words, the monetary unit is believed to be stable in value, and thus a rise in money income is considered ipso facto, a rise in real income. Under these circumstances, the supply of labour could be as easily a function of the money wage as of the real wage. But this is not the classical view of the matter. Money, to the classical economists, is fundamentally a medium of exchange, a means to an end. The implication of such a view is that resource owners, including workers, will value the services of their resources in terms of the real returns they can command.

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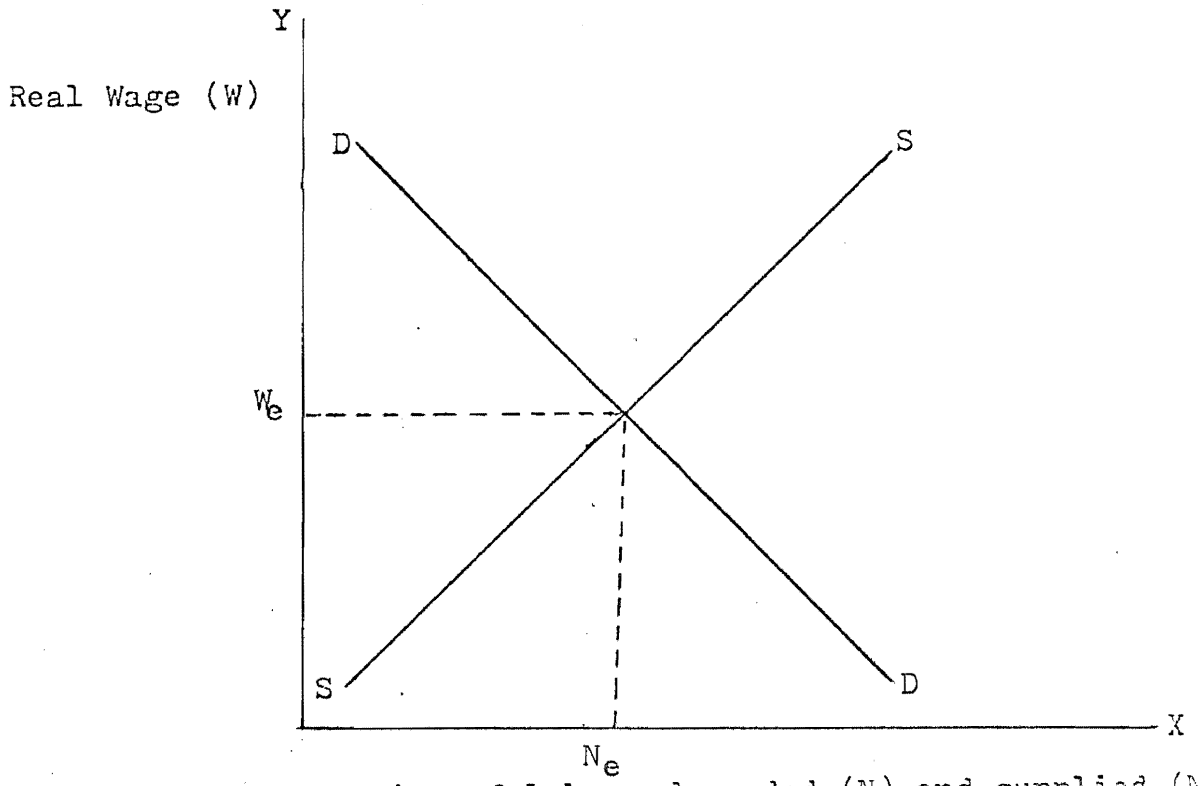
1 Irving Fisher, The Money Illusion. New York, Adelphi, 1928. p. 4.

Equilibrium Level of Employment

The real significance in the classical system of the demand for labour and supply of labour is that they uniquely determine both the employment level and the real wage. Moreover, the classical demand and supply schedules of labour necessarily intersect at the level of full employment. This has been depicted in the following figure.



In the figure, DD represents the demand schedule and SS represents the supply schedule of labour. Given these two schedules, competition in the market among employers and among workers will drive the real wage and employment level to the point where the two schedules intersect each other. The equilibrium in the

labour market will prevail at the level of real wages W_e and the level of employment N_e. Any movement upward or downward will disturb this equilibrium.

The equilibrium level of employment determined by the intersection of the classical demand and supply schedules for labour has to be one of full employment. Any unemployment which continues to exist after this equilibrium is obtained, must be voluntary in nature. This is true for essentially two reasons. In the first place, the classical postulates imply that if any unemployment persists after the equilibrium situation, it must be because some workers are demanding wages too high in relation to the marginal productivity of labour. If these workers are unemployed because of their refusal to accept lower money wages, their unemployment must be regarded as voluntary. If they would only accept a reduction in money wages, the real wage would decline, price level remaining constant, and more employment would be forthcoming.

The second reason why the employment level is one of full employment is simply that the classical theory maintains that the money wage bargains between workers and entrepreneurs determine the real wage. Consequently, the workers in general are in a position to determine their real wage, and therefore, the level of employment. If this is true, it necessarily follows that any unemployment that actually exists at a given level of real wages has to be voluntary unemployment.

Full Employment: A Harmonious Process.

Full employment is the rule in the classical scheme and it has already been demonstrated in the preceding section that any equilibrium is necessarily a full employment equilibrium. In this section the inevitability of full employment phenomenon will be examined in greater detail.

The possibility of involuntary unemployment is denied by the classical economic theory because of the general acceptance by classical economists of a curious doctrine that is known as Say's Law of Markets. Jean Baptiste Say was a French economist of the early nineteenth century. His Law of Markets, which Galbraith has described as having had the status of an article of faith with classical economists for over a hundred years, is the formal expression of the idea that widespread and involuntary unemployment because of general overproduction is impossible. To put the matter slightly differently, there cannot be any involuntary unemployment because of a deficiency of total demand. If the above statement is turned around, Say's Law asserts that full employment is the normal condition of the economy.

The simplest possible statement of this doctrine is that "supply creates its own demand". The essential meaning of this statement is that in some sense the whole of the costs of production must necessarily be spent in the aggregate on purchasing the product. Every producer who brings goods to the

market (that is, creates supply) does so in order to exchange them for other goods (that is, creates demand). Ricardo expressed it as follows, "No man produces but with a view to consume or sell, and he never sells but with an intention to purchase some other commodity which may be useful to him, or which may contribute to future production. By producing then, he necessarily becomes either the consumer of his own goods, or the purchaser and consumer of the goods of some other person ..... Productions are always bought by productions, or by services, money is only the medium by which the exchange is effected".[2]

The conclusion that follows the assertion that all supply is potentially the demand for something is that there cannot be any general overproduction for the economy as a whole. True, there may be some misdirection of production and consequently an oversupply of some commodities, but the pricing mechanism will correct this and cause some entrepreneurs to shift their output to other and more profitable lines. But such an oversupply cannot be the case for the whole economy. If there cannot be deficiency of total demand in the economy, it also follows that any involuntary unemployment is impossible. Thus the choice is between employment here and employment there, and not between employment and unemployment as such.

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2 David Ricardo, Principles of Political Economy, Gonner ed: pp. 273-75.

Classical economics is a study of the alternative uses of a given quantity of employed resources. When resources are ideally allocated, there is no way by which total output can be increased by reallocating them. In the long run, of course, increases in population and productivity and the discovery of new resources result in increase in total employment and output.

Rate of Interest: A Self-adjusting Mechanism

Rate of interest is the mainstay of the classical theory of employment. It is this mechanism through which any deficiency in the total demand is corrected.

One possible trouble spot in the otherwise harmonious picture is saving. Saving is the non-expenditure of current income for currently produced goods and services. Thus, if some persons or group of persons in the economy save a portion of their current income there may be deficiency of aggregate demand equal to the amounts being saved. But this possibility, too, was denied by the classical economists, because in their view saving is nothing more than another form of spending. The argument runs in this way: All income is spent. The portion of income which is not spent on current consumption is saved. And whatever portion is saved, is invested. Thus the act of saving cannot give rise to a deficiency of total demand. This belief of the classical economists is illustrated in the following statemnt by Alfred Marshall:

"The whole of a man's income is expended in the purchase of services and commodities. It is indeed commonly said that a man spends some portion of his income and saves another. But it is a familiar economic axiom that a man purchases labour and commodities with the portion of his income which he saves just as much as he does with that he is said to spend".[3]

The mechanism in classical thought that transforms saving into investment is the rate of interest. The classical theory of interest is a necessary part of the classical theory of employment because it is the means whereby Say's Law remains valid. Interest in the classical system is a factor which brings the demand for investment into equilibrium with the willingness to save. Since investment represents the demand for investible resources, and saving represents their supply, interest is the price at which the two are equated. The following figure presents geometrically the essence of classical thinking with respect to the rate of interest. In this figure, ii represents the demand for investible resources, while ss represents saving, or the supply of investible resources.

If the economy as a whole attempts to save more out of current income than what it demands for investment at the pre-

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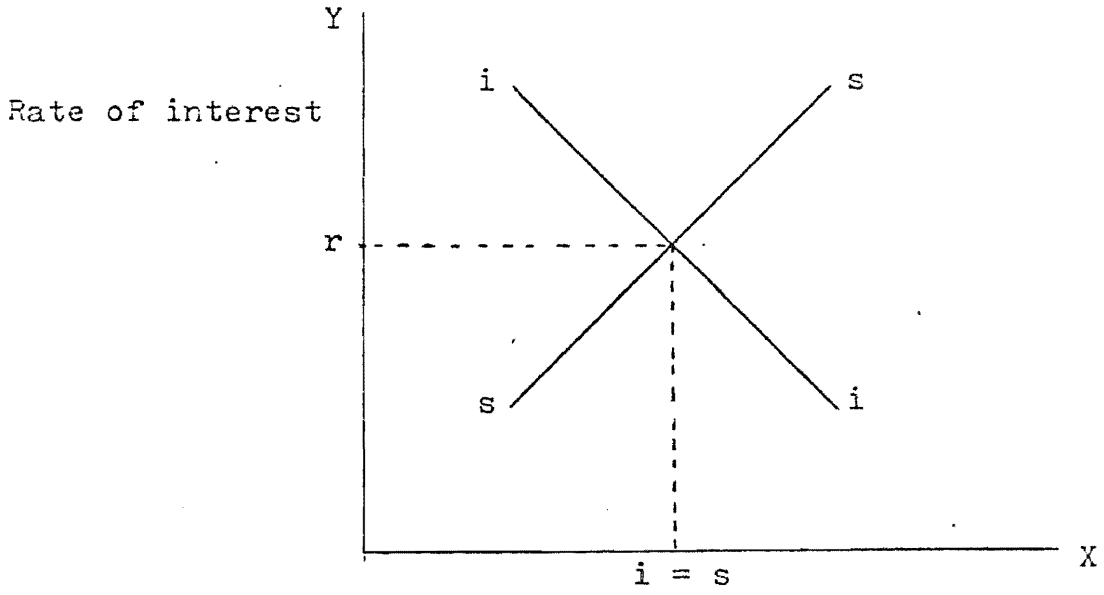
3 Alfred Marshall, The Pure Theory of Domestic Values. London, The London School of Economics and Political Science, 1949. p. 34.



Saving (s) and Investment (i).

vailing rate of interest, forces will be set in motion that will reduce saving and increase investment until they are brought into equality with one another. In the above situation the rate of interest will fall and as it falls the incentive to invest will increase. This process of market adjustment will continue until the equilibrium is restored. The process of adjustment will work in reverse direction if investment exceeds saving in the economy.

In a technical sense the classical theory of interest may be put in three equations:

$$s = f(r)$$

$$i = f(r)$$

$$s = i$$

The above equations assert that both saving and investment

are functions of the rate of interest. If $i > s$, the rate of interest will rise, and if $s > i$, then the rate of interest will fall.

Impacts of Wage Cuts on Employment

In the preceding section it was noticed that saving is not the source of real trouble so far as the working of the classical theory of employment is concerned. Whenever exigencies warrant the rate of interest comes to the rescue of the economic system.

The classical view is that in the absence of state interference, or other rigidities, the existence of any unemployment will have the effect of lowering wages. This follows immediately from the definition of unemployment, for any man who is not in employment but who does not try to get a job at a lower wage is no more considered to be unemployed than the man who refuses to work overtime or on Sundays. At the current wage he prefers leisure to employment. He may be idle but he is not unemployed, at any rate he is not involuntarily unemployed. If he really wanted to work, if he were really unemployed, he would offer himself at a lower wage and this would reduce the level of wages.

The reduction in wages, the argument goes on, will make industrial activities more profitable so that businessmen will employ more people. As long as there is any unemployment wages will fall, and as wages will fall, profits rise,

and as profits rise, employment increases until all the unemployed are absorbed in industry, and there is equilibrium and no more unemployment.

Another version of the classical theory of the relation between wage cuts and employment rests upon the belief that the demand for labour is elastic. Although each worker previously employed will receive less per hour, the total amount of wages paid will increase because the added quantity of employment will more than offset the reduction in hourly wage rates. As a result, total demand will be greater, and more employment can be sustained at lower than at higher wage rates. Even if profit per unit of output does not increase, the total amount of profit is believed to increase.

Unemployment, can therefore, persist only if the state or the trade unions, or some other institution prevents the unemployed from offering their services at lower wages and from setting in motion the automatic mechanism which leads to equilibrium and full employment. What is necessary, therefore, is simply to remove these rigidities and allow the unemployment to liquidate itself by reducing wages.

Implications of the Classical Theory

The classical theory of employment implies a predilection for laissez faire. In a very broad sense, there are two major reasons why the state might intervene in the working of a nation's economy. The first is that imperfections in the

market economy may lead to an undue concentration of economic power in private hands. The second is that the private sector of the economy may not function sufficiently well to provide jobs for all members of the labour force actively seeking employment.

Actually both of the above possibilities are denied by the classical system. With respect to the first, classical economists assume that competition is a normal characteristic of the economy. All firms and persons are at the mercy of the impersonal market forces of supply and demand. If this is a correct evaluation of the actual situation in the economy, then there is no basis for intervention by the state for the sake of redressing any abuse of private economic power. The latter simply does not exist in the classical scheme.

The second possible ground for state intervention in the economy is the continuous existence of significant amount of involuntary unemployment. As it has been seen, classical employment theory leads inevitably to the conclusion that involuntary unemployment on a large scale or for anything more than extremely brief periods is an impossibility. If the economy really does have an inherent and automatic tendency toward equilibrium at full employment, then there is no real need for state intervention on the grounds that employment levels are inadequate. Under such circumstances laissez faire is an appropriate policy.

Another policy implication of the classical analysis is the necessity for flexibility in wages and prices, including the rate of interest as a price. The system can move toward an equilibrium of full employment only if money wages and prices respond constantly to the least discrepancy between the demand for and supply of labour in the market. The same holds true for the rate of interest, for unless the interest rate responds to any discrepancy between the demand for and the supply of savings the system will not adjust to the equality between savings and investment that is necessary to insure the working of Say's Law in a monetary economy. The classical stress on wage and price flexibility carries the further implication that the economy must be competitive. Price and wage flexibility, in other words, stems from the fact of competition, for competition in the technical sense means that the firms and resource owners have little or no control over price. Thus, the more highly competitive the economy, the more responsive wages and prices will be to market forces; and hence the more effective the classical forces of supply and demand of labour that make for full employment.

The Collapse of the Classical Theory

The collapse of the classical theory of employment ushered in a new phase of economic thought, for this theory had enjoyed the support of practically all economists for nearly

a century. This collapse can be attributed to two major factors: the experience of the Great Depression, and the appearance of an alternative, and more competent explanation of how the employment level is determined.

Until 1930's, as Galbraith has pointed out, the American economy had never experienced a really serious and prolonged depression. In the past there had been periods of unemployment and falling prices, but these were rarely of long duration, and they were generally followed by a prompt recovery of the economic system to full employment levels. These fluctuations in income and employment that actually did take place could be explained as resulting from frictions and imperfections in the market.

All of this changed with the depression that began with the collapse of the stock market values in 1929 and continued until the wartime mobilization of the 1940's once again brought full employment to the American economy. For ten long years serious and prolonged unemployment became the normal condition of the economy. Under these circumstances not even the staunchest defender of the classical analysis could seriously maintain that there existed within the economy forces that would automatically generate continuous full employment. The Great Depression was a social catastrophe without previous parallel and classical employment theory simply proved to be incapable of coping with such a phenomenon.

The second reason for the collapse of the classical employment theory was the appearance of an alternative theory during 1930's. While it is true that the facts of experience were clearly not in accord with the classical analysis, it is equally true that facts alsone will not destroy a theory. A theory must be replaced by another theory and this took place in 1936 when Keynes published his General Theory, which has become the intellectual foundation of all modern employment theories.

Kaynes' purpose in the General Theory was twofold. In the first place, he demonstrated the basic failings of the classical theory of employment not so much by appealing to the facts of experience, but rather by demonstrating that the theory itself was internally inconsistent and logically untenable at a number of points. Second, Keynes constructed an alternative theory or explanation of how the employment level is determined in a complex industrial society.

Chapter 2

THE KEYNESIAN THEORY OF EMPLOYMENT

Before the main body of the Keynesian theory is discussed it is imperative to examine in some detail the Keynesian criticisms of the classical theory. Keynes' criticism of the classical analysis is directed, first, at the classical view that the demand and supply schedules of labour determine the level of real wage and the level of employment simultaneously. Second, at the idea that saving is not only equal to investment but also identical.

In attacking the classical doctrine that the supply of and demand for labour determine both real wage and the employment level, he makes two points. He denies, in the first instance, that the supply of labour is a function of the real wage by pointing out that workers do not normally withdraw from the labour market if there has been a fall in real wages as a result of a rise in prices with money wages unchanged.

Keynes' second point concerns the relationship between money wages and prices. He refutes the notion that workers are in a position to determine the real wage and with it the volume of employment by the money wage bargains they make

with the employers. He asserts that it is not possible because money wages cannot move independently of the general level of prices. Any change in money wage rates would cause prices to change in about the same proportion. If this is the case, then it means that changes in money wage will not necessarily bring about any change in the real wage and with it a change in employment level. Keynes thought that the classical economists were so preoccupied with the idea that prices depend on the quantity of money that they failed to see the implications inherent in their own analysis of the behaviour of the business firm.

The second major argument of Keynes strikes at the heart of Say's Law. There is a basic truth in Say's Law in the sense that output or productive activity is the source of income for the whole community, but it does not logically follow that income will necessarily be spent at a rate which will clear the market of all that is produced.

The classical theory of interest is a necessary part of Say's Law in a monetary economy, for the rate of interest joins the decision to save with the decision to invest. This is challenged by Keynes, who maintains that decisions to save and decisions to invest are two different kinds of decisions that cannot be automatically linked together in any simple way. In other words, he maintains that, the rate of interest is not necessarily a nexus that unites the decision to save and the

decision to invest. Once this link is severed between saving and investment, Say's Law breaks down and the way is open for the existence of involuntary unemployment due to a deficiency of total demand.

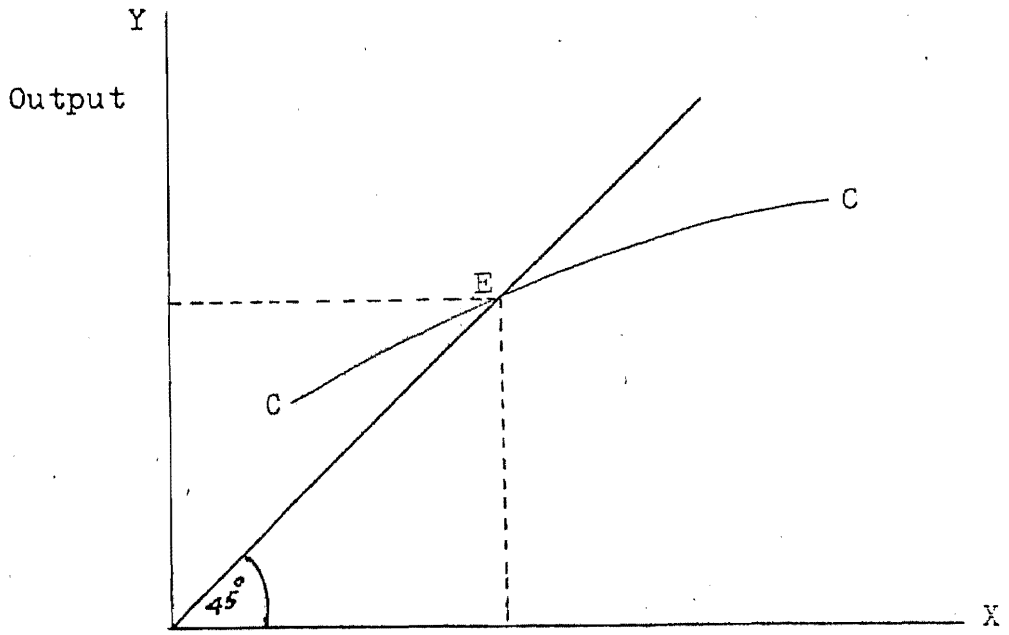
The Principle of Effective Demand

The logical starting point of Keynes' theory of employment is the principle of effective demand. Total employment depends on total demand, and unemployment results from deficiency of total demand. Effective demand manifests itself in the spending of income. As employment increases, income increases. A fundamental principle is that as the real income of a community increases, consumption will also increase but by less than income. Therefore, in order to have sufficient demand to sustain an increase in employment there must be an increase in real investment equal to the gap between income and the consumption demand out of that income. In other words, employment cannot increase unless investment increases. This is the case of the principle of effective demand. Since it is fundamental to the general theory of employment, it must be restated on an expanded basis.

Assuming, as Keynes does, the aggregate supply function to be given, the thesis of his General Theory is that employment is determined by aggregate demand, which in turn depends on the propensity to consume and the amount of investment at a given time. Employment results in the production of output

on the one hand, and in the creation of income, on the other. Total output will have a value equal to total income. Total output consists of the production of consumer goods and the production of investment goods. Total income is earned from the production of consumption goods and the production of investment goods.

Since employment is assumed to be uniquely correlated with income, income may be shown along the horizontal axis in place of employment. The value of total output is shown along the vertical axis. Since total income is equal to the value of total output, the equilibrium point must lie along the 45° line indicated in the following figure. The point of effective demand (E) will be on the 45° line at the point at which the volume of investment is equal to the distance between this line and the consumption schedule (CC).



The consumption schedule represents the stable relationship which Keynes assumes to exist between the size of income and the amount of consumption expenditure. The schedule follows the fundamental maxim that when income rises, consumption also rises, but less than income. This means that investment must increase to fill the gap between income and consumption. In the absence of an increase in the demand for investment goods, businessmen who employ additional workers to produce more output will be unable to sell what they produce except at losses.

Full Employment Equilibrium: A Special Case

The analysis that has been pursued up to this point attempts to explain how, in a most fundamental sense, aggregate demand and aggregate supply are the key determinants of income and employment levels. This is the crux of the Keynesian employment theory, for if the schedules of aggregate supply and aggregate demand are known, it is possible to determine both the income and employment level.

But the equilibrium level of income and employment brought about by the intersection of aggregate demand and aggregate supply will not automatically be one of full employment. Since decisions to produce and decisions to spend are made independently, it is largely a matter of chance whether or not they happen to coincide at a level of output that represents full employment of the economy's labour force. The economic forces

embodied in the analytical concepts of aggregate supply and aggregate demand must of necessity drive the economy toward an equilibrium position, but there is nothing special in these forces that will in any way make full employment the normal state of affairs for the economy.

In fact, the basic lesson of Keynesian income and employment analysis is that any level of employment may be normal in the sense that it may be sustained over a considerable period of time. For example, during the whole decade of the 1930's large scale unemployment was the normal situation. If there is deficiency of aggregate demand the economy may suffer from an equilibrium of less than full employment. It is also true that the economy may experience overly full employment if aggregate demand runs ahead of the full employment level of output as it happened during the latter half of the 1940's. The essential point to remember is that in the short run the economy can achieve equilibrium of income and employment at levels that represent full employment, less than full employment, or overly full employment. No one level is in any sense inherently more normal than any other level. It all depends upon the relationship existing between aggregate supply and aggregate demand.

As a matter of hypothesis Keynes stated his belief that in the modern economy equilibrium tends to be established considerably below the full employment level, unless Government intervenes as a "balancing factor" offsetting the depressive

tendency. The following are the assumed historical developments:

(i) There is a declining marginal efficiency of capital. This tendency would not necessarily mitigate against a sufficient amount of investment if the interest rate could decline as much as the marginal efficiency of capital. The interest rate, however, cannot sink below the minimum determined by consumer's liquidity preference and by institutional factors.

(ii) There is a relatively stable consumption function. As income rises the ratio of consumption to savings falls. An increase in investment at a high level of income would consequently have a less stimulating effect on consumption than at a lower level. On the other hand, the declining marginal efficiency of capital limits the inducements to invest. The increasing desire to save and the declining incentive to invest cause the dilemma of the present day capitalism. Under the actual conditions, there is, therefore, the constant threat of chronic underemployment.

Propensity to Consume

In a closed model without government, income (Y) is a function of consumption (C), and investment (I). Thus:

$$Y = f\ (C + I)$$

Keynes' basic hypothesis with respect to the level of consumption expenditure in the economy is that income is the prime determinant of consumption expenditure. To say that income is the prime determinant of comsumption expenditure is not to say that there may not be other determinants.

In the General Theory Keynes postulated two basic ideas concerning the relationship between consumption and income. These ideas have become the foundations of the modern theory of consumption and saving. In the first place, Keynes maintained that consumption expenditure is related to income in a systematic and dependable way. Symbolically, it can be written as:

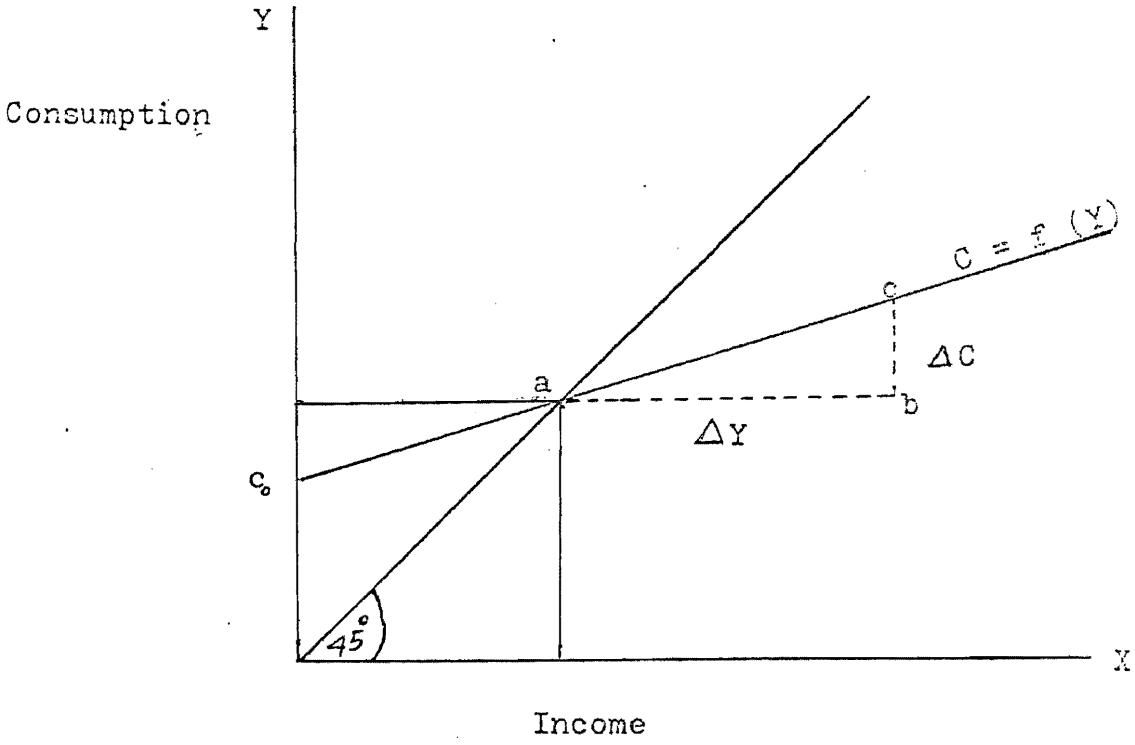
$$C = f\ (Y)$$

Keynes defined the relationship between a given level of income and the consumption expenditure out of that level of income as the propensity to consume. The second key idea that he advanced in connection with the relationship between income and consumption is known as his fundamental psychological law. By this law Keynes meant that when an individual's income increases he will spend more for consumption because of the increase, but he will not spend the whole of the increase. Some portions of the increase will be saved. Keynes believed that this was especially true in the short run, for the consumption standards tend to become habitual, and are not quickly adjusted either

upward or downward. The first may be regarded as the average propensity to consume while the second as marginal propensity to consume.

Although Keynes used the term 'propensity to consume' to refer to the schedule relating consumption and income, modern employment theory uses the term 'function'. The average propensity to consume is the ratio of consumption to income at a specific level of income. The average propensity to consume may vary as the income level varies. In the following figure, the average propensity to consume is 100 per cent at the point at which the consumption function, $C = f(Y)$, crosses the 45^{o} line. At this point, consumption is equal to income. To the left of this point, the average propensity to consume will be more than 100 per cent because at every possible income level intended consumption is greater than income. To the right of the point of intersection, the average propensity to consume will be less than 100 per cent, because at every possible income level intended consumption is less than income. The first case is the act of dissaving while the second is that of saving.

The second important attribute of the consumption function is the marginal propensity to consume. This concept is the formal expression of Keynes' "fundamental psychological law", which states that men are disposed to increase or decrease their consumption as their income increases or decreases. The marginal propensity to consume may be defined as the ratio of



a change in consumption to a change in income. Symbolically, it can be expressed as:

$$\frac{\Delta C}{\Delta Y}$$

If the marginal propensity to consume fo the economy is assumed to be .75 (75%), consumption expenditure will increase by $75.00 with every increase of $100.00 in the income level and will fall by the same amount with every $100.00 decline in the income level. In the above figure marginal propensity to consume is measured by the slope of the consumption function.

Here the marginal propensity to consume is represented by the triangle abc. The vertical side of the triangle is the change in consumption expenditure, ΔC, while the horizontal side is the change in income, ΔY. If the consumption function is assumed to be linear - i.e., drawn as a straight line - the marginal propensity to consume will have a constant value. The basic reason is that all triangles formed by ΔY and ΔC will be similar to the triangle abc, and consequently the ratio of their vertical sides to their horizontal sides will always be the same.

Keynes assumed that normally the consumption function is fairly stable, so that most changes in consumption are induced by income changes. This means that fluctuations in the income and employment level are not likely to have their origins in the consumption component of the aggregate demand schedule. If the function is assumed to be linear, then the consumption function can be stated as:

$$C = c_o + aY$$

In the above expression, C is the level of consumption, c_o is the amount of consumption when income is zero, 'a' is the marginal propensity to consume. Geometrically, c_o is the point at which the consumption function cuts the vertical axis, and 'a' is the slope of the consumption function.

Keynesian consumption function implies that a high pro-

pensity to consume is favourable to employment because it leaves relatively small gap between income and the consumption out of income corresponding to different levels of employment. If the schedule of the propensity to consume is relatively low, the gap between income and consumption will be greater, and in order to maintain high levels of employment, the amount of investment must be relatively great. If the average propensity to consume were 100 per cent for all levels of income, full employment would be assured because no investment would be required. As income was received, it would all be spent for consumer goods. Supply would create its own demand. However, it is the characteristic of the actual world that the average propensity to consume is less than 100 per cent for all high levels of employment. Only if employment falls low enough, will a point be reached where consumption is equal to income. This is a lower limit below which employment will not fall, except perhaps temporarily.

Inducement to Invest

There are three basic reasons why investment expenditure plays a highly significant role in the functioning of the economy. In the first place, the demand for investment goods is a large and important part of the total demand picture. Second, investment expenditures are highly volatile. This is true both in a relative sense and in an absolute sense. Investment expenditures not only initiate change in income and employment levels,

but also act to exaggerate the effects. Finally, investment expenditures are significant because of their impact on the economy's productive capacity. Investment expenditures are made for the acquisition of capital goods whose sole function is to produce other goods and services. This means that even though investment expenditures play a key role in determining current levels of income and employment, their influence reaches beyond the present by means of their impact upon capacity. Investment expenditures, thus are vital factors in economic growth, which depends to a great extent upon how rapidly productive capacity is being expanded.

An entrepreneur will decide to invest only if the yield is higher or at least equal to the rate of interest that he can earn simply by lending out the money and save himself from the trouble of enterprise. If he is intending to borrow for investment, and he does not have his own saving, then at least the interest must be covered by the expected yield. Inducement to invest, thus depends upon; (i) marginal efficiency of capital, and (ii) rate of interest.

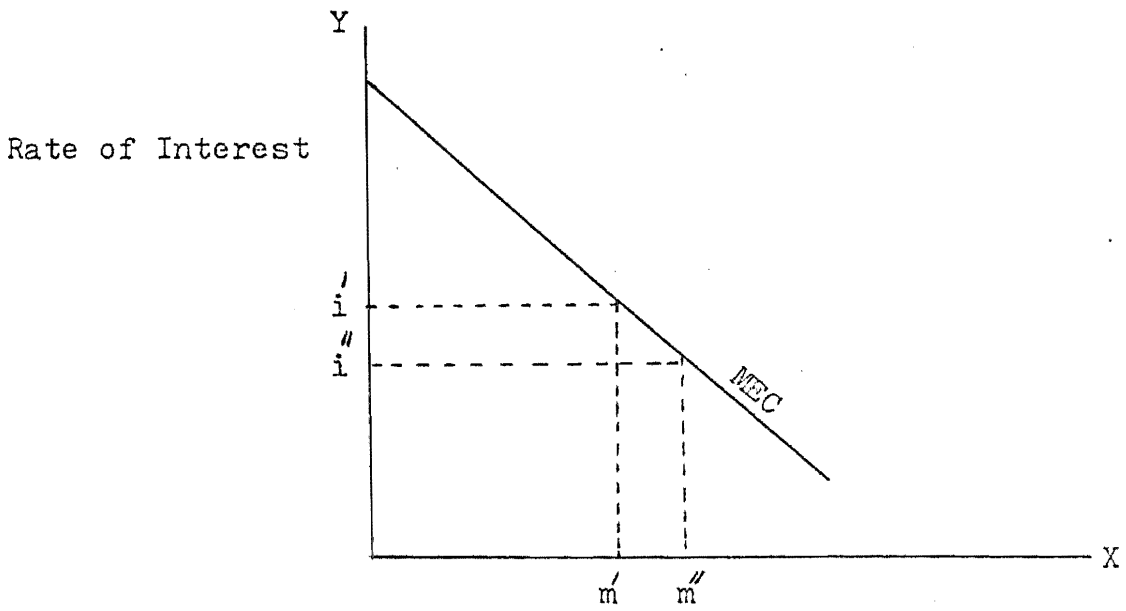
Marginal efficiency of capital shows what an entrepreneur expects to earn from one more asset of that kind compared with what he has to pay to buy it. Therefore, the marginal efficiency of capital will always diminish as investment in asset increases over time; because:

(i) on the one hand, the prospective yield of any type of

asset will fall as more units of it are produced, and,

(ii) on the other hand, the supply price of asset will rise unless some units have been unemployed in the past.

As shown in the following diagram, given the schedule of marginal efficiency of capital, the rate of interest must fall if there is to be an increase in the volume of investment. Thus, investment depends upon rate of interest and the marginal efficiency of capital, But rate of interest being less sensitive, investment depends more actively on the marginal efficiency of capital.



Volume of Investment

But marginal efficiency of capital depends on the prospective yield and supply price of the asset. In the short run, the

supply price of asset remains fairly stable due to stable production conditions. Therefore, the prospective yield is the most important determinant of the investment. And since in the real world, the expectations are uncertain the nature of investment becomes uncertain and indeterminate.

Marginal Efficiency of Capital

In the preceding section it has been noticed that investment depends more heavily on the marginal efficiency of capital than on the rate of interest. In this section an attempt will be made to examine the role of marginal efficiency of capital in greater detail.

The marginal efficiency of capital is equivalent to what is ordinarily called the rate of profit or the expected rate of profit. The word "efficiency" refers to the effectiveness, or rate of return over cost, or profitability of a capital asset. The marginal efficiency of capital in general is the highest rate of return over cost expected from producing an additional, or marginal unit of the most profitable of all types of capital assets.

It is a rate or ratio of two elements, (1) the expected yields or returns from an income yielding asset, and (2) the supply price or replacement cost of the asset which is the source of the prospective yields. Prospective yield is what a business firm expects to obtain from selling the output of its capital assets. Those yields take the form of a flow of

money income over a period of time. For example, when a factory is built and equipped, the investor expects to get back his original investment plus a surplus in the form of a continuing series of receipts from sales of the output of the factory.

Keynes defined the marginal efficiency of capital in this manner: "More precisely, I define the marginal efficiency of capital as being equal to that rate of discount which would make the present value of the series of annuities given by the returns expected from the capital asset during its life just equal to its supply price".[4]

The definition may be expressed in the following term:

Supply Price = Discounted Prospective Yields

or, Supply Price $= \frac{Q'}{(1 + r_m)} + \frac{Q^2}{(1 + r_m)^2} + \cdots + \frac{Q^n}{(1 + r_m)^n}$

The Q's are the prospective yields in the various years and 'r_m' is the marginal efficiency of capital, or the rate of discount.

It can be explained with the help of a simple arithmetical example. Suppose construction of an asset is contemplated which is expected to yield $1,100 at the end of one year and $2,420 at the end of two years, after which time it will cease to have any economic value. If the supply price or cost of

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4 J. M. Keynes, The General Theory of Employment, Interest and Money, New York: Harcourt Brace & Co., Inc., 1936, p. 135.

constructing this capital asset is $3,000, its efficiency is 10 per cent, because this is the rate of discount which will equate the value of the future yields to the current supply price. At 10 per cent, the present value of $1,100 discounted for one year plus $2,420 discounted for two years gives a total sum of $3,000, the current supply price.

Supply Price = Discounted Prospective Yields

$$\$3,000 = \frac{\$1,100}{(1.10)} + \frac{\$2,420}{(1.10)^2}$$

$$\$3,000 = \$1,000 + \$2,000$$

If the yields were less than those used above, the rate of discount which would equate the two sides of the equation would be lower than 10 per cent. Likewise, if the supply price were more than $3,000, the rate of discount would be lower.

If 10 per cent is the highest rate of return that can be secured from any capital asset newly produced, it is the marginal efficiency of capital in general. Since the marginal efficiency is expressed as a per cent per year, it can be compared directly with the rate of interest. In the above example, if the rate of interest is less than 10 per cent, the construction of new capital asset would be worthwhile. In other words, the market value of an asset which promises to yield $1,100 at the end of one year and $2,420 at the end of two years will be greater than $3,000 when the interest rate is less than 10 per cent. For example, if the market rate of interest is 5 per cent,

the capital asset will have a present value of:

$$\frac{\$1,100.00}{(1.05)} + \frac{\$2,420.00}{(1.05)^2}$$

$$= \$1,047.62 + \$2,195.01$$

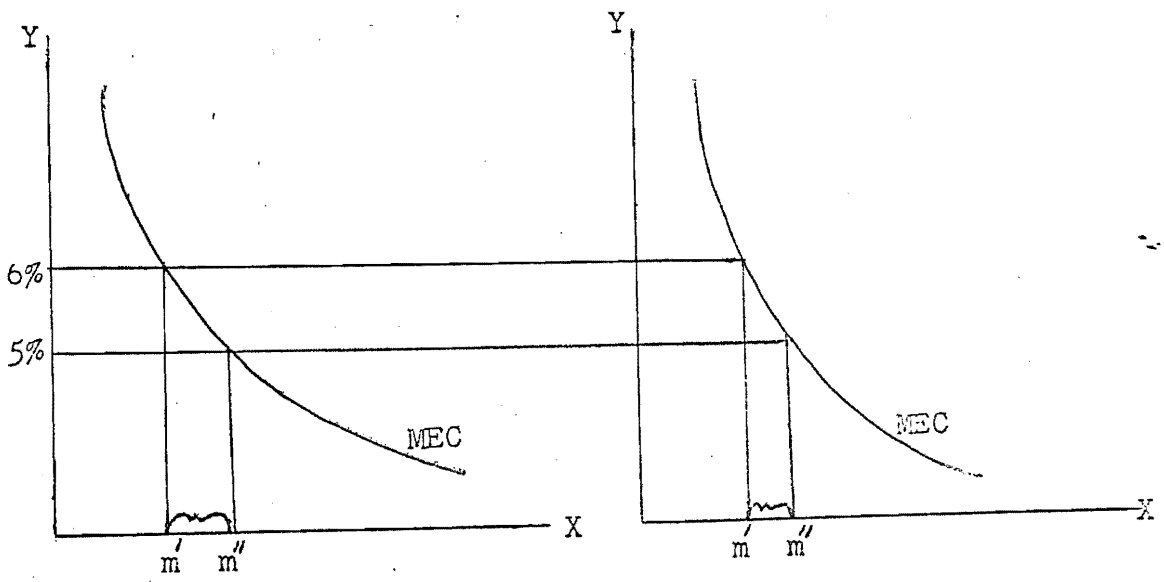
$$= \$3,242.63$$

This is what Keynes calls the demand price of a capital asset. Therefore, demand price is in excess of the supply price by $\$3,242.63 - \$3,000.00 = \$242.63$. Hence, the lower the rate of interest, the greater will be the number of capital assets for which the demand price will exceed the supply price, and the greater the pace of investment in new capital assets. The marginal efficiency of capital will exceed the rate of interest, and therefore new investment in capital assets will prove profitable as long as the supply price or cost of production remains less than the demand price.

It is to be noted that the fact that investment will be carried to the point at which the marginal efficiency of capital is reduced to equality with the rate of interest does not mean that these two rates depend upon common factors. They are independent variables, and investment is dependent upon them. The marginal efficiency of capital is determined by the supply price of capital asset and the prospective yields, while rate of interest is the result of liquidity preference schedule and the quantity of money.

The marginal efficiencies of all types of capital assets which may be made during a given period of time represent

the schedule of the marginal efficiency of capital, or the investment demand schedule. The position and shape of this investment demand schedule is of great significance in determining the volume of employment because it will indicate the extent to which the amount of investment will change in response to changes in the rate of interest. As shown in the following two diagrams, the more elastic the schedule of the marginal efficiency of capital, the greater will be the increase in investment in response to a given fall in the rate of interest. The more inelestic the schedule of the marginal efficiency of capital, the less will be the increase in the investment in response to a given fall in the rate of interest.



Volume of Investment

Secular Trend in the Marginal Efficiency of Capital

In the secular long run, the significant characteristic of the marginal efficiency of capital is its tendency to fall. The diminishing marginal efficiency of capital is a new name for the old idea of the falling rate of profit. Many of the great economists, including Adam Smith, David Ricardo, Karl Marx, and John Stuart Mill, accepted the tendency for the rate of profit to fall as one of the basic phenomenon of long term development of the capitalist economy. Despite wide acceptance of the tendency of the rate of profit to fall, there has been scant agreement as to why it falls. Adam Smith attributed the fall to the mere fact that capital becomes more abundant in a progressive society. Ricardo and Mill saw the basic cause in the nigardliness of nature. Marx's theory of the falling rate of profit is associated with the nature of capital itself. Keynes' theory of declining marginal efficiency of capital has most in common with Smith's explanation.

The general idea is that fall results in the long run from decreased prospective yields associated with a growing stock of capital assets. Since it is determined by the supply price of capital and the prospective yields, it may fall either from a rise in the supply price or from a decrease in the prospective yields. In the short run, the more important factor is the increase in supply price. The longer the period becomes, the less important is the increase in supply price and

the more important the fall in prospective yields. Thus the secular decline in the marginal efficiency of capital is almost entirely the result of a fall in prospective yields.

Prospective yields fall because capital assets become more abundant. The returns from capital assets over their life exceed their cost only because they are scarce. Every increase in investment brings an increase in output which competes with the output of existing capital. The greater abundance of output tends to lower prices and hence to lower also the expected yields from further plant capacity.

The decline in the marginal efficiency of capital arising from the fall in prospective yields is a tendency which may be offset by dynamic growth factors such as increase of population, territorial expansion, and certain types of technological change. During the 19th century, these factors were sufficient to arrest the tendency of falling marginal efficiency of capital. In the 20th century, however, all these factors do not exist. The growth of population has slowed, territorial expansion has ceased and changes in technology have been increasingly of the capital-saving type. Under these circumstances, the inducement to invest has reduced due to the fall in marginal efficiency of capital. Secular stagnation is the end result of the slowing down in the dynamic growth factors.

Keynes' analysis of the characteristics of the marginal efficiency of capital leads him to the practical conclu-

sion, that the control of investment in capital assets cannot safely be left in private hands. The state, which is in a better position to calculate long run needs in terms of general social advantage, should assume greater responsibility for directly organizing investment. This he refers to as socialization of investment. But he states emphatically that socialized investment does not mean that the instruments of production would be owned or operated by the government. He, however, does not say how this socialization has to be done.

Role of Expectations

Volume of investment is determined by the propensity to consume and the inducement to invest. Since the propensity to consume is relatively stable, fluctuations in employment depend primarily upon the inducement to invest. The two determinants of the inducement to invest are the rate of interest and the marginal efficiency of capital. Since the rate of interest is relatively sticky, fluctuations in the inducement to invest depend mainly upon changes in the marginal efficiency of capital. The two determinants of the marginal efficiency of capital are the supply price or cost and the prospective yield or return. It is the prospective yield which gives the marginal efficiency of capital its most important characteristic, its instability. Hence, a great part of the instability of economic life under capitalism is attributed to the unstable

character of prospective yields from capital assets.

These yields are prospective yields because at the time an investment is made they are nothing but expectations on the part of the investor. The expectations may never be realized at all. In other words, the investor expects to be surprised either favourably or unfavourably. Thus investment decisions are governed by expectations of yield and not by actual yields.

A prospective yield is what an entrepreneur expects to obtain from selling the output of his capital assets. There are two types of expectations regarding the yields of assets: (1) short-term expectations, and (2) long-term expectations. Short-term expectations concern the sales proceeds from the output of an existing plant. Long-term expectations concern the sales proceeds which an entrepreneur can hope to earn with variations in the size of the plants or from the building of an entirely new plant. In short-term expectations, the plant is assumed to be of a fixed size, only the output from that given sized plant is variable. In long-term expectations, the size of the plant as well as the amount of output from the plant is variable. Short-term expectations are more stable because the realized results of the recent past are a relatively safe guide to what will happen in the near future. In economic life, as in other areas of experience, there is a high degree of continuity over short periods. In

the absence of definite evidence for expecting a change, the most recent events may be expected to continue in the near future. It is not necessary to try to predict the future when only short-term plans are in question. It is safe to rely upon past results.

In contrast with short-term expectations long-term expectations are highly unstable and therefore more important in explaining the fluctuation in investment. Realized results of past yields are not a trustworthy guide to future years.

Decisions to invest are partly based upon facts regarding the existing stock of capital assets. For example, a decision to build a new steel plant depends partly upon the amount of existing steel capacity. Steel capacity is a fact that can be ascertained with more or less certainty. Similarly, the ability of the existing capacity to meet the existing demand at the prices being paid for current output are data of more or less definite nature. But the probable life and maintenance of the plant the construction of which is being contemplated cannot be accurately predicted. Still less predictable are such considerations as possible changes in technology in the steel industry which would influence the rate of obsolescence of the projected plant. Moreover, long term expectations are subject to sudden revisions. Periods of feverish investment activity tend to be followed by periods of extreme pessimism and depression.

The prevailing state of long-term expectations in modern capitalist societies is reflected in the activities of the stock exchange. When the prospective yields are viewed favourably, stock prices tend to be high, and when prospective yields are viewed unfavourably, stock prices tend to be low.

Speculative activity in the stock exchange contributes to the instability of the marginal efficiency of capital. If speculation is defined as the attempt to forecast the psychology of the market, and enterprise as the attempt to forecast the yield of assets over their entire life, the state of long-term expectations which governs the quotations of securities in the stock exchange is more the result of speculation than of enterprise.

Now the reason is obvious why the fact that the prospective yields and hence the marginal efficiency depend on expectations of future conditions, introduces an element of instability into the demand for investment goods. Investment tends to be very sensitive to changes in stock exchange values, and these values themselves are likely to fluctuate considerably in sympathy with succeeding waves of business optimism and pessimism.

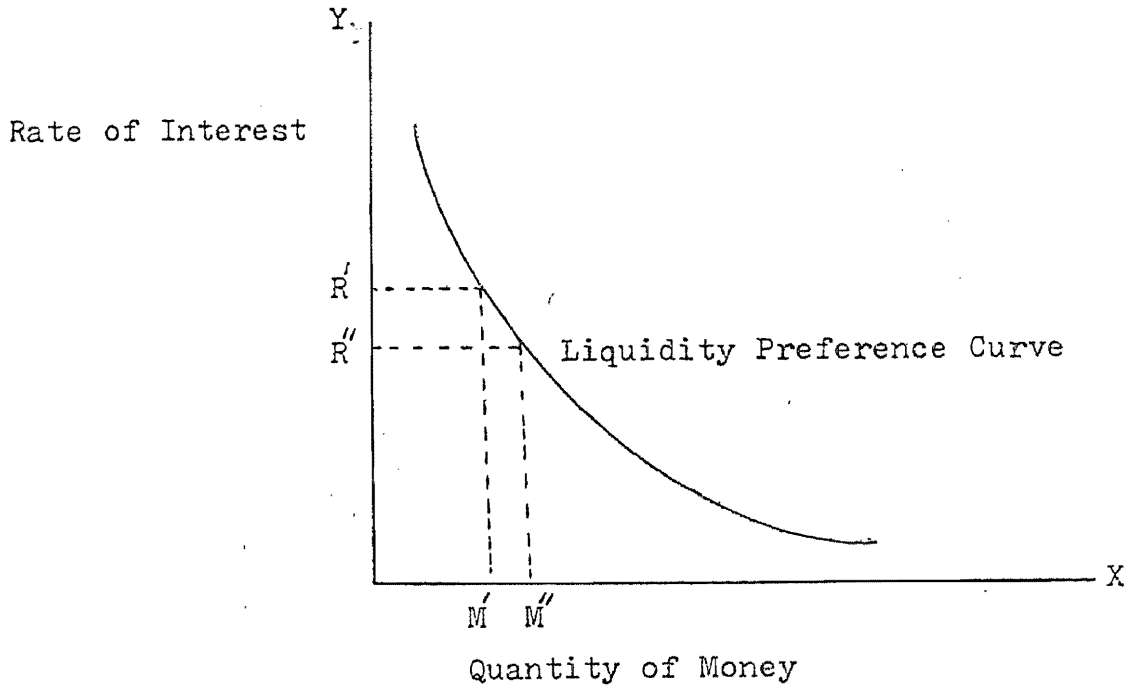
The Rate of Interest

As said earlier, rate of interest is the second determinant of the volume of investment, the first being the marginal efficiency of capital. Interest is a monetary phenomenon in

the sense that the rate of interest is determined by the demand for and the supply of money. Money is demanded because it is a perfectly liquid asset. People who need money for personal and business reasons and do not possess it are willing to pay a price for its use. But nobody is willing to part with this liquid asset unless he is paid a price for doing so. Thus interest is the reward paid for parting with liquidity, or the reward for not hoarding. The rate at which the interest will be paid depends on the strength of the preference for liquidity in relation to the total quantity of money available. The stronger the liquidity preference, the higher is the rate of interest, and the greater the quantity of money, the lower is the rate of interest. A decrease in liquidity preference will tend to lower the rate of interest and a decrease in the quantity of money will tend to raise the rate of interest. At any time, an increase in the demand to hold cash, may be met either by an increase in the price or by an increase in the quantity available. Since money cannot be produced by the public, the result of an increase in the liquidity preference will not be to increase the quantity available but to increase its price. Thus, if the rate of interest is too high or too low, an adjustment takes place to equate demand and supply.

Since the quantity of money is the other factor which along with the liquidity preference determines the rate of interest, it is possible for the monetary autorities to increase

or decrease the total money supply. And since rate of interest is the other determinant of volume of investment, the importance of a suitable monetary policy is obvious in determination of volume of employment. The relationship between the rate of interest, the quantity of money, and liquidity preference may be illustrated by the following diagram.



It is obvious from the diagram that larger quantity of money will be associated with a lower rate of interest as long as the liquidity preference schedule remains unchanged.

This is now the proper time to analyse further the concept of liquidity preference. The demand for money always refers to demand for money to hold. Thus it must be explained with reference to its rationale. There are three motives behind the demand for holding money: (1) the transactions motive,

(2) the precautionary motive, and, (3) the speculative motive. Although interest is particularly related to the speculative motive, the other two motives cannot be ignored. Part of the total money may be held primarily for one purpose and secondarily for another purpose.

The quantity of money required to satisfy the transaction motive is closely related to the volume of income and employment, that is, to the general level of business activity. As total output and employment rise and as prices and wages rise, the transactions demand for money also rises. A cash balance is required to bridge the interval between the receipt of income and its expenditure. The size of the cash balance depends upon the size of the income and the frequency of income payment. This is equally true in the case of business firms too.

The precautionary motive arises because individuals and business firms cannot foresee the future correctly. As long as there is assurance of ready access to extra cash by temporary borrowing, the precautionary motive will be relatively weak.

As said earlier, it is the speculative motive which is the most important motive behind the demand for money. At any moment the current rates of interest are known with certainty because there are actual quotations in the market. The rates of interest that will prevail in the future are not known with certainty. In the absence of uncertainty the rates at

which debts of varying maturities could be converted into money at any future date would also be known with certainty. There would exist no basis for liquidity preference for the speculative motive.

If the total supply of money is designated by M, that part of M which is held for transactions and precautionary motives may be referred to as M_1, and that part which is held for the speculative motive as M_2.

$$\text{Thus: } M = M_1 + M_2$$

Despite some differences between the demand for money for transactions and that for precautionary motives, Keynes lumps these two together.

In the classical scheme, which rests upon static assumptions, no significance is attached to the speculative motive and therefore M_2 is equal to zero. Under the static theory there may be change, but since the direction and extent of the change is assumed to be known now, the future changes are subject to rational discounting. It is precisely at this point that Keynes' theory differs fundamentally from the classical theory of interest.

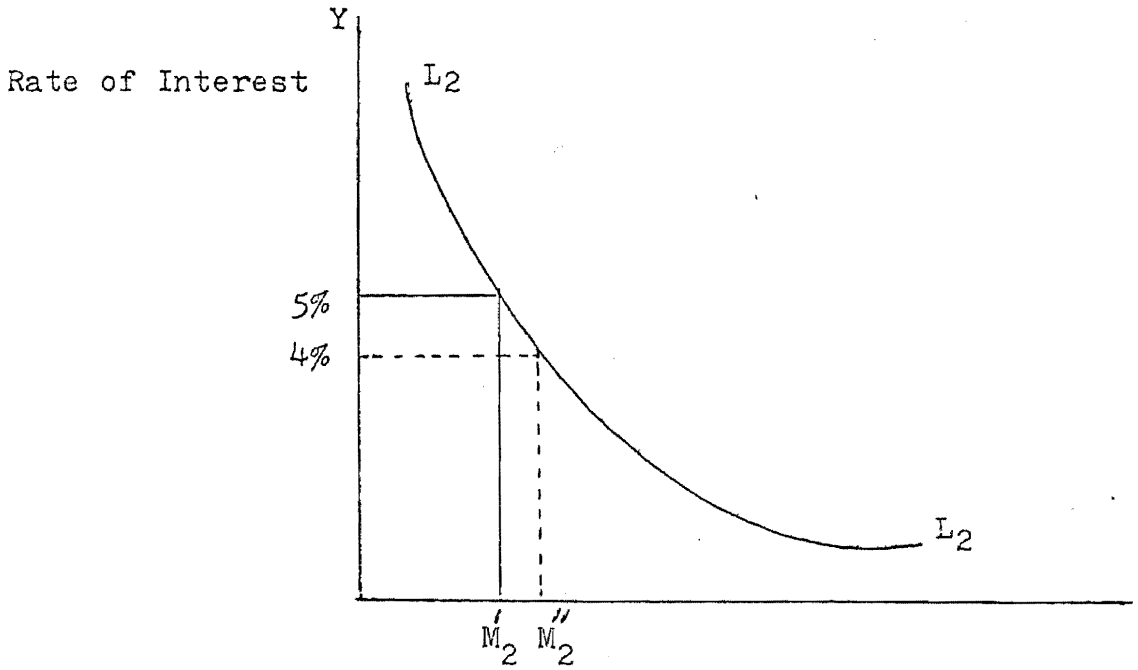
It has been mentioned in the preceding section that rate of interest is a relatively passive factor in determination of volume of investment. For a while an increase in the quantity of money will, other things remaining unchanged, lower the rate of interest, but it will not do so if the liquidity preference

is increasing more than the quantity of money.

If M_2 is the quantity of money available for speculative motive and L_2 is the liquidity function for the speculative demand, the relationship can be written as;

$$M_2 = L_2 \ (r)$$

It simply means that the quantity of money held for the speculative motive is a function of the rate of interest.



Quantity of money demanded for the speculative motive

In the above figure an increase in the quantity of money from M'_2 to M''_2 is accompanied by a fall in the rate of interest from 5% to 4%. The underlying assumption is that the increase in the quantity of money does not affect the liquidity preference. The implication is that an increase in

quantity of money will be followed by a fall in the rate of interest which will lead to higher investment provided marginal efficiency of capital is not falling faster than the rate of interest. This is a rational way of increasing the volume of employment.

But it does not work as smooth as it appears. Firstly, it cannot work if the marginal efficiency of capital is falling more rapidly than the rate of interest. And secondly, it is not always easy to bring down the rate of interest. The chief barrier to a fall in interest rates is the expectation that they may rise later to an extent that makes it worthwhile to hold cash in anticipation of buying on better terms at a later date. Thus the long-term rate of interest is more difficult to lower and it becomes increasingly resistant to further reductions at every step on its downward path, and at some level, say about 2 per cent, no further reductions may be attainable.

The increasing risk of loss at a lower rate of interest will be reflected in the liquidity preference schedule by a flattening out of the liquidity curve. This indicates a growing elasticity of the liquidity preference function. In other words, there is a point below which it is extremely difficult to lower the interest rate any further. Keynes suggested that at about 2 per cent the liquidity curve may become horizontal, indicating perfect elasticity. This is sometimes known as 'liquidity trap'.

The basic explanation for the existence of such a

liquidity trap is that at very low rates of interest the risk of a capital loss in holding bonds rather than money becomes so overwhelmingly great that virtually no one desires to hold bonds. The demand for money as an asset becomes infinitely elastic.

Wage and Employment Relationship

As suggested in the opening section of this chapter, Keynes does not agree with the classical argument that wage cuts can be a significant factor in restoring full employment when there is widespread unemployment. He does not deny the possibility of some decline in real wages as a consequence of money wage cuts. He does not even say that wage cuts can never result in some increase in employment. What he does deny is that wage cuts are of practical significance in restoring higher levels of employment. The chief weakness which he finds in the classical analysis is the lack of theory of effective demand.

Classical theory is primarily the theory of a particular industry and is not designed to answer the important question of the effects of wage cuts on employment because it lacks a theory of effective demand. There is no direct tendency for a cut in money wage rates to increase employment. Employment can increase only if there is an increase in the propensity to consume, or an increase in the marginal efficiency of capital, or a fall in the rate of interest. Any validity in the classical

analysis must come about through indirect effects of wage cuts upon one or more of these three independent variables.

The effect of wage cuts on the propensity to consume is more likely to be unfavourable than favourable. In so far as the distribution of income is affected, there will be a redistribution from wage earners to other income recipients, especially entrepreneurs and rentiers. This represents a shift from a high consumping to a high saving group and will tend to lower rather than raise the consumption function. The only stimulating influence however, will be the price reductions that accompany wage cuts. The fall in prices will increase the real purchasing power of people's fixed money wealth and thereby tend to increase the consumption function.

The repercussions of wage cuts upon the marginal efficiency of capital which offers the best chance of increasing employment will be the reaction on the expectations of the entrepreneurs. If the reduction in wages is a once-and-for-all wage cut, the marginal efficiency of capital will be increased. But if a reduction in wages is expected to be followed by further wage cuts at a later date, the marginal efficiency of capital will be lowered because entrepreneurs, in anticipation of further cuts, will tend to postpone investment until wage rates have fallen to still lower levels. Under a system of free labour and management, there can be no guarantee that once wage cuts have begun they will not be followed by further wage cuts.

It follows, therefore, that the effect of lower money wages on the marginal efficiency of capital does not appear to offer much hope as a means for decreasing unemployment in democratic economies where a rigid money wage policy is not feasible.

The effect on the rate of interest of a money wage cut is the most favourable. A fall in wages will normally be accompanied by a fall in prices. Lower wages and lower prices reduce the amount of money needed to carry on transactions. Assuming a constant money supply, M a lessening of the demand for transactions, M will increase the amount of money available to satisfy the speculative motive, M . This will tend to lower the rate of interest. The greater the fall in wages and prices, the greater the quantity of money released from active balances to inactive balances and therefore, the greater the fall in the interest rate.

It is important to note that the extent of the fall in interest rate does not depend only on the increase in money available to satisfy speculative motive but also upon the shape of the liquidity function. If the liquidity function is elastic, the fall in interest rate will be less than if it is inelastic. In other words, if the liquidity trap prevents a fall in the rate of interest or if the investment is quite insensitive to a fall in the rate of interest, as it happens during a depression, then the process of restoring full employment via wage cut is barred. The first is the result of infinitely elastic liquidity

preference schedule and the second is the result of general pessimism prevailing in the economy about the future expectations.

Although a flexible wage policy is analytically an alternative to a flexible monetary policy, there are important practical difficulties with the former. The difficulties arise due to what is often referred to as money illusion. Labour does attach importance to money wage rate per se, and more labour will be supplied at the same real wage, the higher the money wage. There are several reasons for such non-rational behaviour of the labour.

First, high money wage rates are a concrete and immediate accomplishment of the leadership of individual trade unions. The cost of living is a remote phenomenon, apparently beyond the control of organized labour.

Second, wage earners have obligations fixed in terms of money, debts, taxes, contractual payments such as insurance premiums. These obligations are a greater burden when money wage rates are cut, even though all current prices may fall proportionately.

Third, labour may have inelastic price expectations, a certain normal price level, or range of price levels may be expected to prevail in the future regardless of the level of current prices. With such price expectations it is clearly to the advantage of wage earners to have, with the same current real income, the highest possible current money income. For,

the higher their money income, the greater will be their savings and therefore, their expected command over future goods.

Fourth, labour may be genuinly ignorant of the course of prices.

The Keynesian analysis of wage cut and employment amounts to the conclusion that a flexible monetary policy is an alternative to and, on both economic and political grounds, is preferable to a flexible wage policy. He admits that money wage cuts may increase employment slightly, but his main contention is that anything which might be accomplished by cutting wages can, as a matter of practical policy, be accomplished better by monetary policy.

Policy Implications of the Keynesian Theory

The proposals suggested by Keynes for promoting a high level of employment have been indicated in connection with the discussion of various parts of his theory. The most important proposals in Keynes' programme for increasing employment are: (1) progressive taxation to raise the propensity to consume; (2) public investment and public control of private investment to compensate for and to reduce the magnitude of fluctuations in the marginal efficiency of capital; and, (3) a strong monetary authority to control the supply of money and lower the rate of interest.

Since unemployment develops because the society must produce much more than the economic ability of the society to

consume at full employment, the two approaches to full employment are to increase the propensity to consume and to raise the volume of investment. Increasing the ability to consume means increasing consumption at a given level of income. Keynes' main suggestion in this connection is to use progressive taxation to redistribute income from individuals with a lower propensity to consume to those with a higher propensity to consume.

Investment may be increased either by raising the marginal efficiency of capital or by lowering the rate of interest. Keynes suggests socialization of investment to arrest the declining tendency of the marginal efficiency of capital. Since not much can be done to stabilize private investment at a high level, a public investment authority should be there to compensate for the fluctuations and inadequacies of private investment with public investment projects.

The rate of interest finds its operational meaning in the proposal for a strong monetary authority to excercise rigorous control over the total quantity of money as a means of lowering the rate of interest in order to stimulate private investment.

Keynes also referred to some other devices for obtaining the balanced result. As for example, measures influencing the size of the active labour force (hours of work, period of education etc.). He however, said, that a policy designed to decrease the active labour force would be a 'premature policy'.

The main emphasis seems to be on direct government action. He says, "I expect to see the state ..... taking an ever greater responsibility for directly organizing investment, since it seems likely that the fluctuations in the market estimation of the marginal efficiency of capital ..... will be too great to be offset by any appreciable changes in the rate of interest".[5]

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[5] J. M. Keynes, The General Theory of Employment, Interest and Money, New York: Harcourt Brace and Co. Inc., 1936. p. 164.

Chapter 3

THE MARXIAN THEORY OF EMPLOYMENT

Marx's theoretical economic system may be regarded as a system of moving equilibrium at less than full employment. In this respect it anticipates Keynes. It also goes beyond Keynes, in anticipating an employment position which deteriorates over time.

Take any percentage level of unemployment. In the Marxian model of capitalism, this level will eventually become impossible to maintain. That is to say, it will eventually become impossible to find any rate of profit which will simultaneously be high enough to avoid liquidity crisis from the capitalist side, and low enough to permit the output of the system to be realized or purchased, primarily by the workers, without an overproduction or realization crisis, and a further increase in unemployment. This is the dilemma which drives the system to stagnation and eventual breakdown. It involves both the falling rate of profit and the tendency to overproduction. This dilemma is at once an economic contradiction of capitalism and the law of motion of the capitalist economy.

The Falling Rate of Profit

Before examining the Marxian explanation of the phenomenon of the falling rate of profit, it is desirable to state some proportions which Marx used so frequently.

Marx divides the net product of industry into two parts: variable capital and surplus. Variable capital (v) is the wages bill. Surplus (s), which covers net profit, interest and rent, is the excess of net product over wages. The difference between gross and net product is constant capital (c), which consists of plant and raw materials. It is constant in the sense that it adds no more to the value of output than it loses in the process of production, new value added being due to the labour power purchased by variable capital. In other words c consists of depreciation plus raw materials. The total product for any period is then represented by;

$$c + s + v$$

These quantities are measured in value or socially necessary labour-time. Thus Marx conducts his entire analysis in forms of the following three ratios:

(i) $\frac{s}{v}$ = the rate of exploitation,

(ii) $\frac{c}{v}$ = the organic composition of capital,

and (iii) $\frac{s}{c + v}$ = the rate of profit.

The rate of exploitation, $\frac{s}{v}$ is the ratio of surplus to wages and indicates the share of labour in the net output. He expressed it as a division of the working day into the time which a man works for himself and the time which he works for the capitalist. Thus, if $\frac{s}{v}$ equals $\frac{3}{2}$ and the working day is 10 hours, a man works four hours for himself and six hours for his employer. He does four hours of paid or necessary labour and six hours of surplus or unpaid labour. This ratio plays the leading part in Marx's whole argument.

His law of the falling rate of profit is based upon the rising organic composition of capital, $\frac{c}{v}$. Capital accumulation and technical progress do not necessarily involve an increase in capital per man employed. Inventions may, on balance, reduce capital cost per unit of output as much as labour cost, for they may improve the efficiency of labour in making machines as much as in working machines. He shows how cheapening of the elements of constant capital offsets the tendency of the organic composition of capital to rise. Technical progress may also reduce the period of turnover of capital goods. This tends to reduce capital per man employed. Nevertheless, Marx takes the view that there is on balance a strong tendency of capital per man to increase as time goes by.

Marx's law of the falling tendency of profits then consists simply in the tautology; when the rate of exploitation, $\frac{s}{v}$ is constant, the rate of profit, $\frac{s}{c + v}$ falls as capital per man, $\frac{c}{v}$ increases.

But it is very unnatural to assume given technological knowledge in a dynamic system. If knowledge develops as capital accumulates, there need be no tendency to diminishing returns, and with constant returns there can be no tendency for the rate of profit to fall. The most that can be said is that periods of falling profits may occur when capital per man increases very rapidly relative to the rate of advance in technical knowledge. Marx solves this riddle by assuming that technical knowledge is not an independent factor, and that when accumulation is rapid a strong stimulus is applied to labour-saving invention.

Marx's theory rests on the assumption of constant rate of exploitation. Certain causes which may lead to a rise in the rate of exploitation he treats as offsetting tendencies. Hours of work may be lengthened, and the intensity of work may be increased and so on. To these tendencies which all help to raise the rate of exploitation, there are limits and he argues that they cannot be sufficiently strong to offset the falling tendency of the rate of profit.

Effective Demand

The foregoing discussion of the law of falling rate of profit is one sided analysis in as much as it examines the liquidity crisis of the Marxian view of business cycle inherent in the capitalist system. He also provides the elements of a theory of effective demand and lays the basis for a study of

the law of motion of capitalism. It is here that the missing aspect of the capitalist dilemma - the realization crisis - is found.

Orthodox economics used to eliminate the problem of effective demand, and justify the assumption of full employment. The whole argument is contained in Say's Law. But Marx was not deceived by it. He says, "Nothing could be more childish than the dogma, that because every sale is a purchase, and every purchase a sale, therefore the circulation of commodities necessarily implies an equilibrium of sales and purchases ..... No one can sell unless some one else purchases. But no one is forthwith bound to purchase, because he has just sold ... if the split between the sale and the purchase become too pronounced, the intimate connexion between them, their oneness, asserts itself by producing a crisis".[6]

To analyse this problem Marx devised a simple and penetrating argument. He divides total output into two groups - capital goods and consumption goods. The output of group I - the capital goods industries consists of $c_1 + v_1 + s_1$, and the output of group II, the consumption goods industries, consists of $c_2 + v_2 + s_2$.

First of all he assumes a system in which there is no net

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6 Karl Marx, Capital, Vol. I. Foreign Languages Publishing House, Moscow, 1961. pp. 113-114.

investment to simplify the analysis. The whole output of group I consists of replacement of capital. Thus $c_1 + v_1 + s_1 = c_1 + c_2$. Therefore $v_1 + s_1 = c_2$. The output of group II is equal to wages plus capitalist income. Thus $c_2 + v_2 + s_2 = (v_1 + s_1) + (v_2 + s_2)$. Again it follows that $v_1 + s_1 = c_2$. The net output of group I is balanced by the replacement of capital in group II.

The first problem which Marx solves by this argument is the apparent paradox that total outlay be equal to total income; while in any one industry receipts exceed income payments by the depreciation of capital.

Next he shows how even a system of simple reproduction (with zero net investment) is not free from the danger of disequilibrium. If the ages of machine are not spread evenly, outlay on renewals in some years will exceed, and in some years fall short of the amortization funds, and equilibrium will be disturbed. When renewals are in excess, $v_1 + s_1$ exceeds c_2, the increase in v_1 in turn increases $v_2 + s_2$ and boom conditions develop. When amortization funds exceed renewals there is a slump.

To summarize, the part of the surplus of both group I and group II is saved, that is not spent on the products of group II. In this case $v_1 + s_1$ exceeds c_2 and must be matched by an equivalent outlay on new capital goods out of s_2. Saving represents sales without purchases, and can proceed smoothly only if it is

offset by equivalent investment - purchases without sales. Such a balance is possible, but it is an accident under the capitalist production system.

He rejected the crude under-consumption theory of his time, but he believed that maldistribution of consuming power is the root of the trouble. Consumption by the workers is limited by their poverty, while consumption by the capitalists is limited by the greed for capital which causes them to accumulate wealth rather than to enjoy luxury. The demand for consumption goods is thus restricted. But if the output of the consumption goods industries is limited by the market, the demand for capital goods is in turn restricted, for the constant capital of the consumption goods industries will not expand fast enough to absorb the potential output of the capital goods industries. Thus the distribution of income, between wages and surplus, is such as to set up a chronic tendency for a lack of balance between the two groups of industries.

Inherent Instability of the Capitalist System

As said earlier, the falling rate of profit together with the lack of purchasing power on the part of the working masses give the capitalist system an instable character.

To the classical economists the falling rate of profit implied nothing more than the eventual cessation of accumulation and the peaceful replacement of growth by stationary conditions. But to Marx it implies a far greater malady for capitalism. If

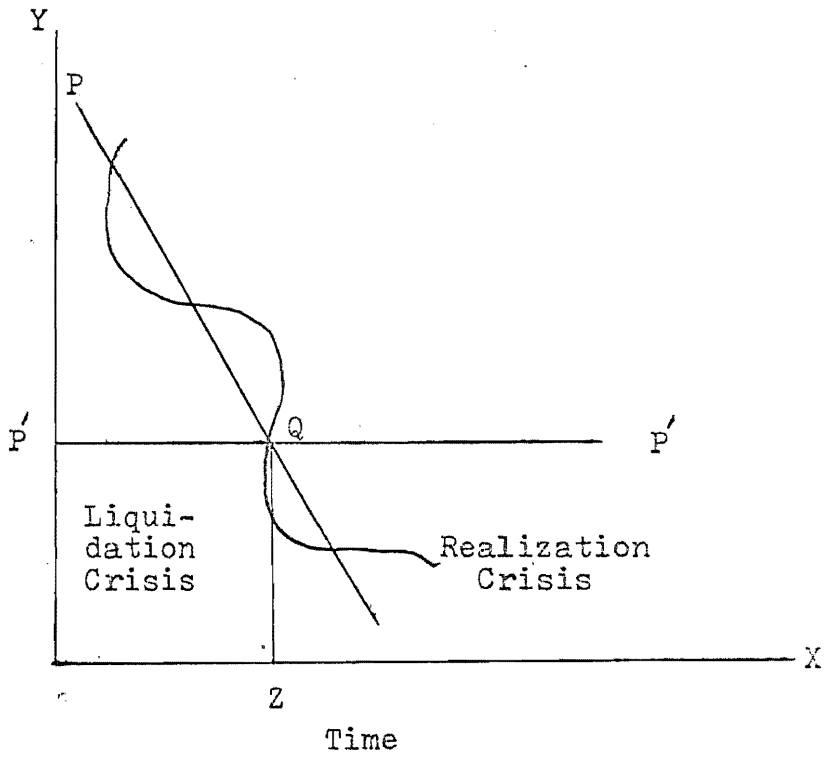
the rate of profit falls below the critical minimum rate desired, the capitalists will reduce their savings and investment by more than they increase their consumption expenditures. In other words, they will neither reinvest nor consume the entire surplus value which they receive. They will instead seek to hold increased amounts of liquid assets. The higher their incomes, the more they will seek to hoard. When capitalists do not spend their surplus value either on products of group I industries or on products of group II industries, the equilibrium breaks down and a gap develops. The entire static system goes out of equilibrium at the initial level of unemployment, and restores it, at some lower level of income, employment and surplus value. This relapse is known as liquidation or hoarding crisis.

At another extreme, suppose some sort of big union of the vested interests is created to maintain or increase the rate of profit. It can be done by raising the rate of surplus value to compensate for the rising organic composition of capital. This could foil the falling rate of profit, but in the Marxian system, only at the price of a crisis of another sort. The total output which could be realized, purchased under such a scheme, could be produced by an increasingly smaller proportion of labour force as the rate of surplus value rose. As unemployment rises, there will be a realization or overproduction crisis.

Actual events and policies may fluctuate between the

liquidity crisis and realization crisis. In any case, the system is doomed in the sense that no level of unemployment can be set up and held indefinitely as a maximum level.

Marx's argument can be illustrated by the following diagram in which the horizontal axis represents time, and the vertical axis measures the rate of profit.



The critical minimum profit rate $P'P'$ is drawn as a horizontal line. The falling rate of profit is represented by PP. And the weavy line corresponds to an actual course of affairs; moving from one crisis to another. As the organic composition of capital, $\frac{c}{v}$ rises PP line crosses the critical minimum line $P'P'$ at Q. And then liquidation crisis can be avoided only at

the cost of realization crisis and vice versa. If PP line is assumed to represent a falling rate of profit commensurate with 10 per cent unemployment, and if 10 per cent unemployment rate is supportable without a revolution, the intersection of PP line with $P'P'$ line indicates the outer limit of capitalist survival. In the diagram, it is labelled Z (from the German Zusammenbruch meaning 'breakdown').

Marxian Theory of Employment: Elaborated.

For the most part, Marx conducts his argument upon the assumption that there is no problem of the inducement to capitalists to invest. The capitalists are not particularly interested in enjoying luxurious expenditures; they are interested in acquiring more capital, and each is forced by the competitive struggle to enlarge his capital so as to take advantage of new techniques. So long as they have some profits to invest, they can be relied upon to invest them, irrespective of the prospect of profit or the rate of interest. Thus, in the main argument, the problem of effective demand does not arise.

Thus the problem of unemployment exists even when the problem of effective demand is ruled out. The amount of employment, at any moment, depends upon the amount of capital in existence and the technique of production. As time goes by, capital accumulates and the amount of employment tends to increase. Available labour also increases with the natural increase of population and with the advance of capitalism into fresh spheres,

which pours into the labour market a stream of peasants and artisans deprived of their means of livelihood. There is normally a fringe of unemployed workers - the reserve army of labour - and the limit to output is set by full capacity of capital equipment, not by full employment of labour.

In these circumstances, the level of real wages is determined by the bargaining power of the capitalist class and the workers class. So long as workers do not combine they are helpless, and must take what they can get. Wages therefore tend to be depressed to the lower limit set by subsistence level.

Even when wages are at rock-bottom the capitalists still endeavour to squeeze more profit out of the workers, by lengthening the working day, screwing up the intensity of work, and drawing women and children into industry. There is a lower limit, set by the starvation level, to the real earnings of the family, but the amount of work which the family is forced to do to earn those wages can be increased by these devices.

This process of extravagant exploitation leads to a reaction. The health of the workers is undermined and the supply of future generations threatened. Enlightened self-interest then compels the capitalists to submit, though reluctantly, to labour legislation, which curbs their own excessive greed. Factory acts limit the working day and improve working conditions, and wages are prevented from falling below subsistence level.

The helpless situation of the workers is due to the existence of the industrial reserve army. So long as there is unemployment their bargaining power is weak. The accumulation of capital, however, is going on all the time, and at some periods the stock of capital, which governs the amount of employment offered, catches up upon the supply of labour. Their bargaining position is then strong and real wages tend to rise. Profits consequently fall, and the rate of accumulation is slowed down relatively to the growth of population, so that the reserve army grows again. Meanwhile, the capitalist system, which cannot tolerate low profits, reacts by adopting new techniques which economises labour. Under the stimulus of high wages labour-saving inventions are made, so that a given amount of capital henceforth offers less employment. The reserve army of labour is thus further recruited by technological unemployment. Moreover, there is a fresh motive for extending capitalism into new spheres, and finding new labour to exploit. The temporary bargaining strength of the workers is destroyed by these means, and real wages fall again.

Thus over the long run wages are regulated by the expansion and contraction of the reserve army. The situation which Marx considers most favourable to a rise in wages is an increase in the stock of capital without any change in technical methods or in the ratio of capital to labour. Employment per unit of capital is then constant, and as capital expands employment increases

and unemployment falls; so that the scales are gradually tipped in favour of labour. Increasing productivity of labour he does not regard as favourable to rising wages. It is associated with the increasing capital per man, so that a given amount of capital offers a falling amount of employment. Moreover, growing mechanization of industry destroys the demand for skill, and reduces the worker to a mere fragment of a man, so that the wages are once again depressed to a pure subsistence level, including no margin for education.

PART II

Chapter 4

THEORIES OF EMPLOYMENT AND THEIR RELEVANCE TO DEVELOPING ECONOMIES

Until recently it was common practice to explain the employment conditions of the developing countries with the help of Western-oriented theories which were primarily meant for advanced capitalist economies. The economic state of the underdeveloped economies is, however, radically different from that of the advanced economies. The tools and techniques of economics of developed countries, when applied to an analysis of the problems of developing countries would lead to a number of conclusions which are bound to be unrealistic. In this part an attempt will be made to examine the relevance of these theories to the conditions of the developing countries.

Relevance of the Classical Theory

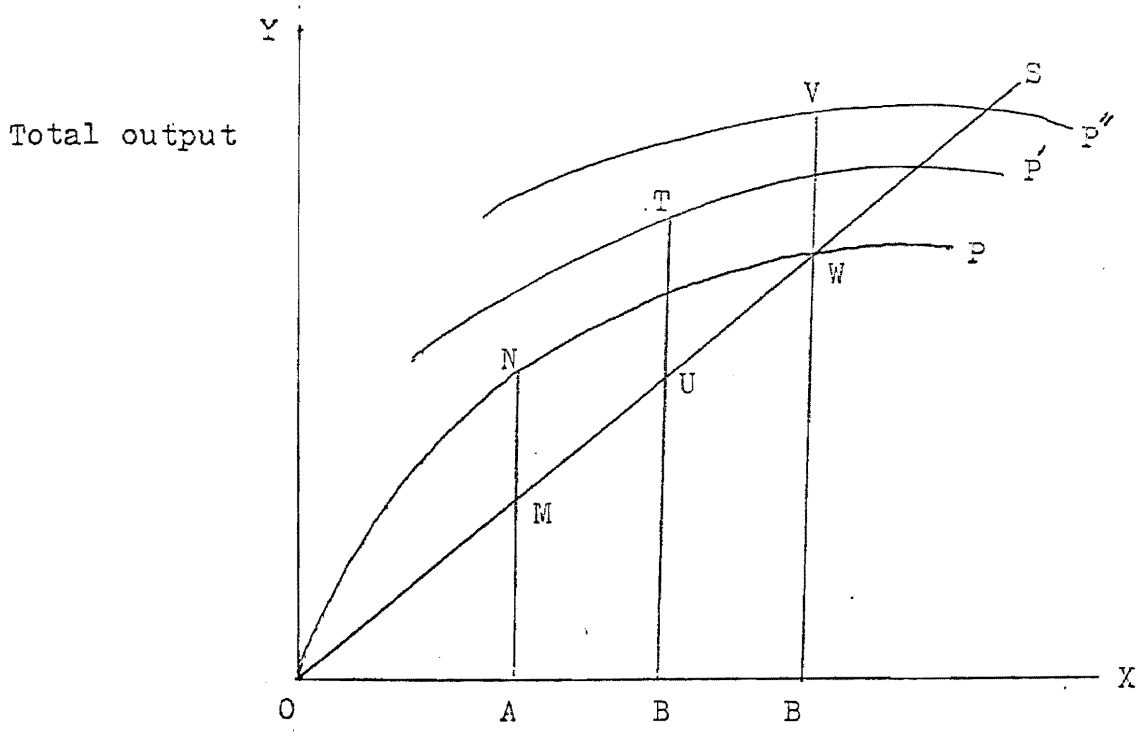
It is interesting to note that the classical analysis has greater relevance to the economic conditions of the developing economies than some of the more sophisticated theories of recent time. The basic concern of the classical model is with

the growth of population toward its maximum size - a size at which per capita income is just sufficient to permit the population to reproduce itself at the physical minimum level of subsistence. If the population should be below this size, per capita income would exceed subsistence, thus encouraging population growth. At the same time it raises the profits which can be invested to equip growing population with the necessary tools.

But growth of labour and capital necessarily encounters diminishing returns, due to scarcity of natural resources. Thus with population growth, the margin between production and subsistence steadily narrows and eventually disappears, eliminating both profits and above-subsistence wages. With zero profits, accumulation ceases, the stock of capital is stationary. With wages at subsistence level, population growth also ceases.

This model assumes a static production function, while in actual practice improved technology has continuously lifted the production function.

The whole analysis can be explained with the help of a diagram. Line P is the economy's aggregate production function, which displays diminishing returns. Line S shows the necessary volume of subsistence for the labour force, proportional to population. At A, output will be AN and necessary subsistence, AM. Wages can be higher than subsistence, with the marginal out-

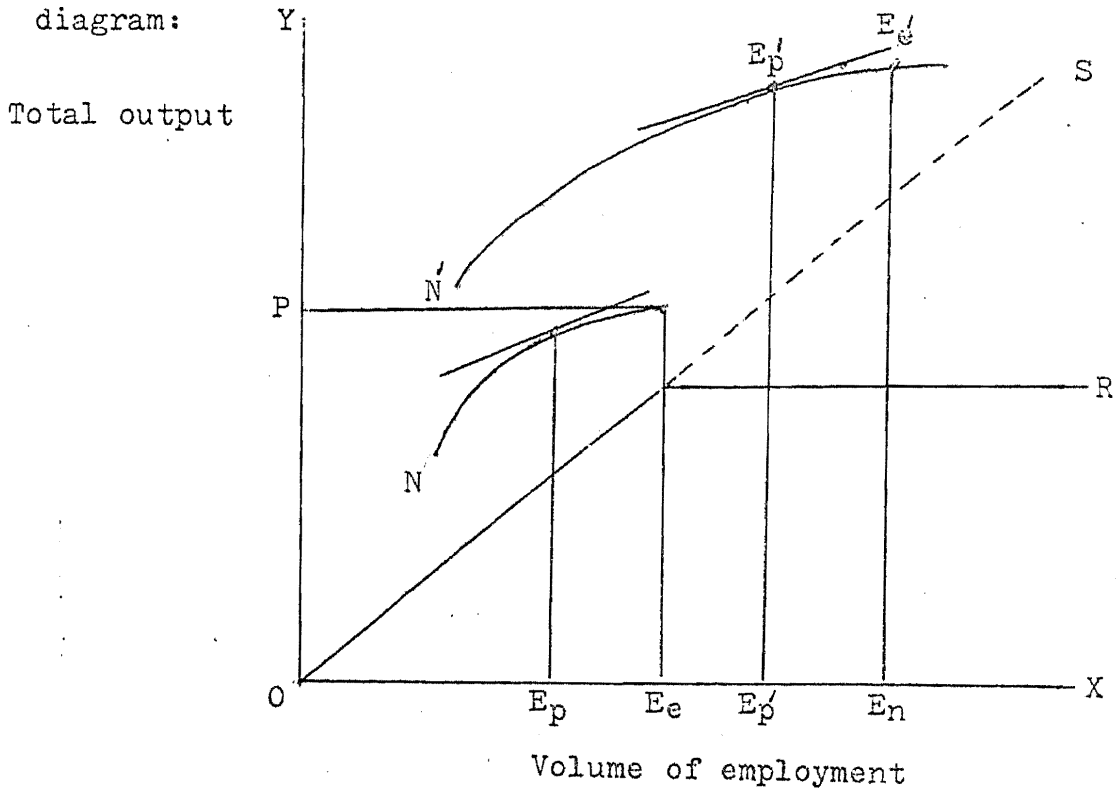


put, MN being divided between above-subsistence wage payments and entreprenurial profits. The former induce population growth and the later permit and motivate the investment which provides the growing population with tools. This process continues, until it reaches C, at which point wages cannot exceed subsistence, so population growth ceases, nor are there any profits, so investment ceases. To put it symbolically:

$$\frac{\Delta k}{\Delta t} = 0$$

Where k stands for stock of capital, and t for time. But the whole production function can be lifted by improvement of technology. Thus, by the time the population has grown to B, a more rapid capital accumulation may have lifted production to BT on production line P'. Similarly, when population reaches C, further investment may have raised the production function to P'' giving CV output and so on.

Leaving aside the shortcomings of the classical model, its application to the economic conditions of the developing economies cannot be over-emphasized. The classical argument that the limit to expansion of output and employment comes through the lack of productive capacity and not through the lack of effective demand holds true in the case of developing countries. The problem can be illustrated by the following diagram:



Let the employed labour force be assumed as 0 E_n and let N represent the production curve with given productive equipment. Then beyond OP, no matter how much the labour force increases, total output will increase no more. The production of output can increase only if new productive equipment is added which will lift the production curve to N'.

The nominal employment level, E_n is a situation in which there is hidden unemployment and where the marginal productivity of labour is zero. If OS represents the average wage rate, then productive employment E_p is that whose marginal productivity equals the real wage rate. Beyond the effective employment, E_e a greater quantity of labour no longer yields any increment to total output, total wages R become stationary. Underdevelopment is then, equal to 0 E_n - 0 E_p.

When productive equipment increases, the production curve is raised to N'. Hidden underemployment disappears and nominal employment E_n will coincide with effective employment E_e'. Productive employment will have risen to E_p'. There still remains a residue of underemployment equal to 0 E_n - 0 E_p', which will be absorbed in productive employment if productive equipment increases further, thereby raising the production curve.

Now the question arises as to why the productive equipment is short in the developing economies. To put it in a dynamic context, why is the increase in capital equipment lagging behind the increase in labour force which is a proportion of rise in

population. The explanation lies in the low rate of investment which depends on saving and which in turn depends upon income. And, since income in these countries is very low, a vicious circle is created.

Broadly speaking, the low rate of saving in these countries can be accounted for by the following reasons:

(1) a large part of the population is near subsistence,

(2) there is a threatening population growth rate,

(3) functional increase in consumtion is needed to reallocate labour towards the growth sectors or to increase output per head in agriculture,

(4) functional increase in consumption is needed as an incentive to entrepreneurship; and

(5) just as in highly unionized countries, there are various 'ratchet' effects why wages tend to drift upwards non-functionally for some groups in emulation of others.

But to say that classical analysis is relevant to the developing economies is to oversimplify the whole issue. Actually it is not the shortage of real fixed capital as such which causes underemployment in these countries, rather it is the shortage of real liquid capital. This alternative theory will be discussed in Part III of the paper.

Relevance of the Keynesian Theory

In the early years of the Keynesian Revolution there was a tendency to uncritical acceptance of Keynesian ideas and prescriptions on the part of some of the economists of the developing countries. Overlooking the fact that Keynes developed his theory primarily to deal with the short-term problems of unemployment and business cycles of the mature capitalist society, these economists recommended the Keynesian remedies of deficit-finance, work creating employment and the like to deal with the vastly different problems of the developing economies.

According to Keynes the volume of employment and income is determined by the level of effective demand. The nature of propensity to consume is such that marginal propensity to consume declines with increasing income and unless investment increases sufficiently, the effective demand will fall short of the effective supply, so that income and employment decline till equality between the two is attained. Increase in investment results in increase in income and the increase in income leads to an increase in saving. The marginal propensity to consume determines the relation between an increment of investment and increment of income. This relationship is determined by the investment muntiplier, K. Symbolically:

$$\Delta Y = K \Delta I$$

$$\text{where } K = \frac{I}{1 - mpc}$$

As the marginal propensity to consume declines with increasing income, increasingly larger increments of investment become necessary for obtaining a given increment of income.

As the marginal propensity to consume is likely to be very high in case of developing countries, the multiplier has a high value with the result that relatively small increments of investment are likely to bring about full employment. Thus it was common ground with most writers on the economics of underdeveloped countries that what was required for their economic development was an increase in the purchasing power of the people.[7]

It is now a recognised fact that the Keynesian theory does not furnish a solution to the problems of the developing countries. The situation in these countries is quite different from that prevailing in a mature capitalist society. Without exception, a developing country is predominantly an agricultural country where capital equipment is low. Moreover, the number of employees or workers employed on a wage is comparatively small, the vast majority of earners fall under the category of self-employed or household enterprises. Further, a significant output is not produced for the market but is intended for self-consumption. Under these circumstances the Keynesian analysis

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7 V. K. R. V. Rao, "Investment, Income and the Multiplier in an Underdeveloped Economy". The Indian Economic Review, February 1952.

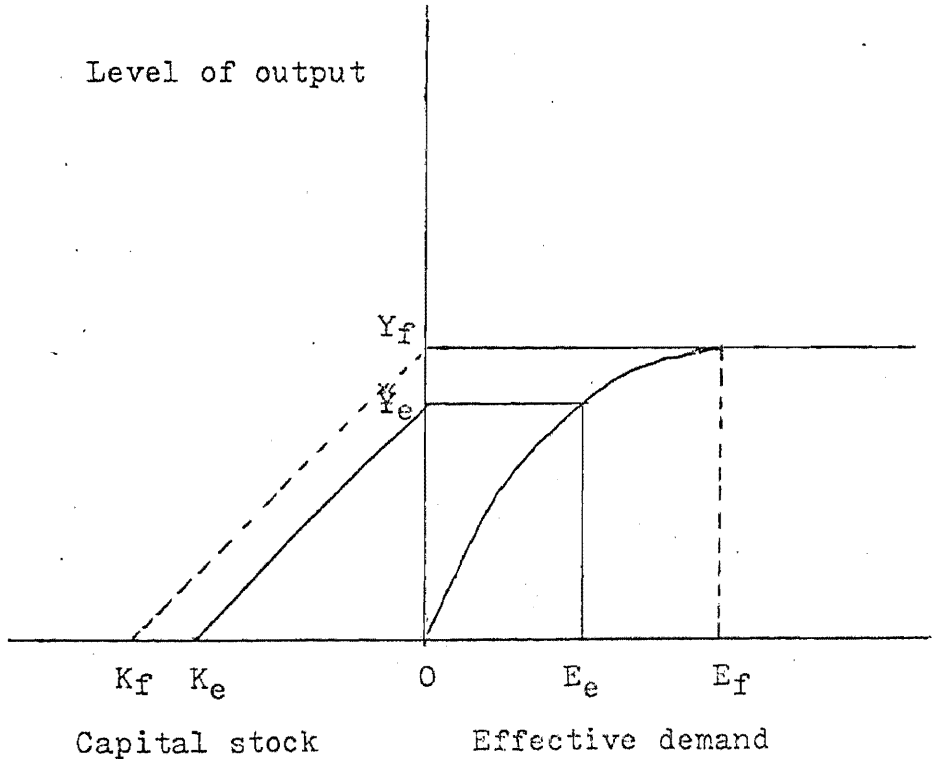
has little relevance to these countries. The multiplier principle does not work, even though the marginal propensity to consume is very high. This is because the consumption goods industries to which the increased demand is directed are not in a position to expand output and offer effective additional employment. It is because the supply curve of the main consumption goods industry, viz. agriculture is not only inelastic but also tends to be backward rising, so that an increase in the value of output need not necessarily lead to a subsequent increase in the volume of output. Even to the extent to which agricultural producers want to increase output, they do not get the facilities to carry out their intentions. This means that while income increases, output does not increase. The multiplier principle, therefore works with reference to money income, but not with reference either to real income or employment.

The particular form which unemployment takes in the developing countries, viz. that of disguised unemployment, makes the economy for Keynesian purposes practically analogous with one of full employment; and to that extent prevents the multiplier from working in the direction of an increase in either output or employment. As a result, money income and prices rise much faster than real incomes and output, setting in inflationary process.

As said earlier, in the case of a developing economy household enterprises predominate, and production is much more for self-consumption than for the market with the result that when there is an increase in income the marginal propensity to consume leads to an increase in the demand for self-consumption rather than for purchases in the market.

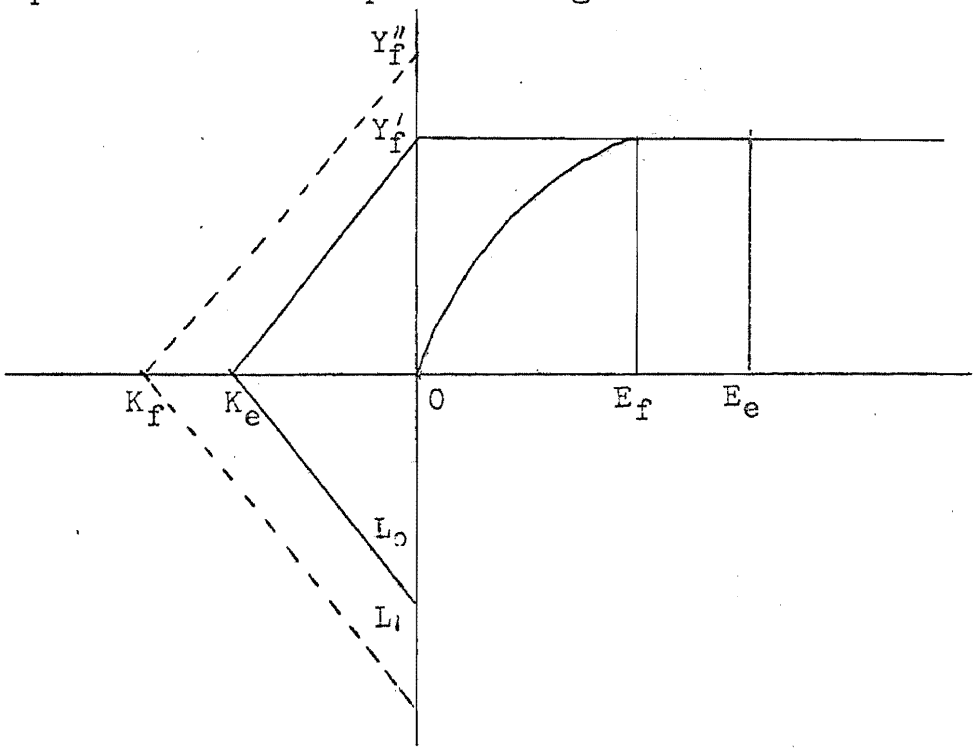
Another factor preventing the increase in the output of consumption goods industries and the employment therein following an increase in income, arises from the absence of excess capacity in those industries, coupled with relatively inelastic supply of the working capital needed for increasing production.

The following diagram represents a typically developed economy.



Suppose the equilibrium level of effective demand is E_e and OK_f is the stock of capital. E_e level of effective demand allows Y_e level of output which can utilize only K_e level of available capital. This level of output leaves $K_f - K_e$ level of capital as unutilized. This is Keynesian unemployment which refers to the unemployment of capital. If effective demand could be raised to E_f then Y_f level of output would be reached which would utilize K_f level of capital and insure full employment. Thus the problem is only of raising the effective demand by undertaking investment. Keynes rightly ignored the capacity-generating aspect of investment. He emphasized only the income-generating aspect of the investment because he was concerned with short period problem of unemployment.

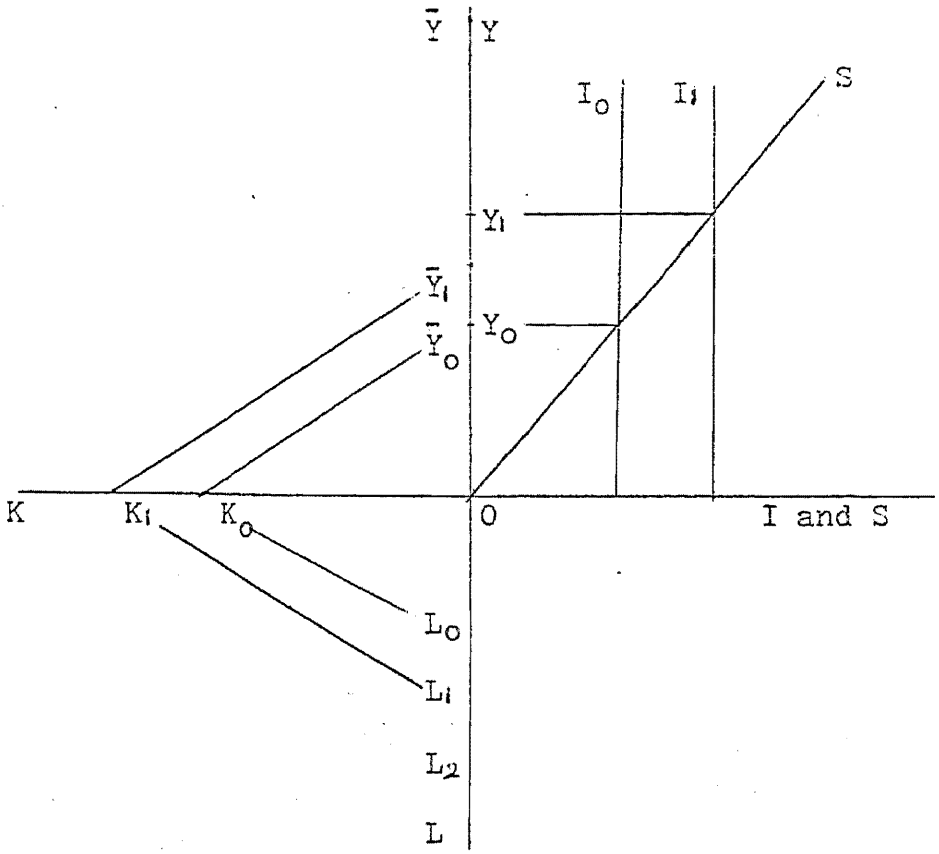
The position of a developing country is altogether different which can be represented by the following diagram. Here all quadrants measure positive magnitudes.



Level of effective demand is already in excess of that effective demand which is warranted by full employment at K_e. K_e level of capital stock and OL_1 labour force is available. With OK_e amount of capital stock Y_f' level of output is produced and $O\ L_o$ amount of labour force is employed. This implies full utilization of capital and is just like Keynesian full employment. But this leaves $L_1 - L_o$ labour force unemployed. To utilize all the available labour force additional stock of capital, $(K_f - K_e)$ is required. Some times this type of unemployment is referred to as Marxian unemployment. Thus according to Keynesian analysis the problem that a developing country faces is to shift from lower level of full employment to a higher level of full employment - from Y_f' to Y_f'' .

It becomes obviously clear that if Keynesian prescription is applied to the developing economies then it will lead to inflation. This phenomenon has been shown by the diagram on the following page. In this diagram all the quadrants measure positive magnitudes. In quadrant one, income determination yielded by the intersection of investment and savings is shown. In quadrant two, the optimum real output that the stock of capital in the country is capable of producing is shown. Y measures income and $\bar{Y}$ measures output. The third quadrant measures available labour force.

Initially investment is I_o which yields Y_o level of income and $\bar{Y}_o$ level of output utilizing K_o level of capital and L_o



level of labour force. If investment is raised from I_0 to I_1, income rises to Y_1 but output rises only to $\bar{Y}_1$. Thus income exceeds output by $Y_1 - \bar{Y}_1$. Thus the proneness of the developing country to inflation is shown by a chronic tendency for aggregate demand (Y) to exceed output or aggregate supply ($\bar{Y}$).

This analysis is also helpful in throwing some light on the question of over population. To an abundant economy increase of population is not a drag on prosperity, but a valuable asset. Increase in population is necessary both as a

cource of demand expansion, and as an indispensable input for the growth of output. But to a developing economy with a low per capita endowment of capital, increase in population is a drag. In the above diagram the economy is utilizing only OL of labour force out of the total available labour force of OL .

The foregoing discussion does not mean that Keynesian analysis has no significance for the developing countries whatsoever. As a matter of fact Keynesian analysis gives some powerful insights into the problems of the developing economies. In the classical world economic development was seen as a harmonious process. Since classical economics recognizes only full employment equilibrium it advocates a policy of laissez faire. Keynes, on the other hand, advocates substantial state intervention. Nobody can question the rationale of a positive state intervention in the case of developing countries. The developing economies not only have to attain full employment, but also have to move from lower level of full employment to a higher level of full employment. Without state action this objective cannot be achieved in these countries.

Another point of significance is to be found in the working of the Keynesian multiplier. As it has been said earlier, investment in case of developing economies is likely to generate income and not output. Thus, Keynesian analysis offers an efficient method of studying the problem of inflation in these countries. Moreover, Keynesian economics advocated solution of inflation by increasing supply of goods and services

which is a positive measure and not by curtailing money supply which is a negative measure.

Relevance of the Marxian Theory

Since Marx was preoccupied with the developed capitalist societies, Das Kapital is mainly concerned with an analysis of the forces that would lead to the ultimate overthrow of the capitalist system. Nevertheless, his theory of social change, laws of motion of capitalism and the concept of surplus value provide some powerful insights into the problems of the developing countries.

Karl Marx used dialectical materialism to interpret history. According to him, historical development occurs as a result of changes in the material forces of production. In contrast to Hegel who maintained that society progresses by the conflict of ideas, Marx believed that actually it is the conflict of matters which is responsible for the advancement of history. It is the immanent contradiction between the "forces of production" and the "relations of production", expressed in the form of class struggle that provides the motor force for the movement of history. However, Karl Marx was quite aware of the state of affairs prevailing in some of the Asian countries. He observed that his dialectical materialism was not working in Asia. The failure of the working of the dialectical materialism was regarded by him as the principal cause of stagnation in Asia. On close observation he found three important

factors which were preventing the working of the dialectical materialism. Firstly, there was peasant's ownership of land; secondly, every village was almost self-sufficient; and thirdly, there was predominance of handicraft and guild system. All this meant that there were no separation of labour from the means of production and, as a result, there were no class struggle which provides ground for the working of his doctrine. However, his theory of Asiatic mode of production does not explain the existence of vast magnitude of underemployment in the developing countries as such; although it sheds some light on the stagnant nature of these economies.

His law of motion of capitalism is based on the following three ratios:

(i) $\frac{c}{v}$ = the organic composition of capital;

(ii) $\frac{s}{c + v}$ = the rate of profit;

and (iii) $\frac{s}{v}$ = the rate of exploitation.

Assuming no change in the organic composition of capital, the increasing demand for labour that accompanies accumulation will cause wages to rise above the subsistence level, reducing the amount of surplus value per worker. This causes the capitalist to introduce labour-saving techniques. It is the adoption of these techniques which causes relative surplus population swelling the ranks of the industrial reserve army

of the unemployed. The concept of a reserve army of labour is utilized by Marx to show that capitalism creates more technical changes which periodically create a labour surplus with a view to keeping down the level of wage rates. Although this concept is not wholly applicable in the case of developing countries, because it is quite different from the disguised unemployment prevailing in these countries, it throws some light on the disadvantages of adopting capital-intensive techniques in the developing economies. If this tendency is not checked, it is sure to aggravate the already existing unemployment problem in these countries.

The Marxian concept of surplus is relevant to the process of economic development in general. This is especially true in the developing countries. When the concept of surplus is applied to the problems of economic development of the developing countries, it provides a useful tool of planning besides shedding light on the institutional and social factors that hold down available surplus far below the potential surplus of the economy. In his book, "Political Economy of Growth", Paul Baran developed the concept of surplus as a powerful tool of analysis of the problems of economic development. If a country fails to extract sufficient surplus for its economic development, then attention must be focussed on the class character of the government in power and its real interest in development.

Thus the Marxian concept of surplus is a significant point in the analysis of development of the developing countries. And since economic development means growth plus structural change, it is also relevant to the expansion of employment in these countries.

PART III

Chapter 5

WAGE-GOODS GAP THEORY OF EMPLOYMENT

The emphasis on deficiency of supply as a main cause of unemployment makes the classical model more relevant to the conditions of the developing countries. According to the classical model prevalence of mass unemployment, both open and disguised, is due to the deficiency in the supply of fixed real capital, viz; machinery, plant and tools. But this version of the classical model must be modified in order to make it fully applicable in the case of the developing countries, for it assumes that the economy has an abundance of labour and of wage goods. There is unemployment because there are not enough factories to take the labour away from the disguised unemployed sector of the farms. The number of factories is not sufficient because the required machinery and plants are not available.

As a matter of fact it is not the deficiency of fixed real capital which is the prime cause of existence of mass unemployment as such, rather it is the deficiency of real liquid capital. It is the inability of the economy to provide

the required surplus of wage-goods necessary in order that the disguised unemployed can be employed in investment, that inhibits expansion in employment. The developing countries have an abundance of population, but such an abundance does not necessarily mean a proportionate availability of employable units. If the economy can make good the wage-goods gap through a quick expansion of consumption goods industries, it is possible to raise the employment potential. The rate of growth of population may be equal to the rate of growth of capital stock even then it cannot solve the already existing unemployment problem. There is however, no reason to prevent the proportion of disguised unemployment from rising in view of faster growth of population than that of capital stock.

Wage-Goods Gap and the Employable Units

Unemployment in developing economies emerges on account of a shortage of real liquid capital; and it is only through the expansion of real liquid capital that any surplus labour force can be converted into employable units. In other words, the portion of surplus labour force which is provided with wage-goods becomes employable and it is this employable unit which can be regarded as a vital prerequisite for the expansion of employment potential. A determined persistence in expansion of the fixed capital to the neglect of expansion of wage-goods will land the economy in a ridiculous situation, in which there would tend to be unemployment both of labour as well as of

equipment. Limitations in regard to equipment are only a short period bottle-neck.

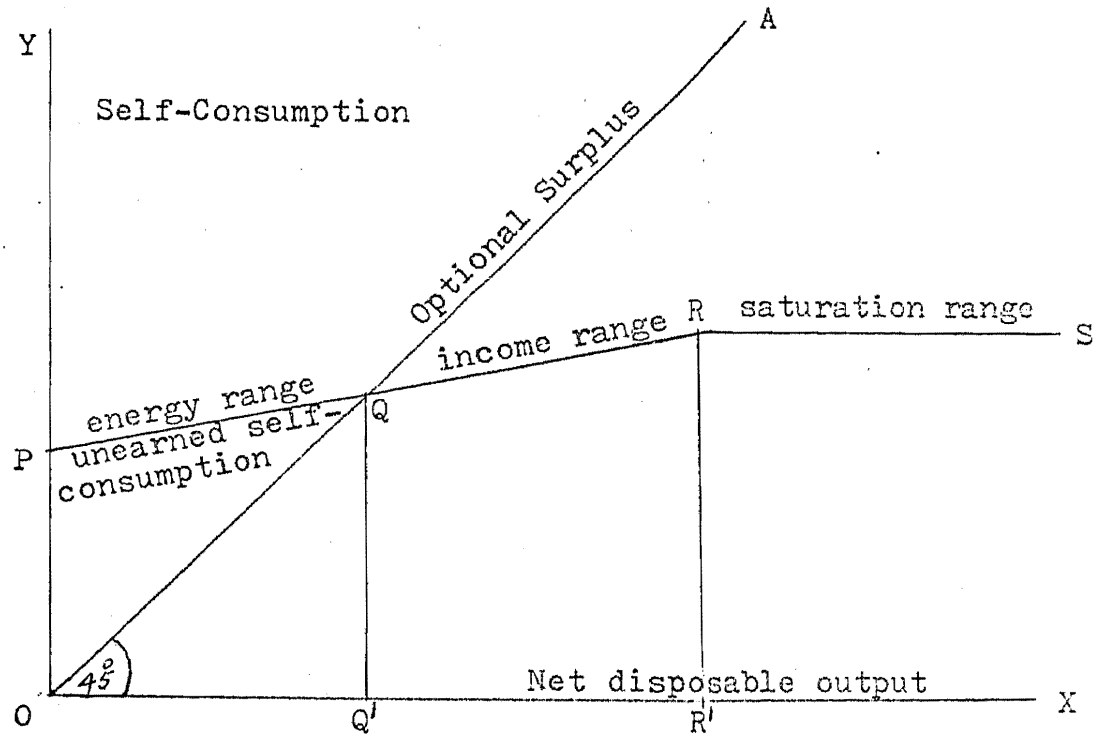
The size of the wage-goods gap depends upon the difference between the money value of the real wage consumed by an employable unit, and the money value of the goods consumed by the disguised unemployed multiplied by the number of such unemployed labour units.

If there are 30 million disguised unemployed in the economy and if the wage-gap in respect of one employable unit is $200. the wage-goods gap would be equal to $6000. million. If only the economy could make good this gap, 30 million labour units can become employable. It is important to note, however, that as food is the most important category of wage-goods and as most of the incomes of workers are spent on purchases of food grains in developing countries, it is the extent of increase in marketable surplus of food grains that limits expansion of employment in investment. It is also important to note that an increase in the availability of wage-goods enables the economy to step up its employment in investment by more than the employment equivalant of the initial increase in the supply of wage-goods. This involves the concept of consumption multiplier. But before going into the details of the working of the consumption multiplier, it is desirable to examine the concept of self-consumption function which is vitally linked with the concept of consumption multiplier.

Self-Consumption Function

Let output of the farmer be defined as the total product, net of seeds. The cultivator is obliged to sell a part of his output to meet certain liabilities which he has incurred before the harvesting of crops. These include land tax or rent, interest charges on loans and repayment of loans; and costs of marketing the crops. Let this portion of the output be termed as obligatory surplus. This constitutes a first charge on output and takes priority even over consumption. The residual output (output minus obligatory surplus) is the net disposable output.

The relationship between the different variables can be shown by the following diagram:



Self-Consumption Function

Let self-consumption be defined as the consumption of farm products by the cultivators. The self-consumption is a part of total consumption in the sense that the cultivator consumes some non-agricultural products too. Thus, self-consumption of an individual cultivator is a function of the net disposable output of his farm.

In the diagram the X-axis indicates the net disposable output and the Y-axis measures the self-consumption. The curve PQRS represents the self-consumption at various levels of net disposable output. Even if the net disposable output is zero he consumes OP to satisfy his biological hunger. But this is not enough for him to do his normal work and keep fit. If he has any positive net disposable output he consumes more than the entire amount till he has $Q'Q$ level of consumption. In other words, the net disposable output-elasticity of self-consumption is unity over PQ range. Once the net disposable output is more than OQ' the self-consumption increases at a much slower pace than the increase in net disposable output. Thus, when the net disposable output is between Q' R', the net disposable output-elasticity of self-consumption is less than one. At R' R, the saturation point is arrived at and no further increase in self-consumption is desired.

Optional surplus is defined as that farm produce which is left after deducting self-consumtion from the net disposable output. The optional surplus arises only after the net dis-

posable output exceeds OQ'. It is an increasing function of the net disposable output beyond OQ range. All increase in net disposable output in excess of OR' represents optional surplus since self-consumption has reached saturation at R' R level.

The technical surplus is the amount of the farm output available to the industrial sector. It comprises the obligatory surplus plus optional surplus minus unearned self-consumption which is the amount of self-consumption in excess of net disposable output. Thus technical surplus is equal to aggregate output minus aggregate self-consumption. There is no functional relationship between aggregate output and technical surplus. The demand for products of the industrial sector is represented by the aggregate optional surplus minus part of the aggregate unearned consumption granted (to others) out of the optional surplus. Thus, what happens to the optional surplus minus part of unearned self-consumption will have a great bearing on the rate of economic development. This is closely related with the concept of surplus wage-goods which is so vitally needed for the expansion of employment. In the opinion of Maurrice Dobb, "if there is any factor to be singled out as the fundamental limiting factor upon the pace of development, then ..... it is this marketable surplus of agriculture".

Consumption Multiplier

It is necessary now to analyse the concept of the consumption multiplier. Assuming that:

(i) the marginal propensity to consume wage-goods on the part of the wage-goods producers is zero;

(ii) the level of money and real wage rates does not change;

(iii) there is disguised unemployment in the wage-goods sector;

(iv) the average consumption of the wage-goods by the disguised unemployed (d) is less than the real wage (w), and

(v) the size of the population does not change, the working of the consumption multiplier can be explained with the help of an example.

Suppose the output of wage-goods is increased by 1,000 units, and the real wage, (w) is one unit while the average consumption of the disguised unemployed, (d) is $\frac{1}{2}$ unit. Thus, the average difference between w and d is $\frac{1}{2}$ unit. Let this difference be disignated as the gap (g). Suppose further that 1,000 units are utilized by the state for investment activities. Obviously, the increase in output of 1,000 units enables the conversion of 1,000 disguised unemployed into productive workers. This would create a surplus of 500 units and

enable a transfer of 500 workers. The transfer of these 500 workers would release 250 units and enable a transfer of 250 workers and so on. Thus, the initial investment of 1,000 units and employment of 1,000 workers would enable an additional withdrawal of 1,000 units and of 1,000 workers. The total increase in investment equals the initial increase in investment multiplied by:

$$\frac{w}{w - d} \quad \text{or} \quad \frac{1}{g}$$

Thus, the lower the value of g, the larger the total increase in investment. The consumption multiplier hence, is the inverse of the difference between the average consumption of the employed worker and that of the disguised unemployed. If g is equal to w the multiplier will be equal to zero.

But it is unrealistic to assume that there is zero marginal propensity to consume on the part of producers of wage-goods in the initial stage. As shown in the diagram, the marginal propensity to consume becomes zero only after reaching the saturation point. Therefore it is more realistic to assume a positive marginal propensity to consume. If the marginal propensity of self-consumption of the wage-goods producers is equal to 1/3 and g is equal to 1/4, then the maximum release of wage-goods would not be 750, as out of this 1/3 will be consumed by the wage-goods producers themselves. Hence, the wage-goods released will be equal to 500 units. If 500 work-

ers are absorbed in investment, the wage-goods released will not be 375 units as out of this 1/3 will be consumed again by the producers. Thus the value of the multiplier in this case will be equal to;

$$\frac{1}{g + (d)\ (mpc)}$$

Given g, the lower the value of mpc, the higher the value of the multiplier.

Thus, a given increase in the marketable surplus enables the economy to step up employment in investment more than proportionately to the increase in marketable surplus. Here it is investment which is a variable and total investment is a multiple of the initial increase in the supply of wage-goods. The difference between the Keynesian multiplier and consumption multiplier is that the former indicates by how much the total income would go up as a result of an initial increase in investment, whereas the latter indicates how much investment will go up as a result of a given increase in the supply of wage-goods.

Green Revolution: A Potential Source of Wage-Goods

As said earlier, food is the most important category of wage-goods. Thus it is desirable to examine the potentiality of the agricultural revolution in providing the surplus wage-goods for expansion of employment in the developing economies.

Agricultural break-through has already reached the economic pay-off stage in India, Pakistan, the Philippines and Turkey. It is in the various stages of development in Afghanistan, Iran, Iraq, Tunisia, Indonesia and Malayasia. The story of green revolution in these countries is the story of the introduction of or transplant of high-yielding, fertilizer-responsive, day-length insensitive varieties of wheat and rice. These new cereal varieties are so superior to the traditional varieties that they are becoming "engines of change" wherever used. They may be to the agricultural revolution in Asia what the steam engine was to the industrial revolution in Europe.[8] The following table shows the changes in production occuring in the areas with the largest plantings of new varieties. The right hand column of the table indicates the percentage increases in production for the 1968 crop season as compared with the period 1960 to 1964. The year 1968-69 was the first crop year in which a substantial area was planted to new high yielding varieties. Although official data are not yet available, early reports suggest that the 1968-69 production levels will be equalled or exceeded for both wheat and rice in 1969-70.

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8 L. R. Brown, "The Agricultural Revolution in Asia", Economic Development - Readings in Theory and Practice, (ed.) Morgan and Betz, Wardsworth Publishing Company Inc., California, 1970.

Changes in Production of Wheat and Rice

For Selected Asian Countries; 1960-61 to 1968-69.

Table I

Crop and Country	1960-64	1965	1966	1967	1968	Increase 1960-64 to 1968
	(1000 metric tons)					%
			WHEAT			
India	10,809	12,290	10,424	11,393	16,568	53
W. Pakistan	4,065	4,625	3,916	4,334	6,418	58
Asia	52,247	56,388	51,904	58,370	64,071	23
World	231,758	247,500	285,500	277,190	309.254	33
			RICE			
India	53,105	46,500	45,707	59,300	59,000	11
W. Pakistan	1,159	1,317	1,365	1,499	2,032	75
Philippines	3,883	4,033	4,165	4,560	4,576	18
Asia	141,787	138,060	138,355	159,053	160,835	13
World	161,000	159,000	161,000	183,000	186,000	16

Source: U.S. Department of Agriculture and Government of Pakistan.

The percentage of the area planted to new wheat varieties in Asia is considerably greater than that planted to new rice varieties.

The production gains in wheat have been remarkable, and are only matched by the performance of rice in West Pakistan. The following table presents a comparison of the annual yields of wheat and rice in West Pakistan.

Average Annual Yield of Wheat and Rice
In West Pakistan, 1960-61 to 1968-69.

Table II

Year	Yield (Maunds Per Acre)[1]	
	Wheat	Rice
1960-61	8.9	9.5
1961-62	8.8	10.1
1962-63	9.0	10.0
1963-64	9.0	10.1
1964-65	9.4	10.8
1965-66	8.2	10.2
1966-67	8.8	10.5
1967-68	11.6	11.4
1968-69	11.6	14.2
1969-70	-	16.1[2]

Source: Government of Pakistan

1 - One maund is equal to 82.28 pounds.

2 - First estimate.

The golden harvests have already influenced the GNP in both India and Pakistan. It is estimated that the 1968 wheat-crop increased the GNP of India and Pakistan by $497.6 million and $200.3 million respectively over that of the record 1965 crop. The 1969 wheat-crop is estimated to have added another $628.5 million and $250.3 million to the GNP of India and Pakistan respectively. The full impact of the revolution in rice production has yet to be felt. Nevertheless, it is estimated that the increase in rice production during 1968 in West Pakistan added $76.5 million to the GNP of the country.

Such is the power of agriculture in generating energy to move the wheel of the economy faster and faster. It is now for these countries to seize this great opportunity with both hands and utilize the surplus wage-goods for expansion of employment. It is not intended here to say as to how to siphon-off the surplus wage-goods. Suffice it to say that this will require a tactful handling of the entire affair in order to ensure that the goose which is laying the golden eggs is not killed in the process.

However, before concluding this chapter it is advisable to mention a few related questions. Firstly, how far is it realistic to assume that food is the only wage-good and secondly, what is likely to happen to demand for food as income rises over a period of time. The answer to the first question is very simple. It is not being assumed that food is the only

wage-good, what is being assumed is that food is the most important wage-good in the developing economies, which is true.

The second question is more complex and it must be answered in a dynamic context. There is likely to be a shift in the composition of demand for food articles as income rises over time. There will be a shift in demand in favour of food articles like fruit, milk, eggs, meat and fishery products. This shift in the pattern of demand is observable in the developed as well as developing countries. This trend offers a valuable opportunity to develop poultry, dairy and fishery industries in the developing economies. Part of the surplus grains available can be used for these purposes which at the same time will solve the problem of protein deficiency. The table on the following page shows the income-elasticity of demand for the different components of food in the developing regions.

Yet another solution of the problem is likely to come through the expansion of other consumption goods industries. After all the portion of disguised unemployed labour force which is being employed in secondary and tertiary sectors will produce other complementary consumption goods. It is only a question of gestation period which is likely to be short in case of consumption goods industries. In a nut-shell, all other types of wage-goods will be made available gradually but steadily once the initial period is over.

Coefficient of Income-Elasticity of Demand for Food

Table III

Area	Cereals	Sugar	Vegetable and Fruit	Fats and Oils	Milk and Milk Products	Meat	Egg	Fish
Latin America (excluding Argentina and Uruguay)	0.1	0.4	o.5	0.8	0.8	0.7	1.1	0.5
Near East and Africa (excluding S. Africa)	0.2	1.2	0.7	0.8	1.1	1.3	1.3	1.0
Asia and Far East (excluding Japan)	0.5	1.3	0.9	1.2	1.8	1.5	2.0	1.1

Source: United Nations, FAO, Agricultural Commodities-Projection for 1970, FAO Commodity Review Special Supplement (Rome, 1962).

CONCLUSION

As stated in the introduction, the purpose of this paper was to examine the relevance of the theories of employment to the conditions prevailing in the developing countries. The findings of this paper can be summarized in the following paragraphs.

In a developing economy there will tend to be a substantial extent of unemployment, mostly of a disguised type. Given the state of technical know-how, available stock of capital, size of population, etc. it is possible to produce the current volume of output with a lesser volume of employment than is the rule, provided the methods of production are improved. Disguised unemployment is an ubiquitous phenomenon in all sectors of the economy and is very conspicuous in the case of agriculture. The magnitude of this type of unemployment goes on increasing depending upon the pace of population growth and the rate of growth of capital stock.

In the case of a developed economy in a state of depression, on the other hand, there is unemployment too. But, here there is an excess capacity in regard to the supply of co-operating factors. The supply of co-operating

equipment proceeds equal to or faster than the growth of population and hence, under conditions of depression, there is a state of unemployment of both labour as well as equipment. Here it is possible to expand employment by raising the level of effective demand.

Keeping in mind this difference in nature and genesis of the problem of unemployment between developing and developed countries, the classical theory seems to have considerable relevance to the conditions of the developing countries. With the exception of Malthus who emphasized the deficiency of effective demand as the major cause of large scale unemployment but who failed to give a consistent theory of effective demand, almost all classical economists singled out the deficiency of supply as the main cause of vast unemployment. According to Ricardo, limitations in regard to output of wage-goods, mostly of food grains, reduced the rate of growth of supply of labour and which slowed down the process of capital accumulation. The tendency of the economy was to reach a state in which profits become zero and accumulation ceases. In Ricardo's analysis what is of interest to the developing countries is that the limiting factor was the inelasticity in the supply of food due to the working of the law of diminishing returns. If only adequate supplies of food could be produced, and a marginal worker could produce just little more than the quantities needed to sustain him in his work, the required quantities of capital could be constructed.

The examination of the Keynesian theory reveals the following conclusions:

(i) In a developed economy a fall in the real wages would tend to lead to a further reduction in the level of national income and employment. But in a developing economy, a fall in real wages would tend to lead to more than proportionate rate of increase in the volume of employment compared with that which is indicated by the labour value of the wage-goods saved as a direct result of the wage reduction.

(ii) In a developed economy, an increase in the level of government expenditure would lead to a rise in the level of employment. But in a developing economy, the same measure would tend to lead to a rise in the level of prices without an adequate increase in employment.

(iii) In the Keynesian case, an increase in the supply of money would lead to a fall in the rate of interest and a rise in the level of employment via an increased investment. In a developing economy, on the other hand, an increase in the supply of money would lead to a proportionate rise in the level of prices.

(iv) In the Keynesian case, an increase in population would lead to a rise in the floor of minimum consumption and hence a rise in the effective demand, thus raising the level of employment. But in a developing economy, the same would lead to a reduction in the volume of resources available for investment and thus increase the volume of disguised unemployment.

(v) In the Keynesian case, an increase in the extent of social security contributions and other forms of state assistance to the unemployed would tend to keep the level of employment from falling. But in a developing economy, these measures would tend to increase the extent of current unemployment and raise the level of prices.

(vi) In the Keynesian case, the possibility of secular stagnation arises primarily because of a slackening in the rate of growth of population. In a developing economy, on the other hand, such possibility emerges on account of the exhaustion of the investment outlets in regard to wage-goods production in the context of rapidly rising population.

Thus the Keynesian remedies have little significance for the developing economies. To expect similar policies to have similar effects in the context of the different conditions would be wholly unsound.

The Marxian concept of unemployment revolves around the concept of 'Reserve Army of Labour. This concept is utilized by Marx to show how capitalism creates those technical changes, which periodically, create a labour surplus with a view to keeping down the level of wage rates. The phenomenon of Marxian unemployment in the first place, is due to technical changes and secondly, performs the sole function of keeping down the wage rates. Technological changes are thus induced by the tendency of wage rates to rise under conditions of rapid capital accumulation; by creating unemployment they restore the conditions necessary of continuance of the accumulation process. But in the developing countries there is already vast unemployment, the wage rates are already minimum; until the rate of capital formation rises that high as to exhaust the unemployment, the wage rates will not tend to rise in a general way. Thus the disguised unemployment cannot be considered as being 'Marxian'. Over a large range, variations in the size of unemployment have no effects on wage rates.

The view that the unemployment in developing countries is 'Marxian' in nature has been pronounced by Joan Robinson. As noted above, such a view is based upon a misunderstanding of the conditions prevailing in these countries. This fallacy has arisen due to the mistaken view that an abundance of population implies an abundance of wage-goods. But as emphasized

in Part III, an abundance of labour is not an abundance of employable labour force. In fact a reduction in the size of population will reduce the pressure of disguised unemployed on the wage-goods and thus enable a higher rate of capital formation. In the Marxian case, under conditions of rising wage rates, an increase in population would be beneficial. Thus most of the analysis of Marx is relevant only when the economy has exhausted the reserve of unemployed population. But this is not true in the case of the developing economies.

The final conclusion that can be drawn from the discussions in the foregoing chapters is this, that unemployment in the developing countries is due to wage-goods gap and not due to deficiency in effective demand or due to deficiency in stock of fixed real capital. It is the inability of the economy to provide in a short period the surplus of wage-goods necessary in order that the disguised unemployed can be employed in investment, that inhibits expansion in employment. If the economy can make good the wage-goods gap through a quick expansion in the output of wage-goods, it is possible to raise the employment potential and break the vicious circle of low income and low saving. Therefore, it is high time for these countries to grab the unique opportunity offered by the green revolution and utilize the agricultural surplus for fighting the chronic problem of disguised unemployment. Only in this way can the redundant labour force be transformed into employ-

able units which can be put to work on capital producing projects. However, there are two related problems which these countries must be prepared to solve. Firstly, there is a problem of sustaining the green revolution. Secondly, the green revolution is likely to bring with it a whole lot of second generation problems. However, these problems are not the subject-matter of this paper.

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