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Keyne's General Theory Critique of the Neoclassical Theories of Employment and Aggregate Demand

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ABSTRACT

This paper explicates Keynes's criticisms of the neoclassical theories of (a) employment, (b) aggregate demand, and (c) the rate of interest. This paper makes it clear that neoclassical macroeconomic theory bears no relation to the real world of capitalist economic systems.

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> The characteristics of the special case assumed by the classical theory happen not to be those of the economic society in which we actually live, with the result that its teaching is misleading and disastrous if we attempt to apply it to the facts of experience. (CW, 7, p. 3)

Before the General Theory there was neoclassical macroeconomic theory. Employment and real wages were determined by the demand and supply of labor; the rate of interest by the demand and supply of loanable funds. Say's law governed the aggregate volume of economic activity and the level of money prices was assumed to be determined by the "quantity of money, ... its income-velocity ... by hoarding, by forced saving, by inflation and deflation et hoc genus omne" (ibid., p. 292). This theory was taught; it was written and it was believed. It was "accepted by the city, by statesmen and by the academic world" (ibid., p. 32). Keynes speculated that

> The completeness of the Ricardian victory ... must have been due to a complex of suitabilities in the doctrine to the environment into which it was projected. That it reached conclusions quite different from what the ordinary uninstructed person would expect, added, I suppose, to its intellectual prestige. That its teaching, translated into practice, was austere and often unpalatable, lent it virtue. That it was adapted to carry a vast and consistent logical superstructure, gave it beauty. That it could explain most social injustice and apparent cruelty as an inevitable incident in the scheme of progress, and the attempt to change such things as likely on the whole to do more harm than good, commended it to authority. That it afforded a measure of justification to the free activities of the individual capitalist, attracted to it the support of the dominant social force behind authority. (ibid., pp. 32-3)

His principal objection to neoclassical theory was that although

its supply and demand--Say's law mode of analysis may have been relevant to the simpler economic environments of pre-Ricardian days, it ill suited the economic environment of today--the economic environment of modern industrial systems of finance capitalism (CW, 29, pp. 66-102; Torr, 1980, 1988). Keynes denied this theory's essential beliefs that the aggregate demand and supply of labor are function of real wages alone; that employment and real wages are determined in the labor market; that there exists a market clearing mechanism which establishes a unique full employment equilibrium and that Say's law governs the level of aggregate economic activity. He found fault with their belief that

> at any given time facts and expectations were assumed to be given in a definite and calculable form; and risks ... were supposed to be capable of an exact actuarial computation. The calculus of probability ... was supposed to be capable of reducing uncertainty to the same calculable status as that as certainty itself. (CW, 14, pp. 112-3)

Keynes "accused classical economic theory of being one of those pretty polite techniques which tries to deal with the present by abstracting from the fact that we know very little about the future" (ibid., p. 115). That neoclassical theory does not distinguish between risk and true uncertainty strongly suggests that it is incapable of analyzing the performance of actual capitalist economies. Because the economic future is uncertain, entrepreneurs and individuals necessarily are compelled to form expectations with respect to what the economic climate may be in both the nearer and more distant futures and they have "no choice but to be guided by these expectations, if [they are] to produce at all by processes which occupy time" (CW, 7, p. 46).

In this paper I shall investigate Keynes's critique of the neoclassical theories of employment and aggregate demand; a critique that applies equally well to current day neoclassical

aggregate economic theory (Torr, 1988). In the course of examining Keynes's understanding of the above two branches of orthodoxy we shall, for contrast, comment briefly on his own theory of employment and aggregate demand for it is the General Theory itself which stands today as the most effective dismissal of neoclassical theory.

I. The Neoclassical Theory of Employment.

The neoclassical theory of employment which Keynes dismembered assumes an environment in which competitive pricing, diminishing returns and flexible money wages and prices obtain. The three operative assumptions of this theory are a labor demand function, $N_d = f(w/p)$, $f' < 0$, a labor supply function, $N_s = g(w/p)$, $g' > 0$, and a market clearing assumption, $N_s = N_d$. (cf., Fig. 1)

A remarkable but little noted feature of this model of employment is that both sides of the market, labor and capital, cooperate to establish mutually advantageous levels of employment and real wages (Torr, 1988). Labor and capital possess equal shares of market power in the sense that either side can effect changes in employment and real wages. Labor could increase employment, decrease "voluntary" unemployment, by the simple expedient of expressing a willingness to work for lower real wages. Entrepreneurs too could raise employment by increasing the marginal productivity of labor through the acquisition of new, technically superior capital equipment, improved management and so forth. Keynes understood these characteristics of neoclassical theory and knew that they did not apply to an entrepreneur economy (his term for the real world of 20th century capitalism). In Keynes's theory, employment and real wages are determined in the product market by producers' short-term expectations of sale proceeds. With expectations formed, entrepreneurs then unilaterally decide their levels of employment and output. Workers, who do not have

access to the means of production, are left in the unenviable position of having to wait until it well suits an entrepreneur to offer them jobs. In the real world of today, employment decisions are squarely in the hands of the entrepreneurs. The entrepreneur economy is anything but a "cooperative economy" (Keynes's term for the supply-demand neutral money environment neoclassical writers assume).

A second significant feature of the classical model is that labor and capital receive "predetermined shares of the aggregate output" (CW, 29, pp. 70-76). Predetermined in the sense that the shares accruing to capital and labor are settled before the product workers produce is placed on the market for the uncertain sale proceeds it may fetch. To illustrate, the area (A+B) of Fig. 1 depicts the volume of output produced by N_e workers. In preordained fashion, in advance of marketing product, share B accrues to labor, share A to capital. If we move our eyes along the marginal product of labor function, N_d, we see differing levels of real wages and employment producing differing but still predestined shares of output. In sum, orthodox theory assumes that relative shares are mechanically settled with no regard given to the sale proceeds the produced product might fetch when taken to market.

Keynes easily saw the flaw in this piece of "real" economics. The General Theory informs us that society's income, the object subject to distribution in an entrepreneur economy, necessarily equals the dollar volume of aggregate demand. Thus before there can be an income to distribute, labor must be hired, product produced and then marketed. The resulting aggregate flow of realized sale proceeds is then distributed to labor and capital. In view of the fact that the always uncertain flow of effective demand is subject to fluctuation, the income shares accruing to labor and capital too are uncertain, subject to fluctuation and can only be determined after the receipt of aggregate sale

proceeds. An entrepreneur economy clearly does not, physically cannot, distribute income shares in predetermined fashion.

A third surprising feature of orthodox theory is its criterion for increasing employment and output. For an additional worker to be hired all that is required is that the product of the added worker have an "exchange value ... sufficient to balance the disutility of the additional employment" (ibid., p. 78). For a firm to expand employment it is only necessary that the expected product of the additional worker exceed the real wage cost of employing an additional hand. Keynes wrote that

> The classical theory supposes that the readiness of the entrepreneur to start up a productive process depends on the amount of value in terms of product which he expects to fall to his share; i.e., that only an expectation of more product for himself will induce him to offer more employment. But in an entrepreneur economy this is a wrong analysis of the nature of business calculation. An entrepreneur is interested, not in the amount of product, but in the amount of money which [he expects] will fall to his share. He will increase his output if by doing so he expects to increase his money profit, even though this profit represents a smaller quantity of product than before (ibid., p. 82).

The difference between the orthodox and Keynes's criteria for expanding production is the difference between Say's law and Keynes's theory of aggregate demand. Say's law largely guarantees a market for society's output so that entrepreneurs in making their employment decisions need only pay attention to the balance between real wages and the marginal products of labor. They need pay no attention to the real world of problematic markets and fluctuating sale proceeds. The need not torment themselves wondering whether the output they produce will be purchased.

Real world entrepreneurs, on the other hand, must focus on the ever changing markets for their products. Hence, an

entrepreneur working in a capitalist economy will hire additional workers only if he holds the expectation that the added product produced will be sold at a profit. Conversely, an entrepreneur would not hire an additional worker even if the worker's expected marginal product exceeded the real wage by a good margin if the entrepreneur held the expectation that the additional product could not be sold at a profit. Keynes noted (CW, 7, p. 31) that "The insufficiency of effective demand will inhibit the process of production in spite of the fact that the marginal product of labour still exceeds in value the marginal disutility of employment."

A. The Classical Labor Supply Function.

Keynes's criticism of the orthodox labor supply function is based on the obvious real world fact that the supply of labor is not a unique function of real wages.

> For if the supply of labour is not a function of real wages as its sole variable, their argument breaks down entirely and leaves the questions of what the actual employment will be quite indeterminate ... unless the supply of labour is a function of real wages alone, their supply curve for labour will shift bodily with every movement of prices. (ibid., pp. 8-9).

His critique of the neoclassical labor supply function is squarely grounded on the observable facts that money wages are downwardly sticky while real wages are, to a limited extent, downwardly flexible. Keynes knew that labor would resist reductions of money wages but would not resist moderate reductions of real wages when produced by modest increases in consumer goods prices.

> Every trade union will put up some resistance to a cut in money-wages, however small. But ... no trade union would dream of striking on every occasion of a rise in the cost of living. (ibid., p. 15)

Keynes did not assume that money wages are downwardly sticky. Sticky money wages are in the General Theory simply because he knew that in capitalist economies, wages in terms of money are in fact downwardly sticky. But what accounts for labor's resistance to money wage cuts? Do workers not understand the axioms of orthodox theory? Are they afflicted with that most dreadful of classical diseases, "the money illusion"? Are sticky money wages due to trade union market power? Not at all. Keynes nicely explained the institutional details and rational human behavior which produces downwardly sticky money wages.

> Since there is imperfect mobility of labour, and wages do not tend to an exact equality of net advantage in different occupations, any individual or group of individuals who consent to a reduction of money-wages relatively to others, will suffer a relative reduction in real wages, which is a sufficient justification for them to resist it. On the other hand, it would be impracticable to resist every reduction of real wages, due to a change in the purchasing-power of money which affects all workers alike. (CW, 7, p. 14)

Here Keynes provided the critical insight; workers make relative comparisons, not just absolute comparisons. That labor is less than perfectly mobile means that all workers of a given sex, skill, intelligence, etc., do not pursue the same occupation and earn the very same wage. The aggregate labor force is composed of a vast number of differing occupations; each occupation carrying its own skill, knowledge and training requirements. The wage rates earned by these differing groups position them on the scale of all occupations pursued and incomes earned. The less well paid groups lie at the bottom of this scale of social worth where pay, prestige and feelings of general well being are lacking and individual worth not fully appreciated. Capitalism would seem to offer these workers little more than a life of dreary work and privation. Life for workers positioned at the top of the scale is much better. Society has recognized their

worth, and their pay relative to all other workers confirms their belief. They pursue more interesting occupations which require finer skills, greater knowledge and higher degrees of training. For them the economic system seems to be functioning well. Since workers do make relative comparisons, no group of workers would care to step forward and be the first to accept or be forced to accept a pay cut and so yield position, income, prestige and a feeling of general well being to other groups of workers. No worker or group of workers would care to slip down a notch or two on society's scale of social worth. (c.f., Veblen, 1987)

Relative positions, however, would not be altered if all money wages and salaries could simultaneously be reduced by equal percentage amounts. If this could be done, workers would be freed of their fears of losing position and so perhaps would not resist moderate reductions of their money wages.

> If <u>every one</u> was accepting a similar reduction [of money wages] at the same time, the cost of living would fall, so that the lower money wage would represent nearly the same real wage as before. But in fact, there is no machinery for effecting a simultaneous reduction. (CW, 9, p. 211).

"But in fact, there is no machinery for effecting simultaneous reduction[s]" of money wages. They are downwardly sticky, loath to fall, simply because those workers who are the first to accept or are forced to accept reductions of money wages have neither the knowledge nor assurance that other workers would be asked or forced to suffer similar reductions. Thus for a particular group of workers to accept a lower money wage would mean accepting a reduction of their standard of living relative to that enjoyed by all other workers, And this is sufficient reason for them to resist all attempts to reduce their money wages.

The stickiness of money wages is reinforced by the fact that in the unionized sector of the labor force, money wages are bilaterally determined and contractually fixed for shorter and longer periods of time. Sticky wages then limit both the upward and downward flexibility of prices and thus serve to stabilize the value of money. In support of Keynes's argument, Hicks (1974, p. 65) adds that employers are

> "reluctant to cut wages, simply because of unemployment; for if they did so they would alienate those whom they continue to employ ... [thus] 'stickiness' is not a matter of 'money illusion'; it is a matter of continuity. It would of course be reinforced by the standard rates of trade unionism; but there would be a tendency in the same direction, even apart from trade union pressure."

All in all, money wages are downwardly sticky for eminently rational individual and social reasons.

Keynes added that the combined effect of downwardly sticky money wages but downwardly fluid real wages nullified the neoclassical labor supply function. Since labor does not ordinarily resist modest reductions in real wages when produced by increases in consumer prices, it follows that the orthodox labor supply function will "shift bodily with every movement of prices ... [and] ... if the supply of labor is not a function of real wages as its sole variable, their argument breaks down entirely and leaves the question of what the actual employment will be quite indeterminate" (CW, 7, pp. 8-9).

Figure 2 illustrates Keynes's argument. Let N_s and $(w/p)_1$ be the initial labor supply function and real wage rate and N_1 the quantity of labor supplied at the given real wage. Holding the money wage, w, constant, assume a modest increase in consumer prices sufficient to drive the real wage down to $(w/p)_0$. With relative positions undisturbed, the quantity of labor supplied at this lower real wage (point f) will be the same as that

available at the initial higher real wage, $(w/p)_1$. What has happened is that the labor supply curve has shifted "bodily" downward to N'_s as a consequence of a mild inflation of consumer prices.

Keynes's conclusion is unavoidable. The supply of labor is not a sole function of the real wage. Thus neoclassical theory lacks a valid labor supply function and this shocking egregious lacuna alone suffices to discredit their simple supply-demand theory of employment and real wages.

The classical labor supply assumption also fails the test of realism on other significant but common place grounds. Given money wages, their theory states that if consumer prices were to rise a bit and so produce decreased real wages, numbers of workers (blue collar, white collar and perhaps salaried managers too) would throw down their tools, walk off their jobs and retreat home to "enjoy" a leisurely but worthless life of voluntary unemployment on the dole. The orthodox labor supply assumption also implies "that all those who are now unemployed though willing to work at the current wage will withdraw the offer of their labour in the event of a small rise in the cost of living" (ibid., p. 13). But this cannot be true.

Orthodox economists seemed blind to the humdrum fact that workers, blue and white collar alike, have positions to maintain. They have families to support, children to educate, mortgages to service and pension funds to nurture and other

obligations to meet as well. For workers to walk off their jobs voluntarily would be to abdicate their responsibilities to their families and to lose the respect and affections of their families, relatives, friends, neighbors and fellow workers. A small rise in consumer prices will not send a margin of workers marching into the economic and social miasma of voluntary unemployment. Workers will do may things in response to decreased real wages. They will seek over-time work, additional part-time jobs, increased family participation in the labor force and industrial action to name a few. What they will not do is voluntarily throw up their jobs in exchange for a life of daylight hours spent on park benches or in library reading rooms patiently awaiting a rise in the value of money. From this perspective, one can legitimately question the classical concept of "voluntary" unemployment. The real world has observed involuntary unemployed workers, retired workers, debilitated workers, casual workers and part-time workers. But has the world ever observed a regular member of the work force voluntarily unemployed because of a modest rise of consumer prices; voluntarily unemployed in strict obedience to the postulates of orthodox theory? With her eyes focused squarely on the real world, Joan Robinson noted (1937, p. 7) that

> the individual breadwinner without private means can never be in a position to refuse to work because real wages are too low to be worth the effort. He must earn what he can get or starve altogether. Even if he could retain his right to the dole after refusing a job at the ruling wage rate, he would find that the real dole had fallen as much as the real wage.

B. Keynes's Critique of the Neoclassical Market Clearing Assumption.

The orthodox market clearing mechanism implies that a reduction of money wages would reduce real wages and increase employment. Keynes did not agree. He opened his Chapter 19 analysis of the economic efficacy of money wage reductions with the observation that

> It was not possible ... to discuss this matter fully until our own theory had been developed. For the consequences of a change in money-wages are quite complicated. A reduction in money-wages is quite capable in certain circumstances of affording a stimulus to output, as classical theory supposes. My difference from this theory is primarily a difference of analysis. (CW, 7, p. 257)

Keynes noted that lower money wages would increase employment if they were "<u>accompanied by the same aggregate effective demand as before</u> ... [but] the precise question at issue is whether the reduction in money-wages will or will not be accompanied by the same aggregate effective demand as before" (ibid., p. 259).

Since employment is a direct function of effective demand, it follows that for reduced wages to produce additional jobs, they must do so by directly or indirectly stimulating effective demand. In order to stimulate demand, lower money wages would have to produce increases in either (a) the propensity to consume, (b) the marginal efficiency of capital or (c) reduce the rate of interest. With this clarified, Keynes then

conducted his detailed analysis of the effects money wage cuts would have on the propensity to consume, the marginal efficiency of capital, the rate of interest, the balance of trade, the terms of trade, business confidence and the increased burden of debt deflation visits (ibid., pp. 262-71). On the basis of his rather lengthy analysis, he concluded that falling money wages would have little effect, plus or minus, on the volume of aggregate demand and the level of employment.

> There is, therefore, no ground for the belief that a flexible wage policy is capable of maintaining a state of continuous full employment;--any more than for the belief that an open-market monetary policy is capable, unaided, of achieving this result. The economic system cannot be made self-adjusting along these lines. (ibid., p. 267)

In sum, to advance the idea that if only money wages and prices could flex downward, full employment would be gained is a hope which cannot be sustained. Rather than automatically securing a fully employed economy, a general deflation of wages and prices would bring

> widespread insolvencies and defaults and the collapse of a large part of the financial structure; after which we should all start again ... having suffered a period of waste and disturbance and social injustice, and a general rearrangement of private fortunes and the ownership of wealth. (CW, 9, p. 157)

Keynes strongly favored a stable money. To achieve this goal he recommended that employment be stabilized at some high level, but not so high as to bring on inflation. In the short-run he favored completely rigid money wages; that money wages should be both upwardly and downwardly rigid. Over a longer-run period Keynes reasoned that it would be in society's best interests if the general level of money wages were to rise along with the

growth of labor productivity. The alternate wage-price policy of stabilizing money wages and allowing prices to fall in line with rising labor productivity wold not suit debt encumbered capitalist economies.

In brief, Keynes saw that the flexible wage-price market mechanism assumptions and policy prescriptions of neoclassical theory cannot be applied to an entrepreneur economy. Rather than generate full employment, a general deflation of wages and prices could well plunge the economy into a crisis of reduced consumer and investment spending, increased unemployment, growing uncertainty, social unrest and social injustice and an increasingly fragile financial structure. Furthermore, Keynes's theory demonstrated that sticky money wages are <u>not</u> responsible for involuntary unemployment. Rather sticky money wages are essential to the stability of money values and, indeed, to the stability of capitalist systems. (Lerner, 1953, pp. 354-85; Wells, 1978).

C. The Neoclassical Labor Demand Function.

Through the first 16 chapters of the <u>General Theory</u> Keynes assumed competitive pricing and diminishing returns. Since he did make these two provisional assumptions, Keynes was bound to render a <u>qualified</u> acceptance of what he called "the first postulate" of the neoclassical theory of employment--their labor demand function, (N_d, Fig. 1).

> In emphasising our point of departure from the classical system, we must not overlook an important point of agreement. For we shall maintain the first postulate as heretofore, subject only to the same qualifications as in the classical theory; <u>and</u> <u>we must pause, for a moment, to consider what this involves</u>. (CW, 7, p.17, emphasis added)

What "this" (the orthodox labor demand function) involves is

that "with a given organization, equipment and technique, real wages and the volume of output (and hence employment) are uniquely correlated so that ... an increase in employment can only occur to the accompaniment of a decline in the rate of real wages" (ibid, p. 17) Again, on the same page, Keynes added that "the real wage earned by a unit of labour has a unique (inverse) correlation with the volume of employment." Twice Keynes stressed the real wage--employment relation, the neoclassical labor demand function, to be nothing more than a correlation! But if labor supply and demand do not determine employment and real wages, how then are these two magnitudes settled in an entrepreneur economy?

Keynes solved this problem with his own totally original theory of employment; a theory applicable to the world of today. It commences with this critical insight.

> For every value of N [employment] there is a corresponding marginal productivity of labour in the wage-goods industries; and it is <u>this</u> which determines the real wage. (ibid., p. 29, emphasis added)

It is "this," the level of employment which determines real wages, "not the other way around." But if employment determines real wages, what then determines the level of employment? Keynes answered that "The propensity to consume and the rate of new investment spending determine between them the volume of employment, and the volume of employment is uniquely related to a given level of [real] wages--not the other way around" (ibid., p. 30).

But Keynes's theory of employment contains much more highly

original economics than just these few critically important sentences reveal. His detailed theory of employment is grounded not on a set of assumptions, but on his acquired knowledge of the actual behavior of entrepreneurs and workers. The agents in Keynes's theory, workers and entrepreneurs, live, think and act in the real world of today. His theory opens with the following observation.

> All production is for the purpose of ultimately satisfying a consumer. Time usually elapses ... between the incurring of costs by the producer ... and the purchase of the output ... by the consumer. Meanwhile the entrepreneur has to form the best expectations he can as to what the consumers will be prepared to pay when he is ready to supply them ...and he has no choice but to be guided by these expectations, if he is to produce at all by processes which occupy time. (ibid., p. 46)

Keynes divided entrepreneurial expectations into two broad categories; short-term expectation and long-term expectation.

Short-term expectations are formed by both the producers of consumer goods and services and the producers of capital goods. These expectations have to do with "the price which a manufacturer can expect to get for his 'finished' output at the time when he commits himself to starting the process which will produce it; output being 'finished' ... when it is ready to be used or sold to a second party" (ibid., p.46). Long term expectation "is concerned with what the entrepreneur can hope to earn in the shape of future returns if he purchases ... 'finished' output as an addition to his capital equipment. In short, both the producers of consumer and capital goods form short-term expectations while it is the purchasers of newly produced capital goods who form long-term expectations.

Keynes adds that each individual firm's employment and output

decisions will be determined by its short-term expectations; expectations as to the sale-proceeds its output will fetch when ready for market and expectations as to costs of production on differing possible scales of production. But expectations alone do not determine the actual or "today's" level of employment.

Keynes added that the volume of employment is given by the intersection between the ... [expected proceeds function] ... and the aggregate supply function; for it is at this point that the entrepreneur's expectation of profit will be maximised" (ibid., p. 25). Thus the actual levels of employment are determined by entrepreneurs who adjust their rates of employment until the aggregate supply price of their respective outputs equals their expectations of sale proceeds. In essence the intersection of the aggregate supply function, Z, with the aggregate of expected sale proceeds, E(P), determines the actual volume of employment and the attendant real wage. Keynes defined this point of intersection to be "the effective demand" (ibid., p. 25).

Short-term expectations, Keynes wrote, are largely based on businesses' recently realized sale results.

> [In] practice the process of revision of short-term expectation is a gradual and continuous one, carried on largely in the light of realised results ... Thus in practice there is a large overlap between the effects on employment of the realised sale-proceeds of recent output and those of the [expected] sale-proceeds from current input. (ibid., p.51)

Figure 3 provides an outline of Keynes's theory of employment, output and real wages. This diagram plots his aggregate demand or realized sale proceeds function, (C+I), his aggregate supply function, Z, and the "today's" value of entrepreneurs' expected sale proceeds, $E(P)_1$. With Keynes's complete set of three

aggregate functions in place, we may describe the manner in which his theory determines the actual or today's level of employment and output and the short-run equilibrium value of these two variables. First, the intersection of the mass of expected sale-proceeds, $E(P)_1$, with the aggregate supply function, Z, at point a, the point of "effective demand," determines the actual level of employment, N_1. Next, after some periods of time have elapsed, the realized sale-proceeds fetched by the sale of product the employed labor force is given by the aggregate demand function, (C+I). With (C+I) shown to be lying above $E(P)_1$, the actual or realized flow of proceeds belonging to N_1 workers exceeds entrepreneurs' expectations by the amount (a1). The excess of realized sale-proceeds and the attendant rundown of inventories prompts entrepreneurs to revise upwards both their short-term expectations and thus their rates of employment and output.

The revisions of short-term expectations will shift the mass of expected proceeds upward and so bring it closer to the aggregate demand function. With this done, the actual level of employment will move closer to the equilibrium value as determined by the intersection of the aggregate demand and supply functions at point e. Provided the aggregate demand function remains unchanged, the continuing revision of expectations and employment will bring the economy to a full short-run equilibrium; a position defined by the fact that E(P) = (C+I) = Z as shown by point e. Keynes observed that it was unlikely that such a position of equilibrium would be achieved, and if achieved, would prevail for long. The chief reason he found for equilibrium being the exception rather than the rule was the transient nature of long-term expectations and the effect shifting expectations have on day-to-day levels of investment spending and hence aggregate demand. Long-term expectations "may change so frequently that the actual level of employment has never had time ... to settle down" (ibid., p. 48).

In entrepreneur economies it is aggregate demand which determines employment, output and society's flow of income. Both employment and the real wages are determined in the markets for final output; they are not settled in a labor market. Finally, we note that the real wage lies at the tail end of a time consuming causal train of expectations formed, workers hired, product produced and then marketed. Keynes's theory of employment well illustrates the futility of attempting to understand the workings of entrepreneur economies from an orthodox perspective (Dow, 1985).

II. The Neoclassical Theory of Aggregate Demand; Say's Law and their Theory of the Rate of Interest.

A. Say's Law

> If, however, this is not the true law relating the aggregate demand and supply functions, there is a vitally important chapter of economic theory which remains to be written and without which all discussions concerning the volume of aggregate employment are futile. (CW, 7, p. 26)

The classical theory of employment closes with the labor market in full employment equilibrium. Workers have been hired and are on the job producing a capacity flow of final product. But with this remarkable feat so easily, so axiomatically, accomplished a problem arises. Will the product produced by the fully employed labor force find a market? Will there be a market, a continuous market over time, real time, historical time, for the daily flow of goods and services which the neoclassical model of employment churns out? To solve this critical marketing problem, the orthodox writers simply laid down a pair of assumptions; Say's law and their flow supply and demand theory of the rate of interest. Together these assumptions create a market sufficient to purchase the economy's flow of final

product. But together these assumptions impose a highly restrictive theoretically unacceptable income expenditure agenda on both consumers and investors.

Say's law, or at least that version of Say's law which Keynes winnowed from assorted neoclassical writers, states that supply creates its own demand in the "sense that the whole costs of production must necessarily be spent in the aggregate, directly or indirectly, on purchasing the product" (ibid., p. 18). This law, the neoclassical theory of aggregate demand, compels the aggregate demand price of final output to equal its aggregate supply price. It requires that income be spent solely on final product; not so much as a dollar may be spent purchasing assets!

Orthodox economists fully realized that not all of society's income was directly spent purchasing consumer goods, a part was saved. To close this potential expenditure gap on GNP account, they laid down a second assumption; their theory of the rate of interest. Keynes (ibid., p. 19) identified this theory to be part and parcel of Say's law.

> As a corollary of the same doctrine, it has been supposed that any individual act of abstaining from consumption necessarily leads to, and amounts to the same thing as, causing the labour and commodities thus released from supplying consumption to be invested in the production of capital wealth.

Income not directly spent on consumer goods is borrowed by capitalists who then spend the whole of society's saving purchasing newly produced capital goods. The mechanism which transforms saving into investment spending is their supply-demand theory of interest (Section B below).

In sum, Say's law and its corollary assume that money is neutral; that the aggregate demand price of output is determined

by its aggregate supply price and that saving determines investment in the sense that income not spent purchasing consumers goods is spent solely on newly produced capital goods.

Though the orthodox theory of a self adjusting fully employed economy neither admits nor can explain the causes of booms and slumps, the professors of this theory were alert to the non-axiomatic fact that recessions and recoveries do occur in capitalist economies. Rather than attempt a theoretical explanation of cycles they remained content in their belief that they were due simply to

> miscalculation, or insufficient time to make the proper arrangements, or of a stupid obstinacy about the terms on the part either of the firms or of the factors of production. In fact unemployment could only be due to one of these aberrations of a temporary or otherwise non-fundamental character such as classical theory has always envisaged as a possibility. (CW, 29, p. 97)

In short, they explained booms and slumps be assuming a wrench had been thrown into the working mechanisms of the economy. In their view recessions and recoveries were mere transitory states; full employment, their model insists, is the norm. That the neoclassical theory of aggregate demand is incapable of analyzing booms and slumps, the common experience of entrepreneur economies, strongly suggests that this theory cannot be applied to the real world of today. Their theory is not appropriate simply because it does not fit the facts of modern capitalist economies.

Perhaps the most crippling aspect of Say's law in particular and neoclassical economics in general is their otherworldly assumption that money is neutral; that all income earned on GNP account is spent on final product. It is as if the factors of production were remunerated with a very peculiar currency which

could only be spent on GNP account; a currency incapable of purchasing a rare book, a promising horse, a piece of land, a Rodin. Though Say's law requires a "final product only currency," Keynes (ibid, p. 85) pointed out that such restrictive currencies are not to be found in capitalist economies. "It is of the essence of an entrepreneur economy that the thing (or things) in terms of which the factors of production are rewarded can be spent on something which is not current output." In the real world of entrepreneur economies money is spent, and, contrary to Say's law, money is spent purchasing everything that is for sale. Money from whatever source it may have come is spent on final product, spent purchasing assets, donated to charities and is taxed. Consumers, for example, may purchase new bicycles and secondhand bicycles, and they may purchase these objects with monies earned on income account or monies gained from the sale of assets. Businesses too may purchase new capital goods or secondhand capital goods with monies earned on income account, monies gained from the sale of assets, and monies borrowed from commercial banks. Clearly, the special currency Say's law, neoclassical economics, requires is a currency not to be found in the observable world of capitalism.

Obviously if income earned is spent, in small or large part, purchasing assets and if final product is purchased in small or large part with monies gained from the sale of assets, then Say's law most certainly is not a "true law" relating income and expenditure. Indeed it could not have been a "true law" well before the time of J. B. Say. The centuries preceding J.B. Say saw land, structures, cattle, ships, warehouses and numerous other assets exchanged for money. Doubtless the English professors of orthodox theory themselves, in direct violation of Say's law, must now and then surreptitiously slipped the odd shilling or two from their University stipends to purchase secondhand bicycles, wood burning stoves, books, a tea cozy or

any number of the other vast multitude of useful secondhand article which daily were exchanged in markets strewn across the breadth of England.

Despite the numerous practical failures Say's law suffers it is Keynes's General Theory which provides the required theoretical critique of this strained piece of economics. His outright dismissal of this law was simple and to the point. It begins with this crucial observation. "For the proposition that supply creates its own demand, I shall substitute the proposition that expenditure creates its own income, i.e., an income just sufficient to meet the expenditure" (ibid., pp. 80-1). Keynes had it right. Income is expenditure, the income of one is the expenditure of others. Wage, interest, rent and profit payments are the expenditures of businesses whose incomes, in turn, are the expenditures of those who purchase their products. Thus it is the aggregate demand price of output which determines the dollar flow of society's income. Income is tethered to aggregate demand, "not the other way around."

With the expenditure-income nexus correctly specified, Keynes's theory of aggregate demand came fully into play. This theory states that realized sale proceeds, the aggregate demand price of output, need not equal the ex post aggregate supply price of output. Over time aggregate demand fluctuates independently of ex post income and so rarely equals ex post income (CW, 7, pp. 47-50; 14, pp 175-89; Davidson, 1978). The fluctuating flows of aggregate demand that capitalist economies experience generate anew differing flows of income. That aggregate demand determines income, that income fluctuates in response to changing levels of spending on GNP account and that demand fluctuates independently of ex post income is the nucleus of Keynes's theoretical dismissal of Say's law.

To illustrate his anti-Say's law argument, we begin with an

entrepreneur economy in equilibrium. Aggregate demand, Y_d, aggregate supply, Y_s, and aggregate income, Y_i, equal one another and saving, S, equals investment, I. On the surface, this convenient equilibrium position looks very much like a Says's law world; $Y_d = Y_i$ and I = S. But of course it is not a Say's law world in which we live. To show that it is not, suppose that in light of revised long-term expectations, businesses reduce their investment spending by $X per unit of time. This reduction in spending promptly reduces businesses' realized sale proceeds and society's income by $X per unit of time. Thus "today's" aggregate spending and "today's" aggregate income both fall short of "yesterday's expenditure and income and Say's law is shattered. This of course could not happen in a Say's law world but it does happen in entrepreneur economies.

Keynes, borrowing from R. F. Kahn, found that the attendant multiplier decrease in aggregate demand following a decrease in investment spending would further reduce society's aggregate demand, income and employment. With the multiplier contraction completed, the decreased flow of aggregate income will have reduced society's saving by an amount equal to the decreased flow of investment spending. Hence, investment spending determines the level of society's savings; "not the other way around."

B. The Neoclassical Theory of Interest.

> The reader will readily appreciate that the problem here under discussion is a matter of the most fundamental theoretical importance. For the economic principle, on which the practical advice of economists has been almost invariably based, has assumed, in effect, that <u>cet. par.</u>, a decrease in spending will tend to lower the rate of interest and an increase in investment spending to raise it. But if what these two quantities determine is, not the rate of interest, but the aggregate volume of employment, then our outlook on the mechanism of the economic system will be profoundly changed. (CW, 7, pp. 184-85)

The orthodox theory of interest Keynes examined assumes full employment and, of course, neutral money. It rules out uncertainty, doubt and disappointment so that

"there is no occasion to hold inactive [money] balances, and prices must be constantly at a level which, merely to satisfy the transactions motive and without leaving any surplus to be absorbed by the precautionary and speculative motives, causes the whole stock of money to be worth a rate of interest equal to the marginal efficiency capital which corresponds to full employment" (CW, 14, p. 107).

Professor Dillard (1954, p. 6) explained that money is neutral

> in the sense that it does not affect the essential nature of transactions--it is not allowed to enter into and help to determine motives and decisions which influence the volume of output. Money is important only in the sense that it is more efficient than barter.

The neoclassical theory of interest consists of the usual triad of supply-demand equations; a demand for loanable funds, a supply of loanable funds and, of course, a market clearing equation (c.f., Fig. 3). This three equation model is a prime example of neoclassical theory for it well illustrates "The unreality of the [neoclassical] 'real' approach" (Dillard, 1954,p 5). It asserts that the price of money is determined just as the price of any ordinary commodity is settled, by flow supply and demand equations. It argues that an increased propensity to save, unless offset by additional investment spending, will lower interest rates and call forth added investment spending. Similarly, increased investment spending will raise the rate of interest unless offset by added saving. But best of all, the bond rate of interest and the matching of the flows of saving and investment obtains "without the necessity for any special intervention or grandmotherly care on the part of the monetary authority" (CW, 7, p. 177). It is a wonderfully simple theory; easy to learn, easy to teach. But

can it be applied to an entrepreneur economy?

Keynes quickly pointed out a fundamental flaw of this theory. He noted that

> The psychological time-preferences of an individual require two sets of decisions to carry they out completely. The first ... I have called the propensity to consume which ... determines for each individual how much of his income he will consume and how much he will reserve in some form of command over future consumption ... But ... there is a further decision which awaits him, namely, in what form he will hold the command over future consumption which he has reserved, whether out of his current income or from previous savings. (ibid, p. 166)

An individual living in an entrepreneur economy must select the form in which to hold his saving. He may, for example, allocate his saving (and reallocate his savings) between capital safe, income uncertain, highly liquid, short-term assets such as NOW accounts, Treasury bills, etc., and less liquid, capital unsafe, long-term assets such as bonds. The allocation of saving and the reallocation of savings between money and bonds depends on the degree of the individual's liquidity preference, "where an individual's liquidity preference is given by a schedule of the amounts of his resources ... which he will wish to retain in the form of money in different sets of circumstances" (ibid, p. 166).

Orthodox theory failed to recognize this necessary second step savers must take. This failure, the product of their neutral money assumption, proved fatal. Fatal because neoclassical theory requires that all saving be placed in newly issued bonds. Income saved could not be place in money or near money for that would violate Say's law. It could not be placed in land, existing structures sheep or even a single Epstein. Nor could saving be placed in secondhand intangible assets such as corporate bonds, common stock, Treasury bonds or other existing

debt instruments which daily are traded in entrepreneur economies. Savers can purchase new issues only! The implied absence of a secondhand market for bonds means that savers would be required to hold the new issues they purchase until death do them part, until either the bond or its owner expired.

The absence of a secondhand bond market would make new issues a highly illiquid unsuitable store of value; an unsuitable vehicle for transferring purchasing power to unknowable future dates. In the absence of secondhand markets for bonds, the market for new issues would shrink dramatically for it has long been recognized that a market for new issues depends on the existence of robust, well organized markets in secondhand bonds (Davidson, 1978). Indeed, the major function of bond markets is to make a market for new issues and to maintain the liquidity of these issues as they mature. Notwithstanding the axioms of neoclassical economics, if a secondhand market did not in fact exist, one would quickly come into being.

That entrepreneur economies do have well organized bond markets falsifies both the orthodox theory of interest and their assumption that money is neutral. The secondhand bond markets in New York, London and other major financial centers physically proves afresh each trading day that bond prices and hence long rates of interest are determined hourly by bull-bear buy and sell orders. Compared to the mass of secondhand bonds traded, the daily flow of new issues is but an insignificant drop in the ocean of existing issues traded (Townshend, 1937). Necessarily the price of new issues will be determined by the prices of secondhand bonds of similar maturity and quality. It would seem that in developing their theory the neoclassical writers chose the wrong trading instrument, new issues rather than existing issues, and the wrong market, a "new issues only" rather than the bond exchanges found in entrepreneur economies.

The presence of secondhand bond markets also falsifies the orthodox stricture that saving be spent *in toto* on new issues. In an entrepreneur economy, income saved may purchase new issues, but it may also purchase existing bonds, bills or any number of other tangible and intangible assets. A trader, for example, may finance his purchases of new issues with moneys gained from selling assets, from bank loans or moneys form other source whatever they may be. The issuers of new bonds care only that their bonds be exchanged for a satisfactory sum of money. They care not one whit whether the sale proceeds consist of moneys saved, moneys gained from the sale of assets, or moneys gained from running drugs. Sellers of goods, services and assets have absolutely no interest in the recent transaction histories of their sundry sale proceeds. On its own logically tight grounds, the orthodox theory makes sense. But on the parade ground of the real world of entrepreneur economies it is a "nonsense theory" (CW, 7, p. 179).

The neoclassical neutral money requirement that proceeds from the sale of new issues be spent solely on new capital goods too is a foolish piece of "real" economics. Just as savers are free to place their saving (and replace their savings) in tangible and intangible assets of their choice, the business recipients of new issue sale proceeds may spend these moneys purchasing new capital equipment, existing physical assets, reducing debt, building liquidity balances or any number of other non-GNP objects. It is absurd to suppose that money is neutral. It was foolish of the orthodox writers to have become addicted to a money that can purchase a package of Camel cigarettes but cannot purchase a three year old camel.

Although these practical shortcomings of the orthodox theory are crippling, they do not constitute a theoretical rejection of the orthodox theory. Unsurprisingly, it was Keynes's *General Theory* that provided the required theoretical critique. He opened his

argument with a point which he held in common with the classical writers.

> If the level of income is assumed to be given, we [Keynes and the neoclassical writers] can infer that the current rate of interest must lie at the point where the demand curve for capital corresponding to different rates of interest cuts the curve of the amounts saved out of the given income corresponding to different rates of interest. (ibid., p. 178)

Figure 4 illustrates this point of agreement. We suppose both the neoclassical model of supply and demand and Keynes's model of an entrepreneur economy to be in equilibrium. Saving equals investment at rate of interest R_1. From this diagram alone it would be difficult to determine whether the draftsman were a neoclassicist or a Keynes real world economist. But it is precisely at this point, this point of agreement, that "definite error creeps into the classical theory" (ibid, p. 178). This theory, Keynes rightly charged, "neglects the influence of changes in the level of income" (ibid, p. 179). Neoclassical theory asserts that if the investment demand curve shifted, or the saving curve shifted or if both of these curves shifted "the new rate of interest will be given by the point of intersection of the new positions of the two curves" (ibid., p. 179).

However, if either the investment or saving curve shifted society's income would change and it is this, the changed flow of income, which shatters the orthodox theory of interest. "In truth, the classical theory has not been alive to the relevance of changes in the level of income or to the possibility of the level of income being actually a function of the rate of investment" (ibid., p. 180). The orthodox supply-demand theory of interest breaks down at this point simply because the "two functions in question are <u>not independent</u>" (CW, 13, p. 538). Autonomous increases (decreases) in the investment demand function would, via the multiplier process, increase (decrease)

the volume of saving. Since two curves are not independent means "the functions used by the classical theory ... do not furnish the material for a theory of the rate of interest" (CW, 7, p. 181). Stated simply, the orthodox theory does not tell us how the rate of interest is determined.

With the aid of a diagram due to Roy Harrod, Keynes illustrated the theoretical collapse of the orthodox theory of interest with but one very simple conceptual experiment. Keynes assumed a shift in the investment demand curve from, say, I_d to I'_d (Fig. 3). Neoclassical theory states the new rate of interest will be given by the intersection of I'_d and S at point e. But this obviously cannot be true for the reduced investment spending will generate a multiplier contraction of society's income and society's saving. The leftward shift of the investment demand function to I'_d wilshift the dependent saving curve leftward. But how far to the left will the saving curve shift? At what point will the new saving curve intersect the displaced investment demand function I'_d? The neoclassical theory does not contain enough data to tell us what its new value will be; and . therefore, not knowing [the location of the new S curve] ... we do not know at what point the new investment demand schedule will cut it" (ibid., p. 181). The egregious failure of orthodox theory to survive this simple conceptual experiment constitutes an absolute denial of its validity when applied to entrepreneur economies.

Conclusion.

In the opening pages of the General Theory Keynes observed that

> At different points in this chapter we have made the classical theory to depend in succession on the assumptions: (1) that the real wage is equal to the marginal disutility of the existing employment; (2) that there is no such thing as involuntary unemployment in the strict sense; (3) that

> supply creates its own demand in the sense that the aggregate demand price is equal to the aggregate supply price for all levels of output and employment. These three assumptions, however, all amount to amount to the same thing in the sense that they all stand and fall together, any one of them logically involving the other two. (ibid., pp. 21-2)

Keynes rejected neoclassical macroeconomic theory in toto. However, it is interesting to find that he did not reject this theory on the commonplace ground of flawed logic. Their logic is impeccable; their assumptions determine their conclusions. Rather, Keynes dismissed the orthodox theory because their assumptions and the environmental framework these assumptions require are not to be found in the real world of modern industrial-financial capitalism. "There is a difference of the most fundamental importance between a co-operative economy and the type of entrepreneur economy in which we actually live" (CW, 29, p.78). In fact there are numerous "differences of the most fundamental importance" separating the cooperative and entrepreneur environments (ibid., pp. 66-102; Torr, 1980, 1988, Dillard, 1988). Difference so fundamental as to render the orthodox theory impotent when applied to entrepreneur economies. Differences so critical that to exercise classical economics on the playground of an entrepreneur economy would be akin to playing water polo in a coulee. "Nevertheless the greater part of classical analysis has been usually applied without compunction or qualification to an entrepreneur economy" (ibid., p. 78).

The following are but a few of the many environmental differences which distinguish the neoclassical and entrepreneur fields of play. (1) In a cooperative economy a firm will hire a worker if his/her marginal product exceeds the real wage. In an entrepreneur economy the worker in question will not be hired unless the entrepreneur's expectation is that the additional product will be sold at a profit. (2) "Fluctuations in

employment will primarily depend on fluctuations in aggregate expenditures relative to aggregate costs. This is the essential feature of an entrepreneur economy" (ibid., p. 91). The cooperative economy, on the other hand, is a self-adjusting system which does not experience fluctuations in aggregate demand unless a "spanner" has been thrown into the working mechanisms of the economy. (3) A cooperative economy assumes that supply creates its own demand while in an entrepreneur economy "expenditure creates its own income" (ibid., p. 81). (4) An essential feature of an entrepreneur economy is that money is capable of purchasing final product as well as things other than final product. The professors of cooperative economy economics assume that money is neutral. (5) The nature of production in a cooperative economy is a case of C--M--C′; of exchanging commodity or effort for money in order to obtain more commodity or effort. But the attitude of business in an entrepreneur economy is M--C--M′; of parting with money for commodity (or effort) in order to obtain more money" (ibid., pp. 81-82).

The severely constrained economic environment neoclassical macroeconomic theory requires bears no relation to the actual economic environment of modern capitalism. This, in brief, is the basis of Keynes's detailed critique of orthodox theory. What Keynes's critique failed to clarify is whether or not history has ever witnessed an economic environment suitable to the assumptions, logic and conclusions of this theory. If not, then neoclassical macroeconomic theory is but a mythical moraine.

NOTES

1. The author is grateful to G. C. Harcourt, Carlos Lopes, Christopher Marme, Karl McDermott, Larry Neal, Paul Straub, Christopher Torr and Jose Uribe for the generous help they provided.

2. All references to Keynes's writings refer to The Collected Writings of John Maynard Keynes (CW). CW, vol. 5 is the Treatise on Money, Part I, vol. 7 is the General Theory, vol 9 his Essays in Persuasion, vols. 13 and 14 are the General Theory and After, Parts I and II. Vol. 29 is The General Theory and After, A Supplement. Other references are indicated by author and date of publication.

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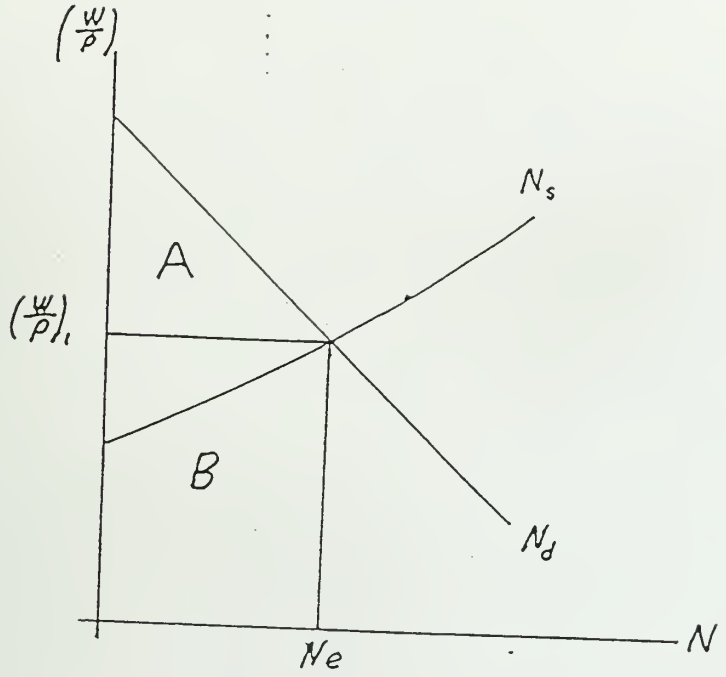

FIG 1

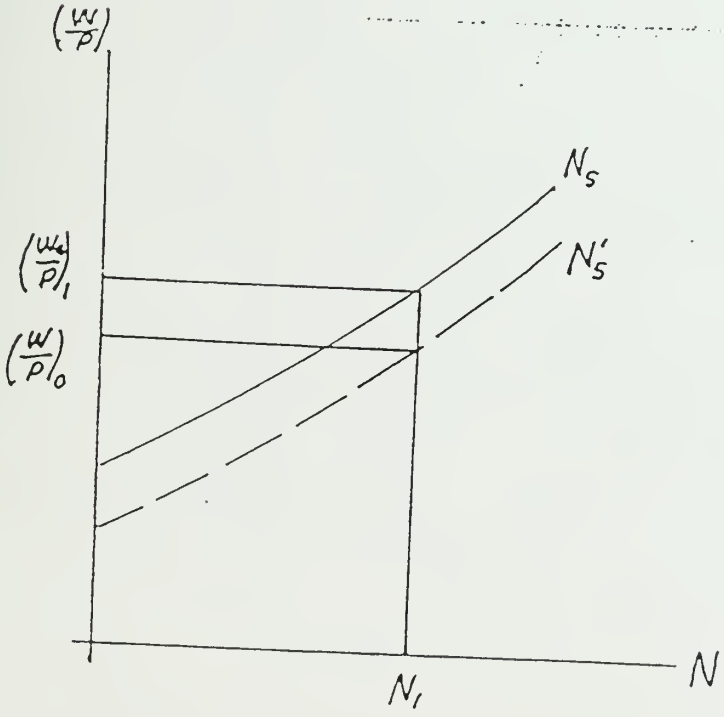

FIG 2

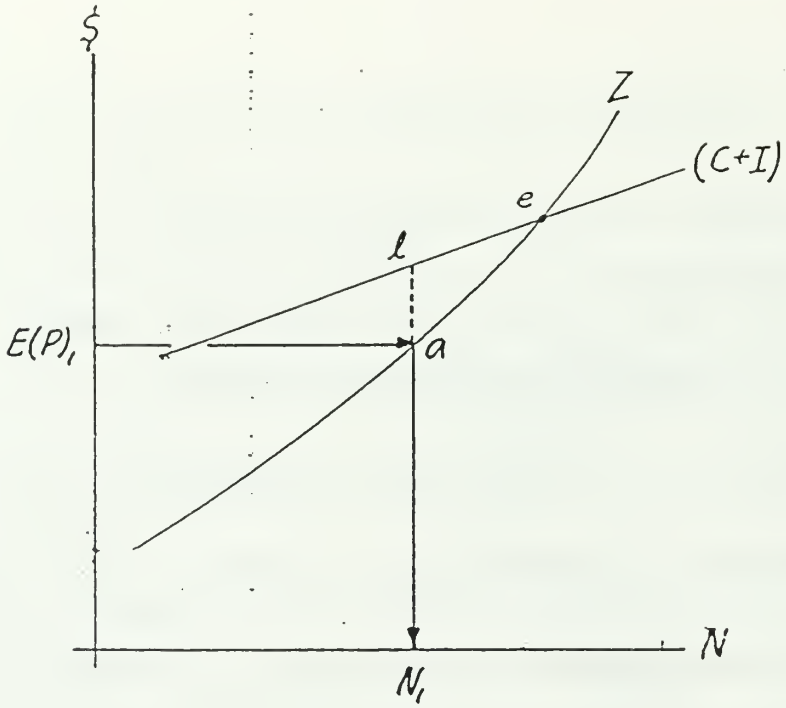

FIG 3

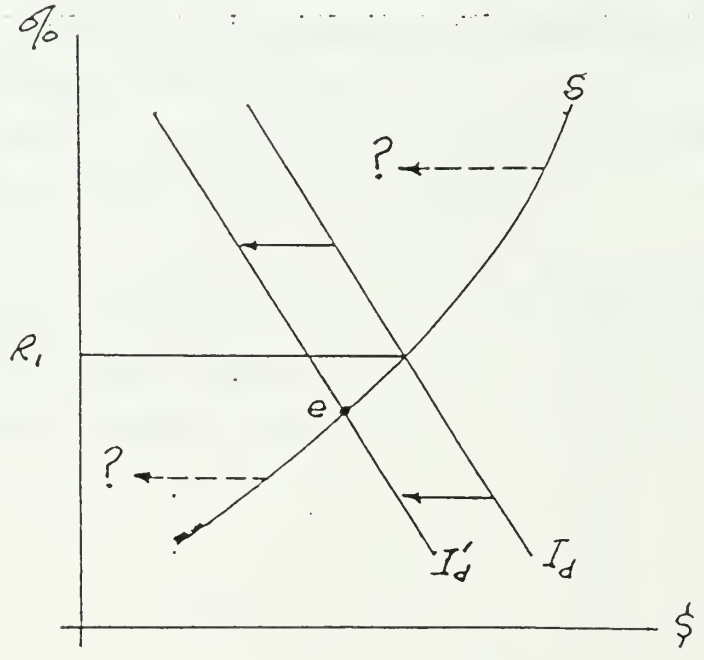

FIG 4