The Investment Gap

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Critics of Keynesian economic theory or policy do not usually stress its logical inconsistency. What in their opinion is wrong is that the underlying factual assumptions are unrealistic or, more specifically, correct only in very special cases. Their charge is similar to that of Keynes against classical theory: that its assumptions are in general not

‘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.’

The miracles the Keynesian system works can be attributed to the data taken as dependent and independent variables and as fixed, plus certain assumptions concerning the shape of important functions, especially the consumption, money supply and investment functions. Change these assumptions to what non-Keynesians consider more realistic terms and the classical or neo-classical theory reappears like an old picture when the layers of paint laid on by successive generations are removed.

To a certain extent the Keynesian factual assumptions were never correct; to another extent they have been invalidated through changes of the last decade. It is not pure chance that ‘modern employment theory sheds little light’ on the practical problems of today, which are essentially problems of wage-price relationships—and at least for the time being—of over-abundant, not of deficient demand. But with the lag peculiar to economics, publications based upon the Keynesian approach are more frequent than ever.

In my article ‘Wage Flexibility Upwards’ I tried to show that Keynes’ wage assumptions, so essential to his investment theory of employment, must be considered unrealistic and/or anachronistic. In the ‘Anachronism of the Liqui-

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3 That Keynesianism and its success are due to a certain historical constellation becomes clear when one reads reactions from outside the Anglo-American deflation-fearing realm. We quote at random: ‘An entire world separates us from the conceptions of modern economics which, influenced by Keynes, considers that full employment is threatened mainly by the lag of investment behind saving. How far this theory is valid for the English economy is not for us to decide. As far as present German conditions are concerned, it sounds like a bad joke.’ (Translated from Der Wirtschafts-Spiegel, Wiesbaden, Oct. 1, 1947, p. 365.)
dity preference Concept' 1 I tried to do the same for the assumptions underlying the liquidity preference concept. In the present article I examine the assumptions underlying the so-called ‘investment gap approach’, especially those concerning the consumption and the investment-demand functions.

Anyone familiar with Keynes’ theory will agree that if these three cornerstones—the assumptions concerning the behavior of people in matters of wage demands, liquidity preference, and consumption—were removed, nothing would remain of his system except a formal construction inadequate to describe and explain reality. And the far-reaching conclusions for economic theory as well as policy derived by those who think along Keynesian lines would have to be revised in many respects.

I. The Basic Difference between the Classical and the Keynesian Attitude

The investment gap approach is responsible for the emphasis modern theory lays upon consumption as the prerequisite for production. And it is responsible, too, for the attitude of our times, so favorable to spending and so unfavorable to saving—an attitude fundamentally different from the classical, which always deemed saving a virtue.

For the classical economists the problem of filling ‘the gap’ 2 between saving and investment did not exist. Interest rates were supposed to keep saving and investment always in balance. Keynes, on the other hand, believes that increased savings are not necessarily absorbed by investment in the wake of falling interest rates. If they are not absorbed, the balancing of saving and investment takes place through a decline in saving in the wake of a decline in employment to what can be called a ‘poverty equilibrium’: ‘there must be sufficient unemployment to keep us so poor that our consumption falls short of our income by not more than the equivalent of the physical provision for future consumption which it pays to produce today’. The result is that the economy ‘remains in a chronic condition of sub-normal activity for a considerable period without any marked tendency either towards recovery or towards complete collapse’ 4. Thus, if investment is not increased, expansion of employment is hindered unless consumption keeps pace with production. In short, saving regulates employment.

Keynes’ assumptions in this as in other important problems cannot help being unrealistic because, in trying to establish a ‘general’ theory, he makes statements concerning the behavior of men in general, whether in short or long term situations, under dynamic or static conditions. His purpose is to overcome what he considers one of the weakest points in prevailing theory—the inconsistency between general and business cycle theory. But men’s reactions to more income vary with circumstances; therefore a ‘combination theory’ which attempts to cover all cases really covers none.

2 Keynes, p. 98.
3 Idem, p. 61.
4 Idem, p. 31.
Dividing *Keynes’* combination theory into its components and distinguishing short and long term equilibrium situations on the one hand and dynamic and static conditions on the other, we shall discuss in turn: (I) ‘general’ short run equilibrium; (II) cyclical movements; and (III) long run equilibrium 1.

We shall try to prove that

a) an investment gap approach is not applicable in the case of general short term equilibrium because the consumption (or saving) function does not have the form *Keynes* assumed;

b) cyclical depressions are neither induced nor aggravated by unabsorbable savings; something quite different, what we call ‘waiting’, is at work;

c) in long term equilibrium an investment gap, while conceivable under special conditions, could at best explain a progressive decline in employment, never stagnation, i. e., a long lasting low level of economic activity.

II. The ‘Psychological Law’ and Its Implications within *Keynes’* System

*Keynes* makes the relation between an increase in income and in consumption or saving the basis of his entire system. Calling it a ‘psychological law’ he gives it two forms: a stronger and a weaker.

In its weaker form the law states that when income increases, consumption also increases but somewhat less; i. e., marginal consumption never equals marginal income:

> ‘the fundamental psychological law, upon which we are entitled to depend with great confidence both *a priori* from knowledge of human nature and from the detailed facts of experience, according to which men are disposed, as a rule and the average, to increase their consumption as their income increases, but not by as much as the increase in their income.’

In its stronger form the law states that marginal consumption not only never equals marginal income but that the ‘marginal propensity to consume falls steadily as we approach full employment’ 3.

Both statements are meant as ‘general’ statements. They are supposed to apply to all sorts of increases in income, whether due to cyclical and other short term changes or to improvements in productivity and other long term changes. This is obvious if by nothing else than his remark: ‘We have short periods in view, as in the case of the so-called cyclical fluctuations of employment’ 4; and by his further remark that the psychological law is valid ‘apart from short period changes’ 5 although not for ‘far-reaching social changes or... the slow effects of secular progress’ 6.

What is the significance of the psychological law in *Keynes’* system?

a) It serves to establish an unemployment equilibrium. Given a certain amount of investment and given a consumption function that obeys the psychological

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1 See my *Volkswirtschaftliche Theorie des Bankkredits* 3rd ed. In the first two editions I sought to give a ‘general’ theory of the effects of credit expansion; in the third edition I differentiated sharply between static and dynamic situations.

2 *Keynes*, p. 96.

3 *Idem*, p. 127 (italics mine).


5 *Idem*, p. 97.

law, employment is, so to speak, squeezed down by the lack of demand due to the deficiency of consumption (or increase in saving) that would follow higher employment: 'the insufficiency of effective demand will inhibit the process of production.' For if 'entrepreneurs were to increase employment as a whole, their proceeds will necessarily fall short of their supply price'\(^2\). Therefore 'the increased employment will prove unprofitable unless there is an increase in investment to fill the gap'\(^3\).

To establish this employment equilibrium, the psychological law in its weaker form suffices.

\(b\) It serves to explain at least in part why prosperity does not last. As income increases during prosperity, saving increases. If a demand deficit is to be prevented, the current rate of investment must rise. However, it becomes increasingly difficult to find new investment opportunities. This line of thinking places Keynes distinctly in the ranks of the over-saving or under-investment business cycle theorists. It is expressed in various passages General Theory, although, as we shall see, contradicted in others. It is given its most striking formulation when it is used to explain the crash of 1929:

'it became almost hopeless to find still more new investment on a sufficient scale to provide for such new saving as a wealthy community in full employment would be disposed to set aside. This factor alone was probably sufficient to cause a slump.'\(^4\)

\(c\) It serves to explain why allegedly modern economies must remain in a state of chronic underemployment in the long run: 'to fill the gap between net income and consumption, presents a problem which is increasingly difficult as capital increases.'\(^5\)

For the second and third purposes, too, the psychological law in its weaker form suffices. If saving in the current production period is to be to only the slightest degree larger than in the preceding, the rate of investment must rise; otherwise, income can not increase. However, investment would obviously have to increase much more if the psychological law in its stronger form were valid. On the other hand, in the long run, an investment gap from the investment side could threaten even if there were no psychological law whatsoever. Even if saving, while remaining positive, does not increase at all, a continuous addition to the capital stock could in time lead to a saturation of the economy with capital and thus to a downward shift of the investment curve.

Our main problem remains, however: Is there a 'psychological law'? And if so, can it have the effects attributed to it in Keynesian theory? The answer depends largely upon how the increase in income comes about:

\(a\) Aggregate real income can increase if entrepreneurs engage former unemployed workers because, for instance, wage demands have been lowered. This is the case Keynes treats in his Chapter 19 (Changes in Money Wages)\(^6\).

\(b\) Income can increase in the wake of and through the peculiar mechanism of the credit expansion characteristic of cyclical upswings.

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\(^1\) *Idem*, p. 31.  
\(^2\) *Idem*, p. 261.  
\(^3\) *Idem*, p. 98.  
\(^4\) *Idem*, p. 100.  
\(^5\) *Idem*, p. 105.  
\(^6\) *Idem*, pp. 261 ff.
c) Aggregate real income can increase by reason of the greater productivity of labor brought about either by technical progress or the use of more capital. This is essentially a long run increase.

III. 'General' Short Run Equilibrium: Income rises when employment increases after wages have been reduced

Keynes' presupposition in the case of short run equilibrium is that a deflation threatening in the wake of higher employment would prevent any improvement in the rate of unemployment. But that need not be the case. Suppose wage demands are reduced 10% and aggregate income—through increased employment—is raised 20%. If half of the 20% is saved, prices would be deflated 10% on the average. Thus the effect of the decline in the supply price of labor would be nullified and an increase in employment indeed prevented. However, if less than half is saved, employment would increase despite the deflation of the price level.

We shall not discuss the possibility of a deflationary employment increase here. Instead we concentrate on the question whether an increase in employment can lead to deflation.

'In general' people tend to use part of an increase in income to provide for the future. No psychological law is necessary to explain this behavior. Under modern conditions people, except the very poor, always devote part of their income to the future, if only in the form of life, old age, or sickness insurance. It has, furthermore, often been verified empirically that the saving-income ratio is usually higher in rich than in poor families.

However, the increment to income from an increase in employment induced by lower wages—the case Keynes really has in mind in Chapter 19—cannot be called a 'general' case. It is a very special case. Only if violence is done to the facts can the psychological law be considered to work here. It has in this special case never been verified statistically, and probably never can. For most increases in employment are cyclical and not due to a spontaneous decline in wages; and when wages do decline spontaneously, the effects could hardly be separated from those of simultaneous cyclical developments.

Moreover, probability points against the working of the psychological law in this special case. For here the addition to the income of the community comes from the income of the former unemployed—according to Keynes: 'not all the additional employment will be required to satisfy the needs of additional consumption.' If any general rule on the behavior of the newly employed—former unemployed—can be established, it is that they probably spend all their earnings. And even if they saved, the saving would be of negligible signi-

1 For the opposite phenomenon 'inflationary employment recession' see Wage Flexibility Upwards, p. 164.
2 Idem, p. 97 (italics mine).
ficance. For all practical purposes the curve of spending and the curve of in-
come coincide if the increase in aggregate income is due to new employment.

To state the contrary and to use the statement as a basis for a general
theory of employment seems therefore entirely unrealistic.

Nor can it be assumed that the newly employed increase aggregate saving
because they stop dissaving. Usually the unemployed live on the earnings of
members of their family or on unemployment relief, which in turn is financed
by taxes on the income of other members of the community, not on their capital.

But it could be objected: Suppose the unemployed have been supported
by public deficit spending, i.e., by spending the savings of the community.
Then such dissaving would decline as unemployment declined. However, this
objection would merely introduce governmental anti-depression measures into
the argument. When governmental deficit spending stops, deflation may follow.
But such deflation does not occur because people are inclined to save parts of
their income in accordance with the psychological law. It occurs because the
government ceases to spend the savings of the community.

It has furthermore been argued: If employment increases after wages have
been reduced, the income of entrepreneurs increases, and of this new income
a part will be saved. This is not the case Keynes had in mind when he established
the relationship between increased income and saving. For, as a simple graph
would show, such new income of entrepreneurs does not mean an additional
income to the community. It merely means that the distribution of income has
been altered. Profits have increased at the expense of wages. Such redistribution
of income might of course lead to more aggregate saving, but it need not.

Under present conditions saving would probably even decline, not increase,
because income would be shifted from lower to higher tax brackets. This may
otherwise, but never so generally and so automatically that it warrants the
establishment of a law according to which increase of employment through wage
lowering must lead to deflation via increase in saving.

The whole Keynesian «formal analysis» suffers furthermore from the in-
consistency that it takes into account the effect of wage lowering and employ-
ment increase on saving but not on investment decisions, that are not in the
slightest less probable. Every businessman expects in fact—and not without
reason—that in an otherwise neutral atmosphere wage lowering leads to an
inflationary boom via increased investment rather than to a deflationary de-
pression via increased saving. And if the news would spread that the unions
had lowered their wage demands a boom on the stock market and not a slump
would develop. This is one of the chief reasons why Keynesianism appears so
very unrealistic to practicians. The theorist will object that an equilibrium
analysis must take all reasonable reactions—and not just one—into consideration.
By failing to do so one can indeed demonstrate the possibility of equilibria
that are most amazing to classical thinking. But they are no real equilibria in
any correct sense of the word, not even short term equilibria, but at best tran-
sitory situations.
What then limits employment if not a deflationary pressure from an investment gap? In «general» or «formal» analysis the answer can only be the answer of the classical economists: employment is dependent solely upon the wage level and the marginal productivity of labor.

IV. A Digression: Prices and Employment in an Economy with a Perfectly Elastic Money Supply

Of course the problem remains whether an increase in employment will not be hindered by a scarcity of funds to meet the bigger payroll, especially when the demand for labor is very elastic, so that a slight decline in wage rates leads to a big increase in employment. Formerly, this impediment to employment was extensively discussed in connection with the ‘neutral money’ problem. However, if meeting a bigger payroll, and thereby an increase in employment, is hindered by an under-supply of money, the reason is clearly not an excess but rather a deficit of investible funds. Furthermore, the problem would not be how to pay for the products of the newly employed but how to pay their wages. Obviously, this problem does not exist as long as the supply of money is almost perfectly elastic at a very low interest rate level. As this is written (March 1948), the trouble is that entrepreneurs, if their credit is good, can obtain all the additional money they need for bigger payrolls at practically the same low interest cost, not that they cannot obtain it.

Parenthetically it may be added: the quantity of money plays, as is well known, an important role in Keynes’ system as an independent variable. It is held responsible for certain changes in investment and employment. If the money supply curve remains unchanged as the result of deliberate government policy, the quantity of money of course ceases to be an independent variable. And if the supply curve has not only become stable but also almost horizontal, the supply of money being almost perfectly elastic, the quantity of money can hardly be considered useful any longer as a fixed datum in any equilibrium analysis.

Indeed, the problem now is not how to meet payrolls inflated by full employment but how to prevent payrolls—and the price level—from inflating indefinitely. What then puts a ceiling on prices and wages when money is not scarce; what keeps them from skyrocketing? It is sometimes argued that wages and prices cannot rise indefinitely because the purchasing power to buy the products at higher than prevailing prices would be lacking. The flaw in this argument is that high wages create in the aggregate purchasing power sufficient to absorb at least the price increases due to them.

Now, if no wage increase need ever lead to the situation so feared by Keynes—where the proceeds from production fall short of the outlays—why do entrepreneurs not grant every demand for an increase in wages? A ‘circular analysis’, reckoning with a limited money supply, can give no answer after the money supply has become perfectly elastic. Obviously, it would also be a vicious circle to assume that the prices entrepreneurs expect for their products act as a ceiling
on wage increases. For the prices themselves are a function of the demand created by the wage increases. The answer can be given only by ‘chain analysis’, according to which entrepreneurs reckon with the price pattern of the past, which they consider stable as long as optimistic or pessimistic expectations do not suggest markups or markdowns.

Our assumptions concerning the elasticity of the money supply may not seem entirely warranted. In fact, there are signs that the prevailing easy money policy cannot be maintained indefinitely. It nevertheless seems more useful to base an analysis on a state of affairs in which the money supply is perfectly elastic than to continue to assume that the economy will constantly be disturbed by a scarcity of money.

V. Cyclical Movements

A. Can increases in saving due to rising income (shifts along the income curve) lead to depression?

Undoubtedly during cyclical upswings saving increases, not only absolutely, not only proportionately to the increase in income, but even more than proportionately. However, there seems no proof and not even a probability ‘that the marginal propensity to consume falls off steadily as we approach full employment’². Saving is apparently greatest at the beginning and middle of an upswing.

The special case of high saving during cyclical upswings evidently impressed Keynes so much that he felt impelled to formulate his general psychological law. In fact, everything he says about income and saving fits this case, the case of ‘prosperity saving’, as we would like to call it.³ But is prosperity saving due to an increase in income by reason of higher employment? It may be conceded that over a longer period the newly employed too begin to save. Yet if Keynes is right, wages tend to lag behind prices during a boom. According to the psychological law, however, declining real wages would mean decreased saving. On the average, saving would scarcely increase.

The windfall profits that accrue during an inflationary boom offer a better explanation. Unless taxes are too progressive, the savings of profiteers overcompensate the decline in the savings of the victims of inflation. Such savings have correctly been called ‘secondary’ or ‘induced’ savings⁴.

The paramount reason for ‘prosperity saving’ seems, however, to be that the monetary expansion is not recognized as such at the beginning or even in

¹ See Article 14, Anachronism of the Liquidity Preference Concept.
² Keynes, p. 127.
the middle of an upswing, by either buyers or sellers. People are not prepared to compete for the goods on hand by bidding prices up. Buyers prefer to wait in the hope that goods will soon be plentiful at the old prices. On the other hand, sellers do not mark up their prices because they hope they will be able to replace their inventories at the old price. In other words, at the beginning of an upswing and far into prosperity a sort of voluntary rationing and price ceiling system prevails. Although goods are available in only limited amounts, their prices are not raised. In wartime this system is enforced by laws and regulations. It is in large degree responsible for the huge amounts of 'war savings'. What happens during a war boom in this respect is nothing but a replica of an ordinary boom on a gigantic scale.

So the increase in saving during an upswing has nothing to do with the stickiness of spending habits, i.e., with the reluctance of people to spend all their increased income on current consumption. It has to do with the stickiness of price expectations. Prosperity saving is, in other words, caused essentially by inflation that is not recognized as such. One might therefore call it 'inflationary saving'.

But whatever its origin, prosperity saving can never explain how a boom can end for lack of sufficient investment opportunities, certainly not, if one subscribes to Keynes' general statements about the relations between investment, income, and saving. According to these the increase in saving during an upswing is due to increased income, which in turn is due to increased investment typical of prosperity. What is really the consequence of investment can never be the cause of a deficiency in it. Investment is always sufficient to absorb the saving it creates. And because investment financed by credit expansion brings on inflation which in turn leads to saving, such saving is not a deflationary force but a force that at best can dampen the inflationary force of investment financed by additional credit.

Thus the form of a curve showing the propensity to consume at various income levels during an upswing is relevant only for the degree of the inflation caused by the increased investment. If the propensity to consume is high, investment will have strong inflationary effects. If the propensity to consume is low and therefore saving high, the effects of investment will be less inflationary. But the form of the consumption function can never be of any importance for the capacity of investment to absorb saving. Abundance of saving cannot explain the deficit in investment at the beginning of a depression. Even in the last minute of the boom saving is absorbed by the very investment that brought it into existence.

Under one condition alone could investment create saving it could not absorb—if the increased income led to a decrease in consumption. In this case investment would be impossible, because a resulting saving would not only hinder inflation but cause deflation. Such a form of consumption curve, however, is highly improbable.

1 Keynes, p. 184.
The situation prevailing at the end of an upswing shows in fact that saving, increasing during and by reason of the upswing, has nothing at all to do with terminating it. For until the downward shift in investment and consumption causing the turn really sets in, the situation is characterized by inflation and/or high interest rates; there is neither deflation nor an abundance of new saving such as a ‘wealthy community in full employment would be disposed to sed asie’\(^1\). In any case, the turning cannot be caused by savings increased by ‘shifts along the curve’.

By conceding that the form of the consumption function is relevant for the inflationary effects of new investment, we do not wish to imply that the consumption function, though perhaps stable in the long run, remains stable during the cyclical upswing and that it is determinable in advance—an assumption underlying the so-called multiplier concept. To what degree money is spent or saved during an upswing, and what forces are at work at every stage, is just the question business cycle theorists try to solve. To this end they analyze the dynamic process of the upswing and the resulting changes in profit expectations. The ‘multiplier’ concept, however, is either a *truism*—in stating that money not saved is spent until it is finally saved; or it is a *petitio principii*—in implying that a constant portion is saved or spent. The problem is: How big will the various portions be? What will happen during a certain period after the government has spent a billion dollars on public works; what will be the various consumption quotas?

B. Can spontaneous increases in saving or decreases in investment (shifts of the curves) lead to depression?

(1) Independent increases in saving and decreases in investment.

In the main parts of his *General Theory Keynes* considers an increase in saving induced by an increase in income as the cause of subnormal activity. On the other hand, he seems to think that cyclical depressions are due to a spontaneous increase in saving and/or a spontaneous decrease in investment. The reason he gives for the 1929 crash in the passage quoted\(^1\) could be interpreted in this way. Compare, furthermore, the well-known passage in his Chapter 19 (notes on the Trade Cycle)\(^2\) where he attributes the depression to a breakdown of ‘optimistic expectations as to the future yield of capital goods sufficiently strong to offset their growing abundance and their rising costs of production and probably, a rise in the rate of interest also’.

Here Keynes is clearly an adherent of the old over-saving under-investment—via over-investment—theories. For, according to these theories, during prosperity so much capital equipment is built up that finally all investment opportunities are exhausted, the investment curve shifts downwards, and deflation and depression ensue.

A decrease in consumption—leading to an increase in saving—or a decline in the rate of investment (for the reasons just mentioned or for others)

\(^1\) *Idem*, p. 100. \(^2\) *Idem*, p. 315.
cannot, however, lead to anything resembling the typical pattern of crises and depressions, except in very special cases:

a) If an increase in saving (in the usual sense of the word) or a decline in the rate of investment by reason of the exhaustion of opportunities were causative, the boom would peter out, not end suddenly.

b) During a crisis and in the first phases of a depression, interest rates rise. Investment demand, especially for financing unsalable inventories, is high. There is no 'over-saving'; rather there is 'under-saving', as certain business cycle theorists contend. Deflation is not brought on by an investment gap, i.e., by a weakening of the demand for investible funds relative to the supply, but by 'liquidity preference', i.e., a curtailment of the supply of funds from the 'money side'. Incidentally, such a deflation will, as I tried to show in the 'Anachronism of the Liquidity Preference Concept', hardly occur in the future because the institutional changes of the last decade render deflation unlikely.

c) Some time after the break, a new sort of deflation develops—the so-called 'self-deflation' accompanied by low interest rates. But this self-deflation is not brought about by an increase in saving in the usual sense of the word or by a decrease in investment—if each works independently. For:

If more is saved—investment schedules remaining the same—interest rates will fall, uncovering new investment opportunities. This fall will not be hindered by the disappearance of money into hoards or into central banks. Not until interest rates have reached zero or what creditors consider a minimum rate to compensate the inconvenience and risk of lending is their fall halted. But a reduction to or near zero is highly improbable unless something else happens to depress interest rates.

If the investment demand curve shifts downwards—the consumption or saving curve remaining unchanged—interest rates will fall, again uncovering new investment opportunities. For the reasons just mentioned, no deflation will occur.

d) A fall in interest rates to zero or a minimum rate undoubtedly occurs and causes deflation during cyclical movements. Such a fall, however, can be brought about only if a decline in consumption of a very specific kind is accompanied by a decrease in investment of a very specific kind.

(2) Simultaneous increases in saving and decreases in investment.

The statement that depressions are brought about by simultaneous decreases in consumption and investment is quite in line with Keynes' ideas, as expressed in another passage of his 'Notes on the Trade Cycle'. Here he attributed lack of demand to simultaneous declines in the propensity to consume and to invest.

1 In the 'Anachronism of the Liquidity Preference Concept' I tried to show that, under present conditions, demand for money to hoard is not stimulated by a reduction in interest rates.

2 Wicksell and his school used this idea to explain why an economy does not emerge from a depression immediately after investment demand has declined. Under modern easy money conditions, too high discount rates can hardly be considered to cause a drain on money and thus prolong depressions.
Not quite consistently with his general approach, he considers the breakdown of consumer demand to be ‘induced’ by a breakdown in demand by investors rather than the other way round: ‘Unfortunately a serious fall in the marginal productivity of capital also tends to affect adversely the propensity to consume.’ But wherever the movement starts, at a cyclical peak the propensity to consume is supposed to diminish, the propensity to save to increase, and the propensity to invest to diminish.

A decline in consumption is sufficient to explain a decline in investment. There is no need for an ‘over-investment’ theory, according to which, given a certain amount of consumption, investment will decline independently because investments have been so numerous during the boom as to exhaust new opportunities.

Keynes states correctly that ‘over-investment’ has two meanings:

‘It may refer to investments which are destined to disappoint the expectations which prompted them or for which there is no use in conditions of severe unemployment, or it may indicate a state of affairs where every kind of capital-goods is so abundant that there is no new investment which is expected, even in conditions of full employment, to earn in the course of its life more than its replacement cost.’

And he concludes: ‘Over-investment’ in the second sense of the word is not ‘a normal characteristic of the boom’. People may be ‘over-bought’, but never ‘over-invested’. It seems advisable to make this basic difference between over-buying and over-investing quite clear.

Obviously the yield on capital can increase for two reasons:

i) the marginal utility of capital increases because of technological progress;

ii) Prices rise during the production period or—in the case of speculative investment in inventories—during the period of speculation.

Now it may be that during the upswing investment turns out to have been temporarily ‘over-accelerated’, because people have overestimated the technical profitability of capital. But, as explained above, such autonomous ‘over-investment’ would lead only subsequently to low interest rates, not to a demand deficit, and surely not to a deficit that appears suddenly.

So expectations concerning the second alternative must be at work. Observation proves indeed that demand for investment does not subside because entrepreneurs become skeptical about the technical profitability of capital. It subsides because entrepreneurs become skeptical about the demand for their products. Thus, not a general pessimism about the yield of investments, but a very special pessimism, namely, about consumer demand, is at the root of the reluctance to invest. In any event, depression is not due to too much investment.

1 Keynes, p. 319.
2 Idem, p. 321.
3 In comparison to high but still not sufficiently high interest rates, as Wicksellians would put it.
4 Except under very special conditions of credit demand as those assumed by Prof. Schumpeter. The Wickselian sudden contraction of credit supply through belated action of central banks will hardly happen in the future.
In fact, during a depression one buys in order to apply more capital to a unit of labor so as to reduce costs. Genuine over-investment is not ‘a normal characteristic of a boom’. Nor is, consequently, genuine oversaving: Savings increasing from slow changes of consumption habits are always absorbed in an economy in which there is no ‘overinvestment’.

This is sometimes denied because during a depression the prices of capital goods fall more than those of consumer goods. Likewise, stocks drop sharply under the impact of lower earnings and perhaps higher interest rates. But only the prices of capital goods frozen into a certain, hitherto optimum, combination with labor decline more than proportionately. If a factory is built to employ 10,000 workers, it obviously cannot be run at a profit if only 5,000 work. However, the prices of capital goods not already frozen in certain combinations with labor and produced currently do not decline over-proportionately; and the entrepreneur who has the courage to build a plant during a depression does not have to pay any more on the average than if he bought consumer goods. Existing under-utilized equipment, in contrast, is marked down to the price at which the earnings, low because of ‘false combinations’, are capitalized at the prevailing interest rate.

(3) Saving vs. Waiting.

Investment declines are induced through consumption declines. But is such a decline in consumption really saving? We think it is not and that it should be clearly distinguished from genuine saving. The indiscriminate use of the term is at least partly responsible for the fact that Keynes and even more his followers attribute the end of prosperity to ‘saving’. The decline in spending for consumption that occurs in crises and depressions should therefore be called by a special name, for instance, ‘waiting’, although in earlier literature ‘waiting’ is sometimes used synonymously with saving. And the increase in spending that happens during a boom and is induced by the expectation of higher prices should be called ‘hurrying’. That Keynes should treat ‘saving and waiting’ as one and the same phenomenon, namely, as a deficient propensity to consume, is only natural. In a timeless analysis, which is not concerned with the sequence and causality of events, a reduction in consumption must appear to be of the same nature whether due to a desire to provide for the future, as in the case of genuine saving, or to hope or fear of price declines as in the case of ‘waiting’. For while waiting, like saving, certainly reflects a declining propensity to consume, its concomitants and, consequently, its causes, effects, and the remedies for it, are totally different. Before Keynes the two phenomena were clearly distinguished, and ‘waiting’ was called ‘buyers’ resistance’ or ‘buyers’ crisis’ (the latter in German Absatzzustrockung or Absatzzkrise) and, in line with common usage, never identified with saving. A return to this pre-Keynesian distinction seems warranted because saving and waiting differ in several ways:

i) In motive. One saves out of prudence; one waits only because one hopes for or fears lower prices.
ii) In duration. Saving ends with the emergency for which one has saved; hence it may never end.

iii) In character. Waiting is a purely cyclical phenomenon. It happens at the end of a boom and during the downswing. It has its counterpart on the upswing in what may be called 'hurrying'. Waiting and hurrying do not happen in lieu of, but interplay with, saving and dissaving in certain phases of the cycle. At times, for instance at the height of a boom, hurrying may reduce or even over-compensate the demand-restricting power of increasing saving; at other times, for instance in a crisis, waiting may reduce or over-compensate the demand-stimulating power of declining saving. This interplay of hurrying and saving on the one side, and waiting and dissaving on the other, could, incidentally, probably be verified statistically: waiting and hurrying would manifest themselves chiefly in fluctuations in the velocity of money; genuine saving would be reflected chiefly in an increase of savings accounts and certain securities.

iv) In the policies they may require. Waiting may have to be discouraged as harmful; saving may have to be encouraged as beneficial. This, by the way, would have been the attitude of neo-classical theorists. The modern attitude, in contrast, seems to be inimical to both, for it advocates a redistribution of income that tends to discourage not only waiting but also genuine saving.

There remains of course the question why the consumption curve suddenly shifts downwards. It is the duty of business cycle theorists to show the causes of the shift. After a lifetime of practical experience I personally am inclined to attribute it simply to over-buying or over-speculation in the widest sense: During a boom people have expected ever higher prices. But as at a certain moment there are no new layers of buyers on whom speculators can unload, prices stop rising. Now the speculators try to sell, but as the suddenly increased supply of goods is too large for normal demand, prices fall. Soon everyone postpones even normal purchases. Prices decline further, leading people to expect still lower prices. These facts have been described over and over again by business cycle theorists in the 19th century in order to explain depressions and crises. On them in this century A. C. Pigou built his famous theory of Industrial Fluctuations.


2 The interplay of 'waiting' and 'saving' during the German inflation was examined in Zur Frage des sogenannten Vertrauens in die Währung, Archiv für Sozialwissenschaft und Sozialpolitik, Band 52 (1924), pp. 289 ff.

3 The inadequacy of the Keynesian short-run equilibrium theory for the explanation of business cycles has been at least implicitly acknowledged by those of his followers who have tried to 'dynamize' his system; for example, Harrod, Samuelson, Kalecki, Smithies and Metzler. In building up such macro-dynamic models, the liquidity preference concept has not played any role, but the consumption function has been retained and a number of additional assumptions have been introduced. These cannot be discussed here in detail. As far as I can see, none of these models can explain the sudden break characteristic of a crisis. They could at best explain a slow structural decline.
If our waiting theory of depression is correct, the following conclusions are warranted:

i) One should not worry about over-investment, i.e., lack of opportunities for investment in crises or depressions. Entrepreneurs hesitate to produce because they fear losses no matter whether they produce in a more or less ‘capitalistic’ way. Such losses could be incurred in an economy that uses little capital as well as in a highly capitalistic economy. Cyclical depressions therefore cannot be attributed to an investment gap despite the somewhat confusing fact that interest rates drop sharply in the later phases of a depression. They do not fall because of over-saving and under-investment. They fall because people ‘wait’ simultaneously to consume and invest. The money they do not spend accumulates in the banks. The banks in turn lend on the money market, giving it the appearance of extreme casiness.

ii) The statement that ‘the remedy for a boom is not a higher rate of interest but a lower rate of interest’ cannot be correct. Investment does not decline because interest rates are high in view of the marginal productivity of capital, but because people no longer expect higher prices. To reduce interest rates would therefore be entirely inappropriate. Low interest rates, far from opening new investment opportunities in a technical sense, would merely encourage the use of credit for speculation on higher prices. They would only prolong the boom and prepare the way for an even more severe decline.

iii) Keynesians who hold saving to be a vice and spending a virtue oversimplify the problems involved. While a sudden increase in genuine saving during a depression might accentuate the noxious effects of waiting, a thrifty economy is superior to a spend-thrift economy because it assures a higher living standard, provided in the long run there are no impediments to the flow of savings into investment. And while in a depression the income of lower brackets is obviously spent more freely than that of higher, wage increases, as advocated for instance by unions, remain the worst method of supporting demand. For whereas demand can be supported by many other means, wage increases unavoidably raise costs, thus leading to structural unemployment.

VI. Long Run Equilibrium

Keynes believes in the possibility of an investment gap also in the long run. This is evident from the passages already quoted and from his remarks about the responsibility of the state ‘for directly organizing investment’ in the future. These remarks laid the foundation for the theory of the maturity and stagnation of our economy and of the inevitability of state capitalism.

The assumptions underlying Keynes’ statements have not been verified statistically; indeed, considerable evidence of their incorrectness seems to be accumulating.

1 Keynes, p. 322. 2 Idem, pp. 97 and 109. 3 Idem, p. 164.
1) How large have savings averaged over a long period?

The great significance many writers lay upon the long run effects of saving induces the feeling that they have somewhat lost their sense of proportion. One gets the impression that people work only in order to accumulate wealth. In reality investment—additions to capital stock—plays in the long run a rather small role in keeping an economy going. According to Simon Kuznets, only 6 to 7 percent of national income went to net capital formation in 1919-1938. Obviously it is much easier to find new investment opportunities for such a small percentage than for higher percentage of national income.

There also seems to be no proof that in the long run the saving-income ratio rises with income. This ratio has been constant as far as the secular trend, not the cycle, is concerned.

Nevertheless, the absolute amount of saving undoubtedly increases when real income increases, as it has always done in the long run. Furthermore, with the simple passage of time capital accumulates even though the net increment to savings and investments during any one period may be very small.

2) Has there been a tendency toward an investment gap in the long run?

If saving and investment tend to get out of balance, deflation must ensue. No proof can be found that on the average the secular trend has been toward deflation. At times, the propensity to invest has been stronger than the propensity to save; at other times, weaker. But the trend has always been towards a relative strengthening of the propensity to invest and towards inflation. Keynes attributes the alleged trend towards deflation partly to hoarding. But, as has been shown frequently, and recently by me, ‘liquidity preference’ cannot curtail the supply loanable funds in the long run.

Keynes offers an additional argument for the statement that ‘to fill the gap between net income and consumption, presents a problem which is increasingly difficult’. One might call it the ‘capital desinvestment’ argument. Its premises are that consumption is ‘satisfied partly by objects produced currently and partly by objects produced previously, i. e., by disinvestment’. ‘Now all capital investment is destined to result, sooner or later, in capital-disinvestment.’ Therefore ‘new capital investment can only take place in excess of current capital disinvestment if future expenditure on consumption is expected to increase’. In this connection Keynes recalls ‘The Fable of the Bees’—‘the gay of tomorrow are absolutely indispensable to provide a raison d’être for the grave of today’.

The conclusion is correct but the premises are untenable. There is no reason why in the long run and in the aggregate, capital should ever be disinvested. As a matter of fact, economic progress has been achieved mainly

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3 In the ‘Anachronism of the Liquidity Preference Concept’.
4 Keynes, p. 105.
5 Ibid.
6 Idem, p. 106.
by successive additions to capital stock. Only during severe depressions, if at all, has disinvestment taken place. So the picture of an economy suffocating in its own fat because capital goods, transformed into consumer goods, constantly press on the markets for the latter, is based upon a factual error. The sole problem is to provide demand for consumer goods coming from current production, not from disinvestment. Whether the increased productivity resulting from capital accumulation leads to an over-supply of goods is of course another problem. But in the long run it is not a problem at all because living standards tend to keep up with productivity.

The long run investment argument has been presented by economists during history every time a cyclical depression lasted longer than expected. It might well be that we will not hear about it for quite a long time.

3) A long term analysis with long term assumptions.

The chief objections to Keynes’ ‘Chronic under-investment’ theory is, however, that it is a long run analysis based upon short run assumptions—a fault arising from his endeavor to construct a ‘combination theory’.

In the last analysis, under-investment could threaten in the long run only if the demand price for capital fell to zero or point below which creditors were willing to lend. According to the ‘stagnation’ school, this is supposed to happen because the saturation of the economy with capital exhausts investment opportunities and causes the investment curve to shift downward as time goes on.

Now suppose there were really a lack of opportunities. Could and would it inevitably cause an interruption in the flow of savings into investments? To assume that would mean to assume that the productivity of capital is a fixed schedule, depending only upon the quantity of capital; in reality it is a function too of the amount of labor supplied at various wage rates. The newly employed labor—becoming profitable through reductions in wages, provided demand for labor is not too inelastic—will need new capital equipment. And this resulting increase in the demand for capital will be greater than the reduction in the demand for capital by enterprises with a strong capital structure. As Keynes mentions as a possibility, a reduction of money wages ‘will increase the marginal efficiency of capital and will be favorable to investment’.

So the insufficient marginal productivity of capital can threaten a secular investment gap only under two assumptions:

i) that wages are fixed;

ii) that unutilized capital equipment is so ample that demand for capital would not be stimulated by lower wages.

These two assumptions are indeed introduced by Keynes in his short term analysis, where they might be tenable and realistic under certain conditions. In long term analysis, into which they are taken over indiscriminately, they seem entirely out of place.

1 Idem, p. 263.
Obviously, stable wages cannot be presupposed outside cycle analysis, at least under conditions of perfect competition. If the labor market is competitive, unemployment tends to reduce wages. Only labor monopolies could keep wages—and unemployment—high.

Equally, demand for capital cannot be considered fixed, because higher employment necessitates more capital equipment unless one can rely on unused capacity. When an economy emerges from depression, one can indeed rely on such unused capacity. But in the long run there cannot be anything like unused capacity. Labor and capital must be assumed to be combined in the optimal way so that every increase in employment entails an addition to capital equipment.

Hence one can never speak of an absolute absence of investment opportunities as long as there is voluntary unemployment, unless the demand for new capital in case of increased employment is extremely inelastic. Outside of this very special and improbable case, under-investment—non-absorption of savings—need never occur. If there is nevertheless unemployment, it is not because demand for capital is too low but because labor is too costly. It is caused by a strike, so to speak, of labor, not of investors.

This, by the way, is quite in line with the Keynesian idea that a slackening of population growth reduces the demand for capital. Obviously the effect must be the same whether the supply of labor is restricted by a decline in population or by the unwillingness of some to work at wage rates that would ensure full employment.

4) The remaining case.

In one case, however, the non-absorption of potential savings is at least theoretically possible: If everyone is employed at the beginning of a production period, a reduction in wages cannot lead to the absorption of either more workers or capital. Therefore a very low demand for investment could produce deflation and unemployment.

But does this mean that a lack of investment opportunities can explain chronic depression and unemployment? Unemployment can be of two kinds: If it is brought about by low demand for products and deflation ensues, it is involuntary unemployment in Keynes' sense. If it is brought about by the high cost of labor, it is voluntary. Only the first kind can in any way be connected with an 'investment gap'. But there is no a priori presumption that this kind is present in cases of chronic depression. Unemployment is not synonymous with under-investment, and every unemployment cannot be charged to lack of investment, as so many do nowadays.

But even the 'involuntary' unemployment brought about by deflation cannot explain a protracted stagnation. For involuntary unemployment is essentially short run. It cannot last forever. If the quantity of money decreases by reason of deflation, wages must adjust themselves to the new—reduced—quantity of money, just as they adjust themselves to inflation.
So while immediately after deflationary pressure has started, unemployment can be considered to be due to deflation, after a certain time the responsibility shifts. Long run unemployment must be considered to be due to high wages. Nor could it be argued that a new investment gap would threaten if wages were reduced. For, as we have shown above, the employment of the former unemployed does not lead to such a gap. Nor would in the long run a reduction in wages provoke fear of a renewed deflation, as Keynes seems to think\(^1\); not even if all entrepreneurs were Keynesians. In non-Keynesians a reduction of wages inspires hope for higher prices anyway.

Of course if saving (ex ante) exceeded investment not once but in consecutive production periods, wages would never get adjusted. Wage declines would always lag behind deflation, causing genuine involuntary unemployment. But this would be a *dynamic* process with all the characteristics of a *cyclical depression*, not stagnation, which the investment gap is supposed to explain. Cyclical depression can, however, be explained much more realistically by the ‘waiting’ approach. *Static* or *stabilized* unemployment is never a ‘low demand’ unemployment, caused by entrepreneurs’ fear that ‘the proceeds realized from the increased output will disappoint’ them because the ‘proceeds will necessarily fall short of their supply price’\(^2\). It is always high cost unemployment.

Confused by Keynes’ timeless and isolated analysis, many economists do not recognize sufficiently the essential difference between the two kinds of unemployment. Business men, on the contrary, know very well whether they are curtailing production because demand is low or because costs are rising. Curtailment for the former reason can lead to progressive deflation and involuntary unemployment. Curtailment of production when prices do not decline but remain at a low level for a long time—in other words, when there is a true long turn equilibrium—has nothing whatever to do with low demand. In this case there is only one reason for low employment as well as low investment—a wage level that is too high.

This statement, which is identical with the classical employment theory, must be qualified in only one respect. Wages can seem too high not only absolutely but also in relation to the general conditions under which production is carried on. Insecurity concerning continuity of production—a threat of strikes, for instance—can be as serious a deterrent to employment as exaggerated wage demands. What is of theoretical importance is that such facts are not, in the last analysis, impediments to investment. They do not menace profits on the use of more units of capital per unit of labor, but on the use of more units of labor per unit of capital.

There is no theoretical justification for discouraging saving and encouraging spending—as distinct from cyclical ‘hurrying’ and waiting. Keynes is wrong in denying that ‘a decrease in spending will tend to lower the rate of interest’ and increase investment\(^3\). He is also wrong in assuming that spending ‘determines...
the aggregate value of employment\textsuperscript{1}. And it is theoretically confusing and must lead to disastrous practical consequences if ‘a decreased readiness to spend’ is regarded ‘as a factor which will, \textit{cet. par.}, diminish employment’ and if it is denied ‘a factor which will, \textit{cet. par.}, increase investment’\textsuperscript{1}.

In the general case—outside cyclical disturbances—Say’s law is valid. Money is always spent on either consumption or investment. Therefore national income does not depend on ‘marginal productivity of capital, the propensity to consume, liquidity preference and the amount of money’ as Keynesians believe. In fact I think that such a statement will appear very akward in a not too distant future. Especially the idea that the amount of money determines national income may again be considered what it really is: a serious relapse in preclassical economies and a rationalisation of inflationary policies.

National income, identical with production, depends—as common sense suggests—on the amount of labor it pays to employ. This fundamental fact should be the basis of every modern employment theory as it was the basis of the classical theory. The proposition that in general the flow of money is interrupted by saving and the economy more or less permanently threatened by deflation can only lead to paradoxical conclusions.

\textsuperscript{1} \textit{Ibid.}