

Keynes, 2009:

Economic Depression, Monetary and Fiscal Policy

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1. Introduction

In the wake of the financial crisis, Keynes's name is now commonly invoked. But Keynes has been served very badly by the economics profession, and the accounts of his theory that have prevailed in the textbook and as conventional wisdoms are gravely misleading. Even among those who have challenged mainstream interpretations of Keynes, some basic points remain unsaid or too tentatively held.

Keynes:

- was a monetary economist concerned with the theory of economies that were based on bank money (and hence where the supply of credit generally – but not always – responds endogenously to demand);
- was concerned primarily with the *prevention* not *cure* of economic crisis;
- considered the means to prevent economic crisis was in the first instance monetary policy; and
- devised policies for the management of finance on a national and global level so that interest rates across the spectrum could be set low and then put on a gradual but permanent downward trajectory.

As soon as policy is seen to be different to that of the 'Keynesians', these challenges to mainstream interpretations should be recognised as potentially of immense importance. It might have been reasonable to ignore alternative interpretations while the economy was (at least, perceived to be) operating effectively, but it is not now.

Properly understood, Keynes's theory offers a diagnosis of the present crisis, which differs greatly from the conventional understanding, and policy implications that go some way beyond the present approach. Yet the *General Theory* offers an understanding of the operation of monetary economies, an approach to the resolution of the crisis, and an outlook on the future about which there could be some optimism, a state-of-affairs entirely characteristic of Keynes himself.

According to this interpretation, the crisis is the heavy price of the neglect of Keynes's work; it is of exactly the same nature and must be of a similar magnitude to the Great Depression that helped foster the *General Theory of Employment, Interest and Money* in the first place. The crisis does not follow an exogenous shock of extreme magnitude ('Black Swan') to the

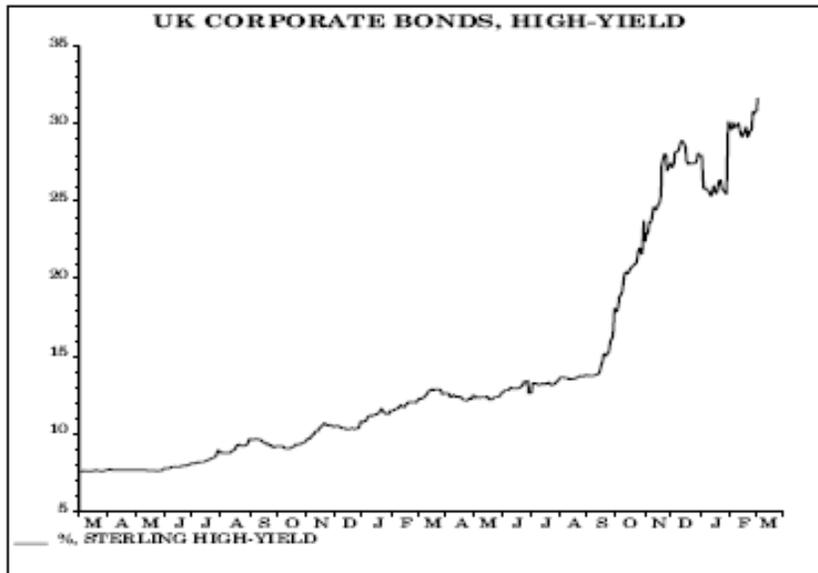
financial sector; it does not primarily reflect the impact on *household* behaviour of allegedly reckless discount rate cuts and mysterious falls in long-term interest rates from 2000; and it does not reflect the consequence of perceived excess saving in the *rest of the world*, especially Asia. Instead the crisis reflects the final unravelling of an endogenous process that has been underway since the liberalisation of the international capital markets that began in 1980.

As in Chapter 22 of the *General Theory*, the key mechanisms of this process concern the *corporate* sector. The crisis reflects the consequence of businesses' implementation of fixed capital investment under excess expectation of yield and financed at rates of interest that have in general been very *high*. The same theory can be extended – in the manner of Hyman Minsky – to show that such processes lead to debt and capital market inflations, that must eventually go into reverse, as debt and capital market deflations. This deflation began in the first instance in year 2000; subsequent discount rate cuts and the staggering extension of the money supply have served only to postpone and exacerbate this process.

These high rates of interest – more specifically: the high long-term rates paid by business that have prevailed since 1980 – are the fundamental cause of the crisis. Those analyses that appeal to the cheaper rates since 2000 dwell only on symptoms; it is characteristic of this approach entirely to neglect the processes that made these cuts necessary.

Bankruptcies and cost-cutting in the corporate sector and the associated rapid and substantial increases in unemployment are the mechanism through which the crisis is unravelling. These were triggered by the final and widespread recognition that the financial instruments on which the structure of the global economy is based were, bluntly, bad debts, given pre-existing levels of activity. Recognition of this state-of-affairs led finally to an extreme rise in the yields on corporate borrowing (Figure 1) and associated costs that simply cannot be met by a great number of businesses. As with the Great Depression, the present crisis reflects primarily a brutal and rapid de-leveraging in the corporate sector.

Figure 1:



Source: GFC Economics

Any solution must be aimed primarily at the corporate sector, not the financial sector. Pre-requisite to recovery is a reduction in these rates of interest. Keynes's policies of cheap money on all government instruments, which depend in turn on a – *permanent* – reversal of financial liberalisation – go way beyond the present relaxation of monetary policy and constitute the greatest departure from prevailing wisdom.

Yet no matter the extent of the monetary change that Keynes would have envisaged, it is probably not sufficient to kick-start the corporate sector. According to the *General Theory*, there is not an underlying equilibrium determined in the labour market to which a monetary economy will inevitably gravitate and that is impervious to the policy of the authorities. For this reason public works expenditure aimed at domestic industry are likely to be necessary; any such expenditures being financed in the first instance from bank credit at near zero rates of interest. What Keynes referred to as 'loan expenditure's' will revive revenues in the corporate sector, begin to repair balance sheets, restore optimism, and hence resist the de-leveraging process. The only relevant recorded experience of the 1930s suggests that such an approach is effective and in fact leads to a far greater restoration in corporate confidence than merited by the multiplier relation alone. Moreover – as hotly contested in the 1930s and verified by experience – these processes will ultimately be self-financing and amount not to a danger but to a benefit to the balance sheet of the government sector. With monetary policy operated as above, they will not crowd out.

For Keynes such policies should restore prosperity within a market-based framework, not one indefinitely reliant on state aid, protectionism and planning. Throughout his life he was concerned to "attempt to use what we have learnt from modern experience and modern analysis, not to defeat, but to implement the wisdom of Adam Smith" (18 December 1945, *CWXXIV*, p. 621). That may not have been the position of many of his 'followers'.

In order to re-assert Keynes's theory on a manageable yet relevant scale, the analysis concentrates on the diagnosis of economic depression and the means for prevention and cure. However, this requires an extension of

Keynes's work in the manner of Hyman Minsky (e.g. 2008 [1986]). For Keynes's theory does not provide a comprehensive account of the operation of monetary economies and policy implications. The scope of the *General Theory of Employment Interest and Money* was in reality and deliberately quite narrow, concerning only the central theoretical features of the theory, and paying limited regard to policy. A fuller understanding of his work demands appreciation of the economic environment and the policy debate at the time, and of the nature of all his previous and subsequent contributions, academic and otherwise. This context is briefly set out in section 2.

In section 3, Keynes's theory is set out as centred on his deconstruction of the classical saving-investment equilibrium, from which the marginal efficiency of capital, the theory of liquidity preference and the marginal propensity to consume emerge. The main discussion then concerns the dynamics of the model as the business cycle process. In section 4, the model is extended to the financial dimensions of debt and capital market inflations. In section 5, Keynes's cheap money policy for the prevention of economic cycle is re-assessed. Section 6 offers support for the theoretical interpretation using empirical evidence from the 1920s to the present. Lastly, Section 7 turns to practical conclusions and policy for both cure and prevention, setting Keynes's perspective apart from other economic planning initiatives.

2. Context

Keynes's economics began with *Indian Currency and Finance* (1913). In this and his subsequent contributions up to and including the *Treatise on Money* (1930), his concern was to refute the gold standard. He saw the classical theory as flawed because it was not applicable to a monetary economy:

The confusion lay in the futile attempt to ignore the existence of bank money and consequently the inter-relationships of money and bank credit, and to make representative money behave exactly as though it were commodity money. (*CWV*, p. 15)¹

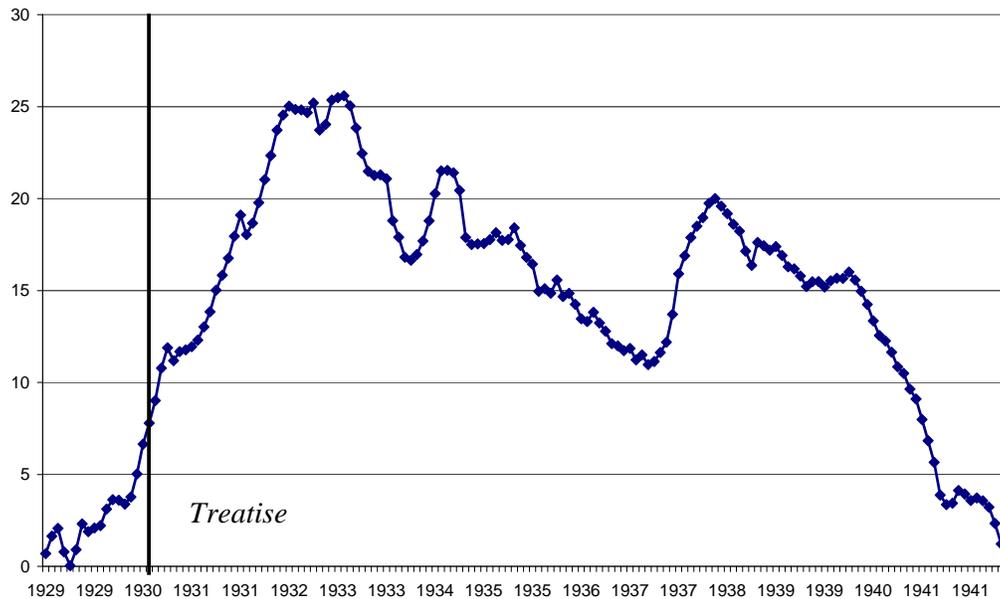
In a monetary economy, aiming discount rate policy at fixed exchange parities might be contrary to domestic economic interests. Instead he advocated credit control using the discount rate – with an eye to inflation – and the deliberate management of foreign exchanges by central bank intervention in exchange markets.

His theoretical worldview – at that point: it *changed* – was of short-run malfunction against a neo-classical long-run ideal. The *Treatise* was his first substantial attempt at a theory of the relationship between the operation of an economy in these two perspectives. His central mechanism was based on a development of the classical theory of interest. He argued that saving and

¹ The whole of Keynes's economics was underpinned by his recognition of credit creation. The discussion here also has Keynes taking the supply of credit as endogenous in the *General Theory*, or more specifically as generally responding to accommodate effective demand. While endogenous money might be a cornerstone of their economics, many post-Keynesians – wrongly – do not attribute the notion to Keynes (see Chick, 2001 and Tily, 2007b, available on request).

investment could diverge: this would then lead to a corresponding divergence between ‘market’ and ‘natural’ rates of interest. Keynes appeared to take the latter as a – if not the – manifestation of the underlying long-run equilibrium of classical economics.

Figure 2: US unemployment rate, 1929-1942



Source: NBER macrohistory database

The *Treatise* was published in October 1930, when ground was shifting very fast. Keynes was concerned with explaining – what he *then* saw as – a disequilibrium situation of high unemployment, as in 1920s Britain. But almost immediately after publication the severity of the Great Depression, especially in the US (and Germany), become apparent (Figure 2). This collapse was not anticipated in the *Treatise*. A global financial crisis began in July 1931: sterling was hammered on the exchanges, and, in spite of high unemployment, the discount rate raised in response. Sterling came off gold in September 1931, and the UK government adopted the monetary policies that Keynes had advocated:

- in April 1932 the Exchange Equalisation Account instigated currency management;
- between February and June 1932 discount rates were cut sharply from 6 to 2 per cent;
- in June 1932 direct action was taken on the long-term rate of interest, beginning with the conversion of the war debt from 5 to 3 ½ per cent; and
- the latter action was supported by the introduction of an embargo on overseas loans: capital control.

Roosevelt took office in March 1933; in April he took the US off gold just before the World Economic Conference in June and July 1933. In the meantime the totalitarian countries looked to the corporate state.

Both the Economic Advisory Council and Macmillan Committee, the report of which he drafted in large part (published in May 1931), required Keynes to test his theory in practice. After the implementation of his monetary measures, he began to get involved again in calls for public expenditure (having previously endorsed Liberal Party proposals at the 1929 General Election). In June 1931 Richard Kahn's multiplier paper was published in the *Economic Journal*. Keynes also engaged in detailed correspondence with Ralph Hawtrey, Denis Robertson, Friedrich von Hayek, Nicholas Kaldor, Kahn, Joan Robinson and others on their critiques of the *Treatise*. The sum of the parts was that his understanding of the operation of a monetary economy began to change greatly. But that sum did not mean a shift from monetary to fiscal policy, as is commonly understood. That is to confuse prevention with cure.

Of paramount importance was his putting the long-term rate of interest rather than the discount rate at the centre of his emerging theoretical scheme. Already in the *Treatise* he had identified the rate of interest as a critical determinant of the emerging crisis:

I am writing these concluding lines in the midst of the world-wide slump of 1930 ...

Thus I am lured on to the rash course of giving an opinion on contemporary events which are too near to be visible distinctly; namely, my view of the root causes of what has happened, which is as follows. The most striking change in the investment factors of the post-war world compared with the pre-war world is to be found in the high level of the market-rate of interest. (*CWVI*, p. 377)

During the drafting of the Macmillan report, correspondence with Robert Brand dated 7 April 1931, with the crisis intensifying, shows *unambiguously* the development of his ideas:

This memorandum brings home to me what I was beginning to forget, namely that I have nowhere introduced into my draft chapters in any clear or emphatic form what I believe to be the fundamental explanation of the present position. My fundamental explanation is, of course, that the rate of interest is too high, - meaning by the 'rate of interest' the complex of interest rates for all kinds of borrowing, long and short, safe and risky. A good many of Brand's factors I should accept as part of the explanation why interest rates are high, e.g. effects of the War, post-war instability, reparations, return to gold, mal-distribution of gold, want of confidence in debtor countries etc., etc.

Next comes the question of how far central banks can remedy this. In ordinary times the equilibrium rate of interest does not change quickly, so long as slump and boom conditions can be prevented from developing; and I see no insuperable difficulty in central banks controlling the position ... The drastic reduction of the whole complex of market-rates of interest presents central banks with a problem which I do not expect them to solve unless they are prepared to employ drastic and even direct methods of influencing long-term investments which, I agree with Brand, they had better leave alone in more normal times. ...

But I should not be surprised if five years were to pass by before hard experience teaches us to get hold of the right end of the stick. (CW XX, pp. 272-3)

In June 1931 lectures at the Harris foundation in the US, he re-iterated the same view, highlighting the implications for the corporate sector:

We are today in the middle of the greatest economic catastrophe -the greatest catastrophe due almost entirely to economic causes - of the modern world. ... I see no reason to be in the slightest degree doubtful about the initiating causes of the slump. ... The leading characteristic was an extraordinary willingness to borrow money for the purposes of new real investment at very high rates of interest - rates of interest which were extravagantly high on pre-war standards, rates of interest which have never in the history of the world been earned, I should say, over a period of years over the average of enterprise as a whole. This was a phenomenon which was apparent not, indeed, over the whole world but over a very large part of it. (CW XIII, pp. 343-5)

Then in a December 1931 and March 1932 *Economic Journal* symposium on 'Savings and Usury', interest became the 'villain of the economic piece' (Somerville, 1931; CW XXIX, pp. 13-16).

In *theoretical* terms, the critical step to the *General Theory* was the abandoning of the theory of the rate of interest based on saving–investment equilibrium and – hence – the long-run equilibrium of classical economics.² The moment can be seen for the first time in extracts from his November 1932 lectures, published in the *Collected Writings*:

On my view, there is no unique long-period position of equilibrium equally valid regardless of the character of the policy of the monetary authority. On the contrary there are a number of such positions corresponding to different policies. Moreover there is no reason to suppose that positions of long-period equilibrium have an inherent tendency or likelihood to be positions of optimum output. (CW XXIX, pp. 54-1)

Over the next months, the saving–investment equilibrium was deconstructed into what Keynes referred to as 'psychological propensities':

- the schedule of liquidity preference;
- the marginal efficiency of capital; and
- the marginal propensity to consume.

These are set against the supply schedule for output as a whole and the supply of money (the latter needs very careful interpretation). But the nature of his system and the role of expectations of an uncertain future should have meant that the propensities cannot be represented as equations and solved simultaneously. The system defined an equilibrium, but one that was not likely to be of full employment. Moreover it was an equilibrium that would

² In Chapter 6 of Tily (2007a), I argue that this followed his identification of the saving–investment identity, but this is too simplistic, and a draft paper examines matters in more detail (Tily, 2009).

shift following a change in expectations.³ The ‘real wage’ was a consequence of the level of employment, not the determinant. There is no government in the basic system, but – given spare capacity – an increase to government expenditure would lead to a higher employment equilibrium.⁴

But, following his *Treatise* analysis, the mechanism of most importance to Keynes was the relation between the rate of interest, investment and hence employment. As Keynes’s most reliable contemporary interpreter, Richard Kahn, put it “... Keynes, in his *General Theory*, writes very little about public expenditure as a means of increasing employment. His main concern was that private investment should be adequately stimulated by low rates of interest” (Kahn, 1978, p. 2). This perspective has survived into few modern post-Keynesian interpretations, Victoria Chick’s being one notable exception:

... astonishing conclusion that the chief cause of unemployment is not so much that the real wage is too high, but that the *rate of interest* is too high. What an implausible thing to say. What relationship could there possibly be between unemployment, the most human of problems, and the rate of interest, the driest of economic variables? That is a major theme of the *General Theory*. (Chick, 1983, p. 10, emphasis in original)

From the moment of its publication, Keynes’s theory was distorted and diluted into a classical framework. His central theme concerning the monetary environment and the interest rate did not survive this treatment. Reduced to a set of simultaneous equations, Keynes’s most important insights on the nature of economic activity were lost, and an underlying equilibrium restored. Even those – and there have been many – who rejected mainstream interpretations have not adequately restored this monetary dimension.

3. *The General Theory of Employment, Interest and Money*

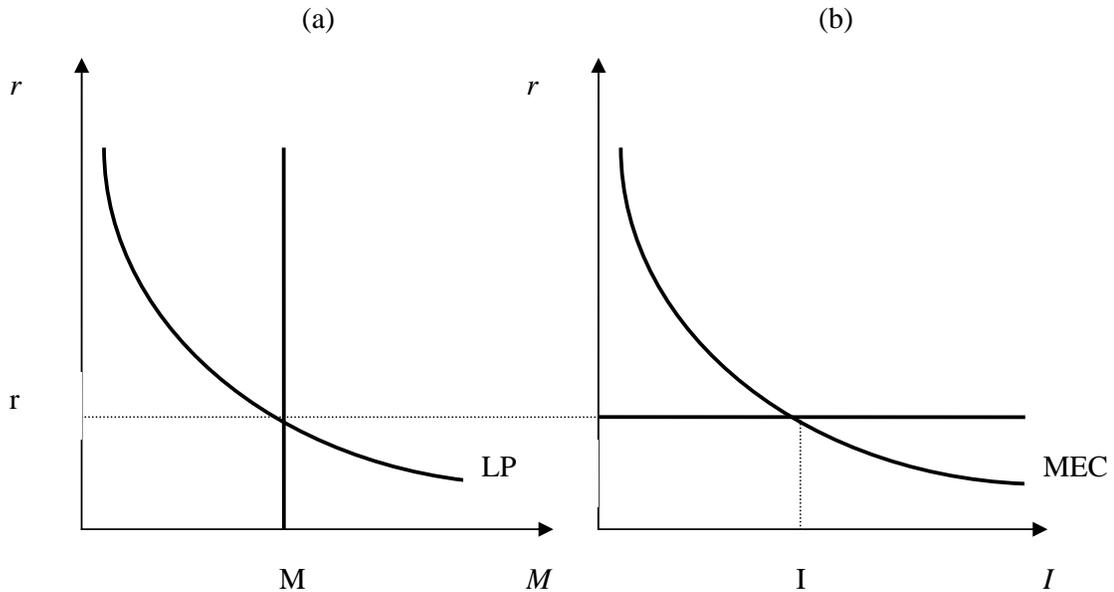
In this presentation of the *General Theory*, the analysis begins with the first two of Keynes’s psychological propensities. The classical theory of the rate of interest is deconstructed into two (normally) independent parts, first, the theory of liquidity preference and second, the theory of investment demand (Figure 3).⁵

³ While many commentators have adopted ‘animal spirits’, in Keynes’s system animal spirits, expectations and uncertainty entered the system at specific points, most importantly as behaviours underlying the psychological propensities.

⁴ Keynes addressed public spending issues in his book, particularly at the end of his discussion of the multiplier (eg. pp. 106, 116-22 and 127-31), but, in general, he discussed it as supplementary to monetary policy (pp. 164, 320, 325, 335, 349, 351, 376-7 and 380).

⁵ Keynes scarcely used diagrams in any of his work; I consider this a great mistake, doubly so because the only one he did use in the *General Theory* was so terribly misleading. It was appropriate to the ‘Keynesian’ interpretation, not the *General Theory* itself.

Figure 3: The theories of interest (a) and investment (b)



3.1 The theory of liquidity preference (TLP)

According to the *General Theory* the rate of interest was not a real but a monetary phenomenon, arising from a theory of money as a store of value. The relevant considerations were the state of liquidity preference and the supply of liquid instruments into which *wealth* (a stock not flow) could be placed.⁶ The long-term rate of interest was set according to the schedule of liquidity preference (LP) and the supply of money (Figure 3.a). The theory explained how policymakers could manipulate expectations (and hence shift the schedule of liquidity preference) and use debt-management policy (and ultimately the supply of all government borrowing instruments, the relevant supply of money in this context) to set rates of interest across the spectrum.

There is not space for a full discussion, but the basic principle was very straightforward. If the government chose to set the quantity of various debt instruments, especially through a preference only for long-term instruments (the ‘funding complex’), the public would set the price. But if the government wanted to set the price, it should allow the public to set the quantities, and offer debt instruments according to the maturities that the public preferred to hold (Tily, 2006 contains a fuller discussion). This exogeneity of the long-term rate of interest was the key monetary conclusion of the *General Theory*.

⁶ There has been a great deal of confusion between means of exchange and store of value considerations. As Chick (***) has emphasised, SOV considerations come into effect after, and are generally analytically distinct from, MOE and hence credit-creation considerations. In the *General Theory* Keynes concentrated on the former, taking the latter for granted (see Preface, p. xxii).

Keynes pointed to the practical verification of his theory: the reduction in long rates that – (largely?) through his advocacy – had been achieved in the 1930s (Figure 4):

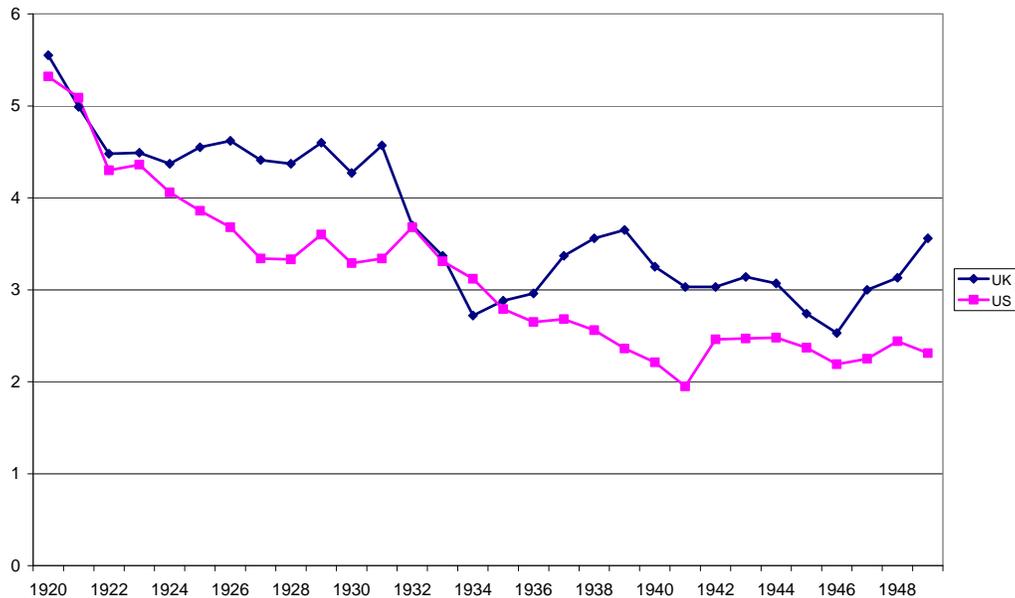
The fall in the long-term rate of interest in Great Britain after her departure from the gold standard provides an interesting example of this; – the major movements were effected by a series of discontinuous jumps, as the liquidity function of the public, having become accustomed to each successive reduction, became ready to respond to some new incentive in the news or in the policy of the authorities. (*CW VII*, p. 204)

He looked too at the changes to debt-management policy that would re-enforce such processes.

Perhaps a complex offer by the central bank to buy and sell at stated prices gilt-edged bonds of all maturities, in place of the single bank rate for short-term bills, is the most important practical improvement which can be made in the technique of monetary management. (*ibid.*, p. 206)

These policies were gradually implemented, with varying degrees of enthusiasm on the part of HM Treasury and/or the Government(s). They were most wholeheartedly adhered to during WWII, when the long-term rate of interest was set at three per cent (and is known as the ‘3 per cent war’).

Figure 4: Long-term interest rates on government borrowing



Source: Homer (1991)

3.2 The theory of investment

Under Keynes's theory of investment, the amount of investment carried out by firms depends on the marginal efficiency of capital (MEC) schedule and the rate of interest that the same firms face in capital markets. The MEC schedule reflects entrepreneurs' expectation of the annual rates of return on undertaking capital expenditure.⁷ At the start of any period, firms assess the likely returns on various amounts of capital expenditure and will implement investment according to the interaction between this assessment (their MEC schedule) and the rate of interest.

As with market expectations of the future rate of interest, the yield on investment is uncertain, for it depends on estimates of future demand that cannot be known:

The considerations upon which expectations of prospective yields are based are partly existing facts which we can assume to be known more or less for certain, and partly future events which can only be forecasted with more or less confidence. (*CWVII*, p. 147)

The aggregate MEC schedule is hence dependent on the state of expectation about the future and shifts following changes in that state. As various post-Keynesians have argued, 'uncertainty' is a fundamental distinction between Keynes's theory on the one hand and both 'Keynesianism' and neo-classical theory on the other. 'Animal spirits' then reflected the further insight that firms' estimates of the yields of investment will be subject periodically to either excessive optimism or excessive pessimism.

The relevant rate of interest is the benchmark rate set in the market for long-term government debt adjusted for the perceived riskiness of the corporate sector at any specific point in time ('the' rate of interest). Aggregating across all firms in the economy leads to a macroeconomic MEC schedule that links each rate of interest to a unique level of investment. The theory defines an equilibrium in the sense that the MEC is a demand schedule for investment that is set against an endogenous supply of funds at 'the' rate of interest (Figure 3.b; the axes are reversed from the conventional presentation). In both the classical theory and the *General Theory*, a lower rate of interest leads to a higher level of investment.

3.3 Aggregate demand and employment

In the *General Theory*, as is well known, aggregate demand then depended on Keynes's third psychological preference: the marginal propensity to consume. This entered the theoretical scheme through the multiplier relation, with variables obviously defined:

$$\Delta Y = \frac{1}{1 - c} \Delta I$$

⁷ Defined in Chapter 11 of the *General Theory* as follows: "more precisely, I define the marginal efficiency of capital as being equal to that rate of discount which would make the present value of the series of annuities given by the returns expected from the capital-asset during its life just equal to its supply price" (*CWVII*, p. 135).

The theory explained how consumption did not simply adjust to compensate for low investment as in the classical model, but was primarily dependent on existing levels and changes in income.

Output and employment then depended on the principle of effective demand and the conditions of supply. Ultimately the theory explained how a deficiency of demand would lead to unemployment equilibrium. The analysis is short-period, in an analytical sense. Increased demand would go to employment or prices according to the conditions of supply, with capital fixed. Keynes considered that in general these demand-side considerations were dominant; however, he did show that cutting wages in response to a deficiency in demand was likely to exacerbate the situation rather than lead to a restoration of full employment.

3.4 The Cycle

Keynes positioned his cycle theory at the end of the book, Chapter 22: 'Notes on the Trade Cycle'. As the title suggests, it was not a substantial account: important points are buried in seemingly less important detail and not elaborated, especially the role of the rate of interest and the notion of a 'correct' MEC.

The theory is based on the dynamics of investment demand that are dictated by 'animal spirits' of businessmen, portrayed theoretically as shifts to the schedule of the MEC:

But I suggest that the essential character of the trade cycle and, especially, the regularity of time-sequence and of duration which justifies us in calling it a *cycle*, is mainly due to the way in which the marginal efficiency of capital fluctuates. The trade cycle is best regarded, I think, as being occasioned by a cyclical change in the marginal efficiency of capital, though complicated and often aggravated by associated changes in other significant short-period variables of the economic system. (*CWVII*, p. 313)

I suggest that a more typical, and often the predominant, explanation of the crisis is, not primarily a rise in the rate of interest, but a sudden collapse in the marginal efficiency of capital. (*ibid.*, p. 315)

These passages have no role for the rate of interest: this is introduced shortly afterwards. Without emphasis, Keynes argued *that for each rate of interest there is an amount of investment that is in some sense correct*. This proposition is made most explicitly in the following elaboration of the process:

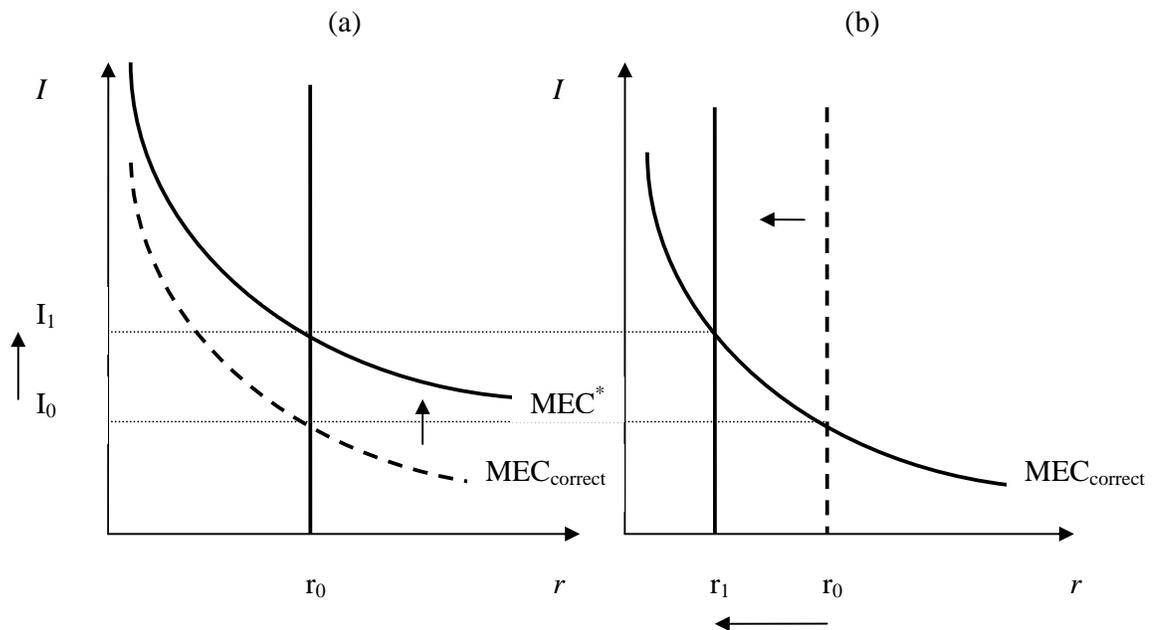
[i]t is an essential characteristic of the boom that investments which will in fact yield, say, 2 per cent in conditions of full employment are made in the expectation of a yield of, say, 6 per cent, and are valued accordingly. When the disillusion comes, this expectation is replaced by a contrary 'error of pessimism', with the result that the investments, which would in fact yield 2 per cent in conditions of full employment, are expected to yield less than nothing. ...

The boom which is destined to end in a slump is caused, therefore, by the combination of a rate of interest, which in a *correct*

state of expectation would be too high for full employment, with a misguided state of expectation which, so long as it lasts, prevents this rate of interest from being in fact deterrent. A boom is a situation in which over-optimism triumphs over a rate of interest which, in a cooler light, would be seen to be excessive. (CWVII, pp. 321-2, *my emphasis*)

Here Keynes compared 'excessive' expectations of the yield of investment with this 'correct state of expectation' as a baseline. In terms of the MEC, Keynes appears to be arguing that there is a 'correct' MEC schedule against which other schedules, assessed in uncertain circumstance and influenced by various degrees of optimism, can be compared. Key aspects of this process are illustrated on Figure 5.

Figure 5: The economic cycle



On 5.a, the rate of interest, r_0 , corresponds to a volume of investment, I_0 , measured on $MEC_{correct}$, a notional 'correct' MEC schedule. The expansion phase of the business cycle is then illustrated by a shift to MEC^* , the schedule reflecting firms' excessively optimistic assessments of the yields on investment, leading to investment demand of I_1 .

Eventually investment implemented under such conditions will go into reverse: the MEC shifts to the left. This leads to the contraction in investment that defines the 'recession' or 'depression' phase of the economic cycle. Keynes's description goes little further. Instead he turns to his terribly straightforward solution:

...[t]he remedy for the boom is not a higher rate of interest but a lower rate of interest. For that may enable the so-called boom to last. The

right remedy for cycle is not to be found in abolishing booms and thus keeping us permanently in a semi-slump; but in abolishing slumps and thus keeping us permanently in a quasi-boom. (*CWVII*, p. 322)

The cheap-money solution to the economic cycle achieves a high level of investment by *reducing the rate of interest* rather than through shifts to the MEC that he regarded as only temporary. This alternative is illustrated in Figure 5.b, where the higher level of investment (the 'so-called boom'), I_1 , is achieved with a reduction in the rate of interest from r_0 to r_1 .

4. Debt and capital markets

In Tily (2007a, Chapter 8) I attempted to develop this process and explain the eventual collapse of the MEC as endogenous to the cycle process. This follows an analysis of the outcome of investment, measured in terms of revenues following the implementation of the new plant. The analysis is 'long period', examining the consequences of allowing investment to vary, in contrast to short-period analysis where investment is fixed (and it seems to accord with Chick's (1998) 'equilibrium of action'). The key point is that revenue flows will either validate or invalidate the original expectations when the investment was put into place. The fundamental concern with excess credit is inability to repay. In a sense Keynes's theory merely recognises that an inability to repay is more likely at high rates of interest not low.

Keynes's theory decisively rejected the notion that labour market considerations governed the underlying or long-run operation of an economy. It broke the equilibrium between investment, saving and the rate of interest. It broke too the additional classical notion that in a market economy the rate of interest adjusts to accommodate any changes in the yield on investment (sometimes known as the rate of profit). Therefore any classical sense of equilibrium is gone.

Yet in Keynes the cycle process was underpinned by something *real*: namely limits to the yields on investment. The notion that there are no limits to demand-driven expansion beyond inflation is erroneous. In Keynes's theory the rate of interest is a monetary phenomenon, which sets an upper bound to investment profits according to their underlying yields. Nothing in the system ensures that the upper bound is in any sense optimal, in particular that it will correspond to full employment. In this way, the rate of interest defines some sort of an underlying equilibrium for the system. The trade cycle discussion indicates that this upper bound is not 'binding' in terms of the day-to-day operation of a free market economy. Under the influence of optimistic animal spirits, and facilitated by endogenous credit creation, investment can exceed the upper bound. But the upper bound does exert an underlying force on the system. In particular dear money sets too high a threshold for the yield on investment to result in anything like full employment. The system can expand at an excessive rate; the fundamentals – fairly low unemployment, relatively high growth and low inflation – may appear sound, but Keynes's theory predicts that it will be a temporary state of affairs, liable to abrupt reversal.

This reversal comes about through examining the possibilities of repayment of financing. The analysis follows Minsky, who saw that it was necessary to examine the financial outcomes of the cycle processes that Keynes had outlined. According to his 'financial instability hypothesis', an investment expansion based on excessive optimism is sustainable only when "profit flows must be sufficient to validate debts" (Minsky, 1985, p. 37).

Focus changes from the expectations that dominate when investment is put into place, to 'outturn' as revenue streams come in. These will either validate or invalidate original expectations. The key processes concern how companies and banks handle the failure of revenues to match expectations.

At the start of an upswing there will be greatly increased investment. If the expansion follows a period of subdued activity with capacity idle (as is likely), the increased utilisation of this capacity is also likely to lead to rapid acceleration in profits. There will also be effects in the financial markets that may be critical to the development of the cycle. In particular, capital market inflation (CMI)⁸ will be a consequence of any credit-fuelled excessive expansion. The identity between saving and investment means that all new investment financed by credit will create an equal amount of saving (in a closed economy). By definition, in an excessive expansion driven by investment, the pace of credit creation and, therefore, saving creation will be at least at the pace of investment. These newly created savings will seek the high returns apparently offered by financial investments, especially equities and also corporate bonds. The likely consequence is that the prices of financial instruments will grow at the pace of investment during the expansion. Indeed, as assets must equal liabilities, a theoretical aggregate measure of capital market inflation should grow at exactly this pace.⁹ In turn, CMI will widely (but erroneously) be interpreted as indicating investors factoring in the excessive growth in economic activity as permanent. CMI will, thus, serve further to affirm the validity and sustainability of the state of affairs to investors and policymakers alike and no doubt will encourage even greater optimism.

As euphoria about the situation spreads, additional increases in optimism may lead the MEC to shift even further to the right. This period of accelerating investment will continue until there is either some reining-in of expectations or until a shortfall in firms' revenues begin to indicate the excessive optimism. At this point, firms will begin to have difficulty meeting the scheduled repayments on loans or debt instruments. Keynes's theory as depicted here is categorical about the aggregate amount of investment that will eventually face such problems. On Figure 3a, investment projects represented by the difference at the rate of interest, r_0 , between investment demand and the correct investment, $I_1 - I_0$, will, by definition, be such that revenues fail to meet expectations.

Essentially, the investments represented by $I_1 - I_0$ are excessive and are, from this perspective, 'bad' investments. In this way, the excessive expansion is unsustainable from the moment that investment demand exceeds the correct level, but this will take sometime to be recognised. If it is assumed that firms have no idle resources, then, as revenues fail to meet expectations, they

⁸ Toporowski (1999) coined this phrase.

⁹ Such measures do not exist; though an indication could be derived by looking at the growth of total assets and liabilities on the balance sheet for each institutional by sector.

will be faced with two choices: cost savings or additional borrowing. A number of cost-saving options will exist, most obviously cutting back future investment plans, seeking alternative sources of raw materials, raising prices or reducing quality. More painfully, firms could cut jobs.

However, for many firms, the easiest option will be further borrowing to finance the inevitable shortfall between expectations and actual revenue. This type of borrowing – which henceforth be referred to as distress borrowing – should be seen as distinct from borrowing to finance investment in the first place. In a monetary economy the process of distress borrowing can continue for a very long time. But, as a consequence of both the distress borrowing and the high borrowing to finance the excessive investment in the first place, an economy in an excessive-expansion phase will be underpinned by a steadily increasing level of corporate debt – a debt inflation.

Distress borrowing will keep workers in jobs which would not exist if the economy was operating according to the correct MEC. Other money will come to companies through a reallocation of existing stocks of wealth, with households (or financial corporations on their behalf) shifting from safer investments (including money) to equity and corporate bonds and from other operations such as debt-equity exchanges and rights issues. At the same time other developments in the course of an excessive expansion will also work towards generating increased demand for corporate borrowing instruments. For example, excessive expansion combined with ‘sound’ budgetary principles is likely to mean that the government will move into surplus. As a consequence it will issue fewer securities, and investors whose portfolios demand a certain proportion of long-term debt instruments will be directed towards the corporate sector just as firms’ demand for debt financing is increasing.

Particularly important considerations follow from wider profit opportunities created for financial institutions. These organisations will make substantial earnings through their role in arranging various issues such as initial public offerings, corporate bonds and debt-equity exchanges, as well as through their role in merger and acquisition activity which will also be an important feature of the credit cycle. Later in the excessive expansion, debt restructuring packages and innovative financial instruments will be offered in exchange for higher interest payments. It is the good fortune for many financial institutions that commission will be earned whether or not any of these transactions make any sense from the points of view of the parties brought together or of the economy as a whole.

In the context of the most recent expansion the most prominent features have been:

- hedge fund operations, where high risk is taken-on for high reward;
- from 2000, the massive extension and use of various financial instruments, for example credit-default swaps and the securitisation of debt; and
- private equity operations, where takeovers were leveraged to an extreme extent by bank credit.

Ultimately, because the origin of these procedures was in distress financing, a large amount of the assets created are assets that reflect bad debts and are worthless. Because the predicament has been caused by

excessive expectations, distress financing merely serves to put off the inevitable consequence of a level of investment greater than that permitted by the yield on capital.¹⁰

On the face of it, however, the expansion will appear sustainable. Firms, optimistic for the restoration of financial health in the future, will find that their distress borrowing is willingly taken-up. Fundamental to this depiction of the economic cycle is that an excessive expansion can last for a long time – experience suggests for as many as 20 years – but cannot be sustained indefinitely.

The boom can be prolonged for precisely as long as demand exists to take up corporate debt financing. The practical limitation to this process is, therefore, investors' belief that new debt issued is sustainable – that is firms' future revenues will ensure that they are able to meet their obligations on that debt. However, eventually investors will realise that the additional debts they are being asked to take up, and those that they already hold, are bad debts. At this point there will be a deterioration or collapse of financial confidence. Evidence suggests that towards the end of a boom, the long-term interest rate on corporate debt will increase very rapidly, and spreads between corporate debt and government debt will widen, reflecting an increased perception of risk on investors' part. The precise transmission is unclear. In financial markets there will be two key events. Capital markets will begin to deflate, that is stock exchanges and bond markets will crash. There will be a credit crunch to the corporate sector – it may even be that this event triggers the capital market deflation (CMD), particularly if banks have a crucial role in debt financing. Keynes considered that these events happened with some force:

It is of the nature of organised investment markets, under the influence of purchasers largely ignorant of what they are buying and of speculators who are more concerned with forecasting the next shift of market sentiment than with a reasonable estimate of the future yield of capital-assets, that, when disillusion falls upon an over-optimistic and over-bought market, it should fall with sudden and even catastrophic force. (*CWVII*, pp. 315-16)

The 'real' events will happen in parallel. From the point at which firms can no longer re-finance debt, they will have to seek the only alternative ways to meet their costs: investment cuts (probably first, with implications for employment in the investment goods industries), intermediate consumption cuts (for example intangibles such as management consultancy or training), and then direct employment cuts and bankruptcy. The effect of CMD on firms' balance sheets may also be important here. A sharp deterioration in the balance sheet is, in itself, likely to force cutbacks in investment. It may be that this is the primary transmission mechanism of the failing confidence, but this seems a matter for conjecture.

¹⁰ Minsky sets out three financial 'postures' on the part of firms: 'hedge', 'speculative' and 'Ponzi'. The latter is most closely related to the discussion here. "3. *Ponzi finance*. The cash flows from assets in the near term fall short of cash payment commitments and the net income portion of the receipts falls short of the interest portion of the payments. A Ponzi finance unit must increase its outstanding debt in order to meet its financial obligations" (Minsky, 1985, p. 43). The economy described in the main text is one where Ponzi finance becomes endemic.

In terms of Keynes's theoretical analysis, there will be two key phenomena. As these financial developments occur, the MEC will be shifting towards a less optimistic position. Firms will know that their revenues from investments made during the expansion phase are failing to meet the expectations that led them to borrow in the first place. They will re-adjust the MEC to a more realistic position. At the same time the failure of confidence in financial markets will cause liquidity preference and risk premia to increase, leading to a sharp rise in the rate of interest. The combination of these effects will cause sharply reduced effective investment demand and hence reduced output and reduced employment.¹¹

In sum, the financial perspective characterises the economic cycle in two phases: an expansion that is accompanied by the corporate sector in steadily increasing indebtedness, and a contraction or recession that is the bursting of this debt inflation. The 'force' that brings an economy operating outside its correct level of investment back to reality is debt. The degree of indebtedness is then a measure of the excess of the expansion and will equally serve to prevent the automatic recovery in the way predicted by classical economics.

5. Keynes's solution revisited

The cause of the economic cycle is a rate of interest that is too high for a level of investment consistent with full employment, compounded by a monetary system that finances excessive investment for a prolonged period. Older terminology might be usefully resurrected: the economic cycle is caused by money which is easy – that is, readily available – but dear. As discussed, for Keynes, cheap money was the solution to the economic cycle.

While a cheap money policy should allow an economy to operate according to a higher level of investment, it does not immediately follow that that investment should be more stable than the equilibrium in the dear-money case. From a theoretical perspective, in a cheap money economy it is not possible to rule out substantial shifts in the MEC leading again to debt inflations and financial collapse. Keynes did not address this issue.

Such developments are perhaps more unlikely in the cheap- than the dear-money case. Under dear money, an economy will be in equilibrium with involuntary unemployment. With a boost to animal spirits and hence investment demand, perhaps fostered by the discount rate manipulation that is characteristic of liberal finance, employment will be increased *without excessive inflation*. But neo-classical theory (and hence policymakers) must interpret the expansion as driven by supply-side improvement (a decrease in the 'NAIRU' or improvement to the natural rate of growth). Theory will therefore permit the nature of the expansion to be misunderstood, and the expansion to proceed unchecked.

However, if monetary and fiscal policies are employed according to Keynes's theory, it may be possible to operate the economy at full

¹¹ The money supply will collapse, both as lending ceases and as debts are written off. Monetarists mistake symptoms for cause. (The same is true of trade.)

employment. Under such conditions there is no spare capacity, and if animal spirits take off inflation will be the result. There will also be no distortion to expectations through changes in the discount rate, which in Keynes's system was simply fixed (or 'parked') in line with the broader term structure that the authorities sought to establish.

The consequences of excessive expectations might not be so severe in a cheap-money economy because the cost of any associated debt would be less (and could too be ameliorated by a degree of inflation). Moreover, with a fuller understanding of the nature of the operation of a monetary economy, wider precautionary measures will be available. In particular, in a greatly regulated financial environment, the control of credit is easier by definition and can be set more easily according to the perceived needs of the economy. Money can and should be set cheap and tight.

The role of uncertainty and expectation in the economic process perhaps mean that no watertight conclusions can be drawn. What is certain, though, is that dear money does not prevent easy money, and dear-money policy will be likely to provoke excessive expansion followed by recession. Rejecting cheap money on the grounds that it may make money easy neglects this point that dear money does not prevent easy money and, at the very worst, amounts "...to refus[ing] to be cured because that will make it possible to become sick again" (Lerner, 1964, p. 222). Moreover the actual experience of cheap money should not be neglected, see section 6.1.

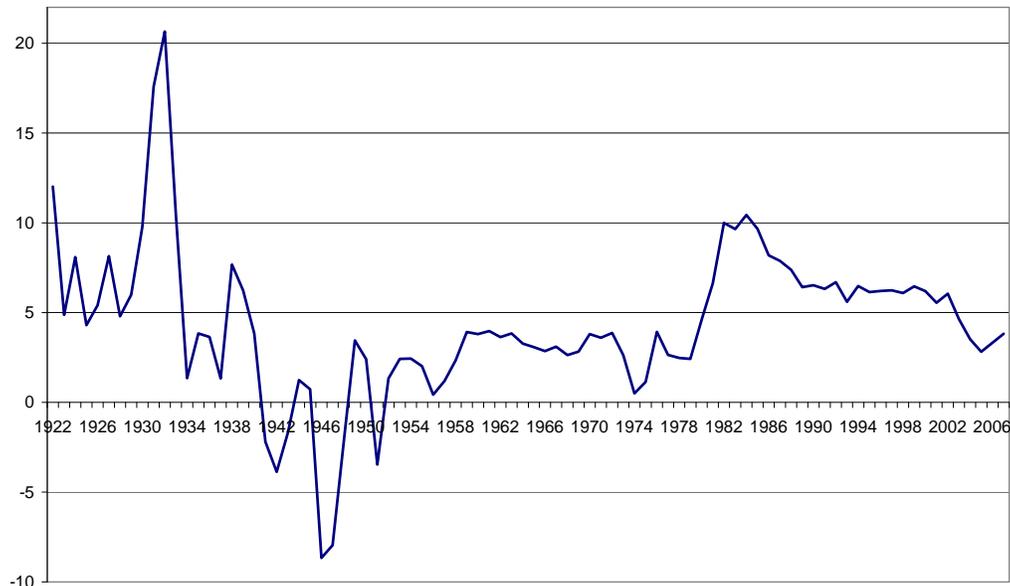
6. An empirical perspective

6.1 The level of interest rates

The past thirty years have been remarkable not for low interest rates, but for high rates. From the point of view of aggregate economic activity, the rate of interest of most importance is the long-term rate that governs the cost of corporate borrowing for fixed capital investment. Figure 6 shows a derived long-run series, based on rates on US corporate bonds (according to Moody's BAA ratings). The effects of inflation are removed using the US GDP deflator.¹² It seems reasonable to claim that these rates are a guide – if not a lower bound – to interest rates facing firms across the world.

Figure 6: inflation-adjusted interest rates on capital investment

¹² Source: websites of the Federal Reserve and the Bureau of Economic Analysis; deflators prior to 1929 were taken from Friedman (1982).



Source: See text

The figures indicate a fairly straightforward dynamic of interest rates throughout the twentieth century. After WWI interest rates were high, plainly confirming Keynes's view (section 2). Through the 1930s and into WWII, interest rates became significantly cheaper, falling negative on several occasions. From the 1950s through to the 1970s, interest rates were more stable at a fairly low level (though government rates actually fell negative during the 1970s). Between 1979 and 1981, interest rates rose sharply to a very high level, settling shortly afterwards and for a very prolonged period at a rate corresponding to that in the 1920s. Crudely, rates could be summed up as at 6 per cent in the 1920s, halving to 3 per cent from the 1950s-1970s and doubling back to 6 per cent for the 1980s and 1990s. Only at the start of the 21st century did these rates fall, and for only a brief period. Rates are now rising very rapidly (Figure 1). These broad trends are confirmed by other analyses – see Annex I. Beyond these broad movements, the relative smoothness of this series (particularly since the 1950s), contrasts with the extensive and frequent changes made to discount rates.

As shown in annex I, there have been few attempts even to articulate, let alone to explain these movements. Recent commentary focuses exclusively on events in C21. There is no substantial discussion about which interest rates have been low, and their relative importance. In terms of cause, they are only low following from low inflation. There is less analysis of why and how discount rate reductions appear to have briefly impacted on longer rates, when previous reductions in discount rates have not had that effect. Though more recently low longer-term rates have been attributed to high saving in Asia. There is no interest in the longer run dynamic of long-term rates. The fairly recent BIS assertion that interest rates have been “unusually low by post-war standards” (BIS, 2007, p. 8) is plainly misleading.

Those who have tried have also tended to explain high real rates through inflation, usually in a throwaway manner, as if the issue is of only marginal interest. Explaining everything using inflation is to stretch a point, it

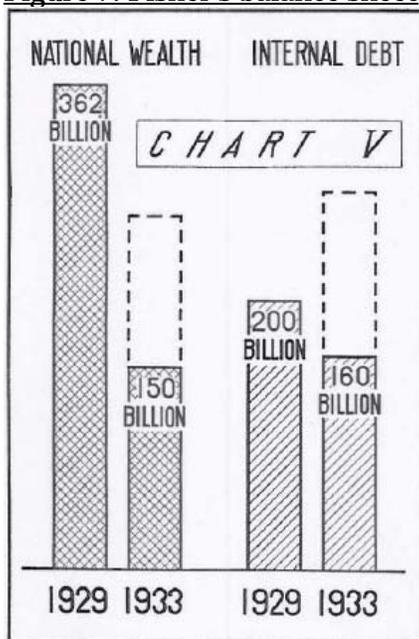
sits uncomfortably with Fisher's decomposition between real and nominal and neglects the fact that classical theory should explain real interest rates using saving and investment (which is scarcely mentioned).

In the *General Theory*, Keynes offered a wholly different explanation, with long-rates dictated by expectations and manipulable through policy mechanisms. Rates have been high because efforts and mechanisms to hold them low ceased and were discontinued, and capital markets were offered up to the financial sector (see section 7.2 and Tily, 2006).

6.2 The investment cycle and debt in the twentieth century

Keynes's original explanation for the cause of the Great Depression, offered at the Harris Foundation (section 2), was wholly compatible with his characterisation of matters in the *General Theory*. We know too that bad debt was widespread, not least through common knowledge of the great extent of bank failings and Roosevelt's bold remedial actions. Equally, Irving Fisher's (1933) debt-deflation theory exemplifies the role of indebtedness during the Great Depression. The paper includes estimates debt set against wealth (Figure 7).¹³

Figure 7: Fisher's balance sheet



Fisher's estimate of 'internal debt' in 1929 is 193 per cent of the corresponding estimate of GDP (which was not available when the paper was published). As is well known, having fallen to historic lows in the 1920s, unemployment rose to an unprecedented extent as the debt deflation progressed. However, Roosevelt's policy actions of the early 1930s, that

¹³ This was a terribly impressive achievement given National Accounts and hence denominators had only just begun to emerge.

mimicked those in Britain, finally reversed the severe deterioration in unemployment (Figure 2).

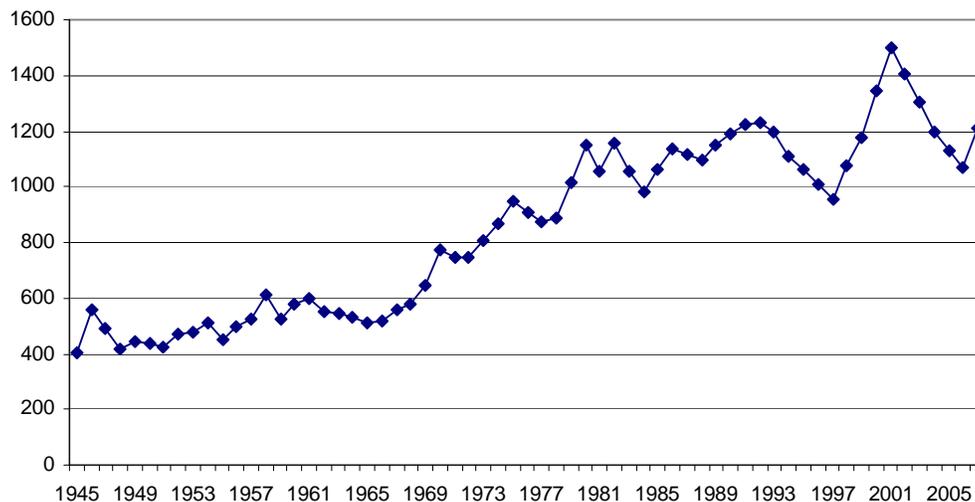
According to this interpretation of the *General Theory*, the role of cheap money in the post-war golden age must be acknowledged. As is well known, over much of the world unemployment was low and growth high (and the income distribution improved). Fixed capital investment was strong and industrial activity expanded; the expansion was certainly not due to government expenditure alone. Moreover, as Keynes argued, under cheap money, cyclical forces were subdued, and financial crises were remarkable by their not occurring. The era surely vindicated Keynes's genius, and has been too easily neglected.

The same analysis leads to grave concerns about the re-emergence of dear money in 1980. Until 2000, these interest rates were very stable in spite of changes in monetary policy approach, most notably the switch from monetarism to the so-called new consensus (and also, for some countries, fixing exchange rates).

The performance of the world economy has fallen substantially short of that during the golden age. Since 1980, unemployment has increased, growth slowed, and financial instability and the economic cycle have become regular global economic phenomena. Moreover the period has been characterised – particularly for the US and UK – by almost relentless debt and asset inflations. In the light of the theory above, these should be regarded as symptomatic of excessive expansions.

According to the theory, during the golden age firms invested at rates of interest that were affordable (as in Figure 5.b). Financial crises did not occur. Since 1980, firms have invested at rates of interest that – as in the 1920s – simply cannot be afforded (as in Figure 5.a). And, over time, an increased burden of debt has been the consequence. Figure 8 shows US corporate debt as a percentage of net operating surplus, and the very obvious 'structural break' at the point finance was liberalised.

Figure 8: Total liabilities of US non-financial businesses, % net operating surplus



Source: Federal Reserve, 'Z' tables, L.101; National Income and Product Accounts, Table 1.14.

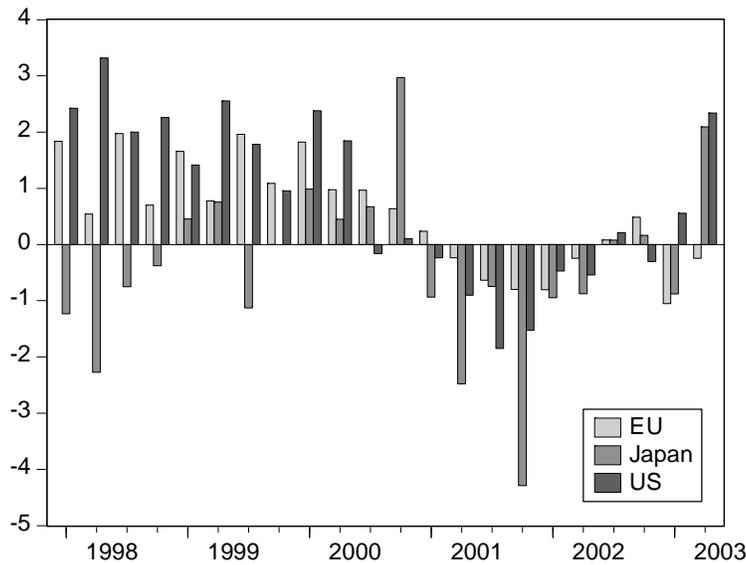
Figure 9: Demand growth in the US, per cent



Source: Bureau of Economic Analysis (BEA); the 1984 figure for business investment growth was 29.5 per cent.

Back on the 'real' side, investment expansion has been very erratic (Figure 9). Activity was severely curtailed in the wake of Volker's discount rate increases in the early 1980s (the official data on GFCF are very volatile over this period). The – only modest – expansion of the late 1980s gave way to severe recession. Then the – more vigorous – expansion of the late 1990s came to an abrupt end as capital markets deflated at the end of the twentieth century. Figure 10 shows how this event was a global phenomenon, with changes remarkably coincident.

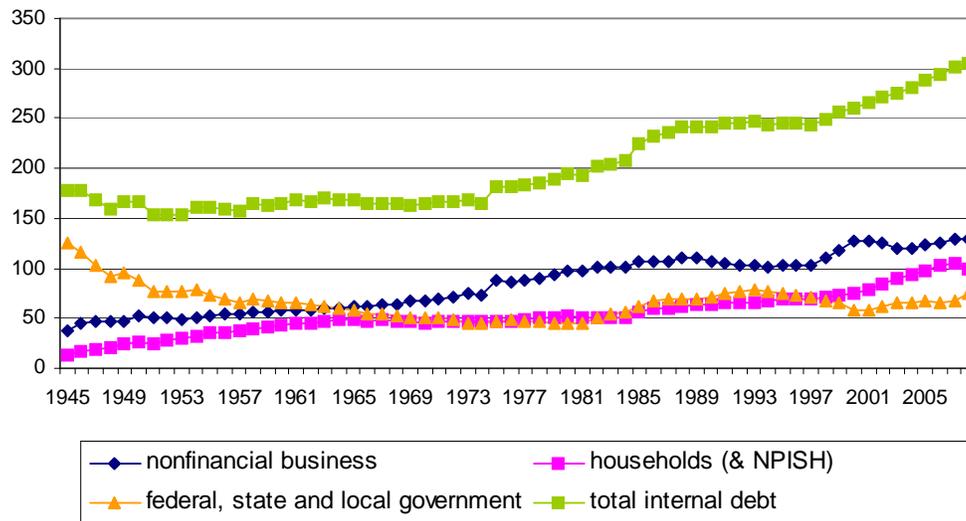
Figure 9: GFCF growth, quarter on previous quarter



Source: OECD

The government and household growth figures show the other sectors contribution to demand (Figure 9). The Volker shock was of course counteracted by a very substantial expansion in government expenditure, as was the recession of the early 1990s. Household consumption has been relatively robust over almost the whole period.

Figure 11: Total liabilities of other US domestic sectors, % GDP



Source: 'Z' tables, L.101, L.105 and L.106 and author calculation

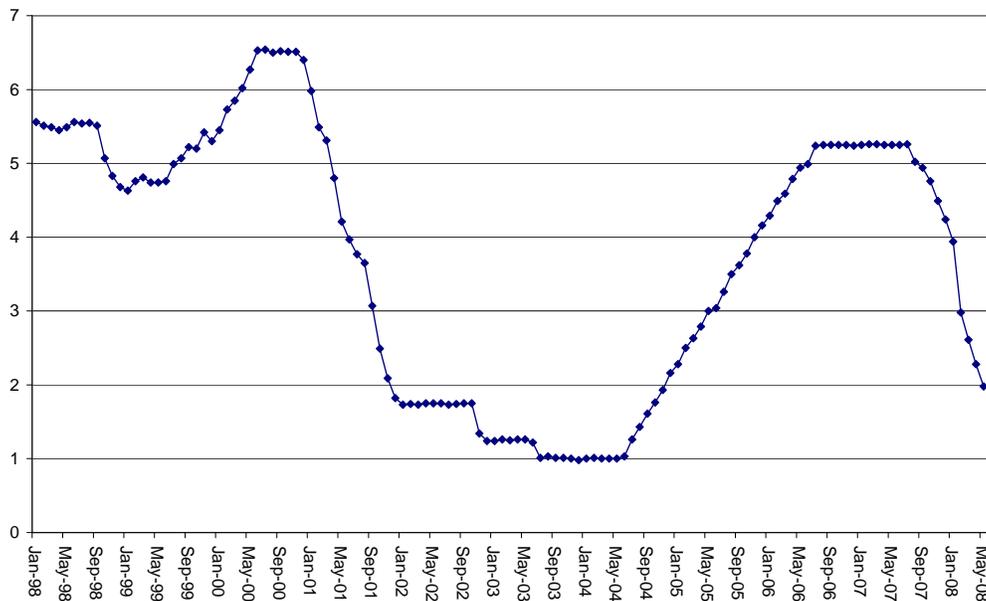
Figure 11 shows measures of indebtedness for all domestic/non-financial sectors, and a total as a share of GDP. These show the steadily increasing liabilities of all sectors, with the only brief improvement in the government

position during the expansion of the 1990s. Total liabilities in 2007 of 300 per cent of GDP are unparalleled in history, well above Fisher's estimate for the Great Depression.^{14, 15}

6.3 'Cheap money', 2001-04

The events since 2000 merit especially close attention, because of their central role in conventional analysis. From this point, the reduction in discount rates was instigated, illustrated most strikingly by movements in the Federal Reserve discount rate (Figure 12). These interest rate cuts were almost unanimously supported as the only way to prevent the business decline at the end of C20 turning into full-blown recession.

Figure 12: Federal Funds Effective Rate



Source: <http://www.federalreserve.gov/>

As noted above, these cuts to some extent fed through to longer rates. On Figure 6, rates fell in 2003 and hit a low of 2.8 in 2005, but by 2007 they had risen back up by 1 percentage point. These movements were initially a consequence of a shift from equity to debt, reflecting investors' fear of

¹⁴ This analysis must be regarded as only indicative, given the detail of Fisher's methodology is not known. In addition, few have attempted this kind of work, so such analyses are in their infancy. The figures above show higher indebtedness than in my previous study (Tily 2007, Appendix 11.1), which, because of some rather misleading headings in the 'Z tables', appear to have been based on only bank lending. Steve Keen of the University of Western Sydney has produced a good deal of analysis on Australia and the US. His long-run figures on 'private debt' show a similar story to that above (e.g. Keen, 2007).

¹⁵ Graham Turner (2008) has pointed out how policymakers turned a blind eye to these debt inflations, often through appealing to parallel asset inflations regarded, in turn, as a consequence of perceived supply-side considerations (so that causality is reversed from that in this paper).

recession. Whether they were also responding to discount rate cuts is not easy to establish; any relationship along the yield curve is complex and varies over time. But the critical point is that the cuts took place in a *severely deregulated* financial environment at a peak of debt and asset inflations.

Moreover financial institutions of all kinds created instruments and took an approach that caused the greatest extension of the money supply; this was a feature quite separate from the discount rate cuts, a feature of the liberalised environment itself, not a necessary consequence of low discount rates. A significant share of the money created went to highly-specialised financial institutions – hedge funds, private equity outfits and securities dealers – as well as more traditional merchant banks. These institutions used the credit to facilitate:

- a vast acceleration in the creation of opaque financial instruments (not least collateralised debt obligations and credit default swaps, commonly understood to have grown from almost zero to around £60 trillion between 2001 and 2007);
- highly-leveraged take-overs of non-financial corporations; and
- the re-ignition of housing and commercial property inflations across the world.

Across the world, regulatory and financial authorities, including central banks, looked away, even in spite of the possibly unprecedented expansion in the money supply.

These asset inflations may have served temporarily to bolster both household and corporate balance sheets. Yet any *real*/beneficial effects to businesses accrued increasingly to companies outside the US and Europe, not least to China. Current account deficits in the UK and US, already large, deteriorated sharply, and the absence of capital control permitted a good share of the associated capital account surpluses to flow back to Western financial products in a spiral of debt inflation.¹⁶ Where domestic gross fixed capital formation did increase, it was in activities most closely associated with the property and financial expansions.

In addition, the main domestic beneficiaries of the low rates were financial corporations, not ordinary businesses and consumers. These financial institutions leveraged substantially and lent on. It is hardly likely that these mechanisms would have operated if they were not lending-on at higher interest. At the same time, other products such as ‘teaser’ loans (where high interest loans were disguised as low interest loans) and ‘liar’ loans (where a lack of scrutiny perhaps deliberately encouraged dishonesty about earnings) indicated a complete breakdown in financial supervision.

Finally, as is well known, any ‘low’ rates were temporary. Policy rates were increased from the middle of 2004, longer rates from 2006. As Figure 6

¹⁶ According to this interpretation, these surpluses were consequence of expansionary western policies and the balance of payments arithmetic, not an independent decision to save more on the part of consumers in Asia. Martin Wolf is the most prominent advocate of this view, which follows a theory relevant only to a world where credit does not exist. See for example the *Financial Times* 9 October 2008, under the banner:

Asia’s revenge

Roots of the crisis The west’s traumas stem not just from cheap money, gung-ho bankers and lax regulation but from sustained capital inflows, writes **Martin Wolf**, author of a new book on global finance.

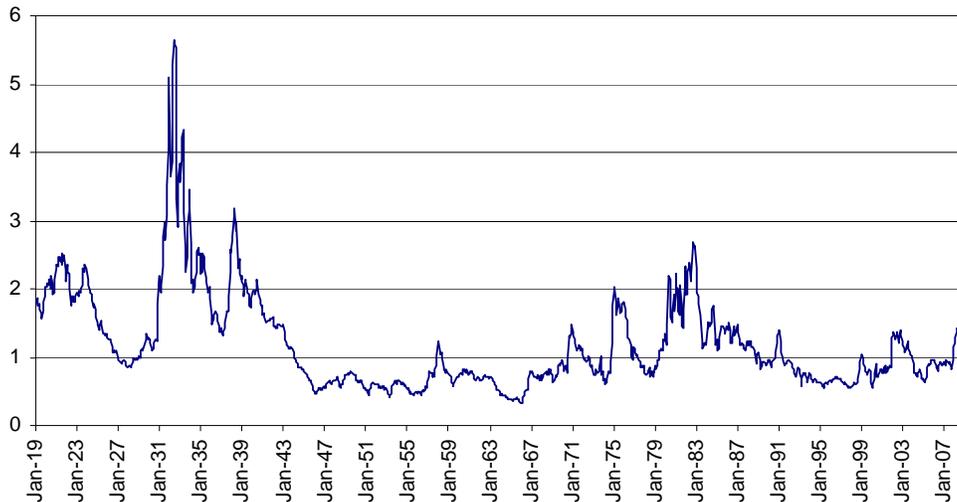
indicates, they had barely fallen to touch the level of the golden age when they abruptly reversed.

Returning to Figure 10, from 2000 household indebtedness has increased to an extent with no precedent in economic history. In parallel the terrorist attack on the World Trade Centre led to a substantial increase in government expenditure in the United States (in the United Kingdom the Labour Government's increased spending policies came on stream in good time). Corporate investment was eventually also stimulated (not least from construction) (Figure 8). Finally, while corporate indebtedness diminished (on some measures), it remained at a very high level.

The likelihood is that these expansions, let alone the associated extreme behaviour in the financial markets, have merely served to delay – and exacerbate – a long-overdue corporate recession. These events in the opening years of the twenty-first century, with which all are commentators solely preoccupied, were consequence not cause of economic decline. The extreme indebtedness is the most telling – and alarming – symptom of close to thirty years of *dear money*.

The ongoing financial market collapse reflects the final recognition of the unsustainability and absurdity of the situation. The increasingly common references to the Great Depression do not seem inappropriate given the unprecedented duration of the modern era of dear money and the scale of indebtedness relative to national income. There is no precedent for present spreads between AAA and AAB corporate bonds other than the 1930s: Figure 13. The authorities are finally recognising that the financial crisis is not one of liquidity but one of solvency. The process of de-leveraging – that defines recession – is underway.

Figure 13: Spreads on corporate bonds



Source: Federal Reserve website

The monetary environment of the 2000s was quite the reverse of Keynes's intentions. His low interest policies were aimed at encouraging non-financial companies to extend capital investment and foster a revival in animal spirits. They were implemented in a highly regulated domestic and

international financial environment, not least with capital control and a greatly diminished role for consumer credit. Moreover his policies were intended as permanent not temporary. The evidence of the golden age is that low rates of interest can be associated with prosperity and stability, not chaos.

7. Policy

7.1 Cure

Policy action needs to be aimed at the non-financial corporate sector, in the first instance at the high rates of interest on corporate lending. Certainly Bank rate cuts were necessary, but they have made very little impact on rates impacting on the corporate sector. Quantitative easing may too play a role, but in the 1930s, as discussed in section 2, the monetary response was far more wide-ranging, involving more direct action on the long-term government rate, instigation of a new exchange regime and capital control.

If international conditions or agreement permitted, an alternative approach would be for the authorities to announce a stated aim for long rates, and then make an offer to deal with debts of various maturities as Keynes suggested (p. 10). This would involve the rejection of the modern ‘funding complex’, i.e. preference for issuing long bonds, and a potential great extension in the use of Treasury bills. This technique does not involve the increase in the money supply associated with quantitative easing.

But the scale of indebtedness, the vast increase in the risk premia on corporate debts and the sheer pace of real collapse suggest that even the fullest action on interest rates may be insufficient. As in the 1930s, action should be aimed more directly at the corporate sector, in particular through public expenditure (possibilities of more direct debt forgiveness are not addressed). Such action should be aimed at restoring the revenues of domestic corporation, restoring respectability to balance sheets and arresting – and ultimately reversing – the rapid deterioration in employment. It should be financed in the first instance by borrowing from the banking system, i.e. by credit creation.^{17, 18}

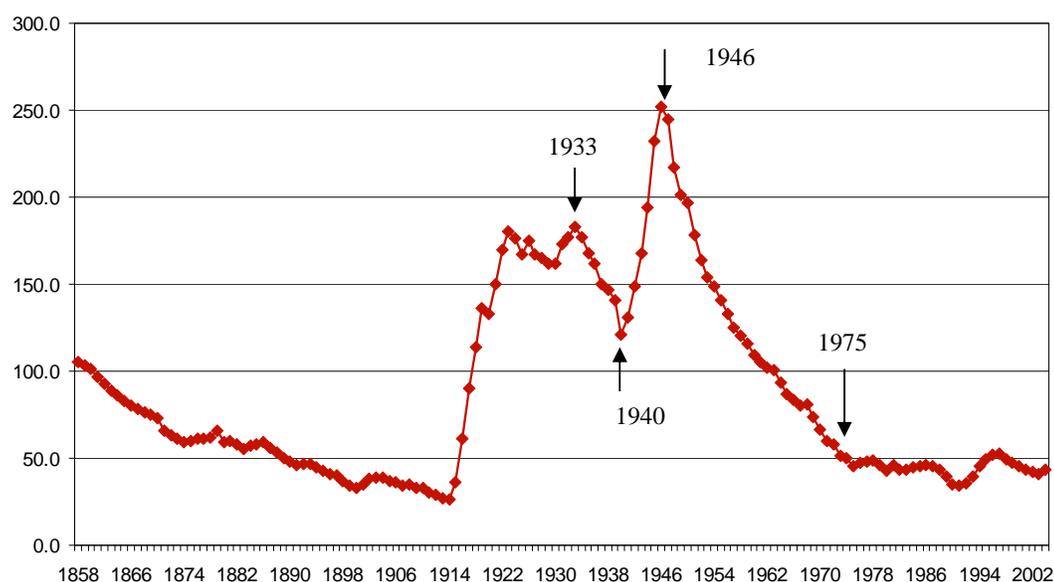
To re-iterate: according to Keynes’s understanding of the operation of a monetary economy, with no underlying equilibrium determined in the labour market, there is no inevitable mechanism that will operate to arrest the decline. Indeed the economy is likely to be in the grip of a powerful negative multiplier and compounding reversals in animal spirits. Conversely the economy is not constrained by a pre-ordained public borrowing profile that follows from an underlying trajectory for growth, and that deteriorates as growth departs from that trajectory.

¹⁷ As Charles Goodhart and others suggested in a letter to the *Financial Times* on 31 December.

¹⁸ The concern with existing schemes to protect financial corporations is that schemes do not address underlying symptoms. Public expenditure should revive asset values, and hence financial corporation balance sheets. Outside this, the economy is not self-righting nor do asset values have natural levels.

For Keynes, as for others in the 1930s,¹⁹ public expenditure during in a recession should be self-financing. Multiplier processes should create income, saving, tax revenues and reductions in transfer payments that should ensure that the balance sheet of the public sector is not impaired by the public expenditure.²⁰ Indeed the evidence of the 1930s is of the reverse, with public expenditure coinciding with recovery to national income and an improvement in the public finances (Figure 14). Annex 2 looks in a little more detail at these public spending policies in the 1930s.

Figure 14: Public sector debt, % GDP



Source: HM Treasury

It is possible that the recovery to the public finances and the economy was in place before fiscal policy was engaged, but I regard it as unlikely. Commentary at the time indicated that recovery was not in place following monetary measures alone. A. C. Pigou and others wrote a letter to *The Times* in October 1932 advocating public works expenditures. Keynes's *Means to Prosperity* was published in March 1933 (see below). In the *General Theory*, with the benefit of hindsight, Keynes was quite clear that he thought that cuts in the rate of interest alone were insufficient for full employment (e.g. pp. 164, 320 & 325; he was speaking in general terms rather than in the specific instance of recovery from recession, and, he did of course recognise "There is, indeed, much force in the argument that a high rate of interest is much more effective against a boom than a low rate of interest against a slump", *CWII*, p.

¹⁹ Kahn (1931 & 1932) and Warming (1932).

²⁰ Any notion the (employment) multiplier is less than one follows from an assumption of linearity that is unwarranted; such nonsense has no foundation in the *General Theory*. The impact of public expenditure during a recession is very different to its impact in the 1970s when the economic and policy environment was wholly different.

320). Perhaps most telling is that even Lionel Robbins, who opposed each initiative for public works, later conceded the error of his ways.²¹

Moreover a central conclusion of the *General Theory* is the role of adequate demand in maintaining the momentum of a free market economy. The sources of that demand at present seem precarious: businesses are going bankrupt at a rapid rate and aggregate GFCF is reversing; with unemployment on the rise, a resurgence in household demand seems impossible; finally, the rest of the world is in a similar predicament to the UK. This is the point at which government should step in.²²

Lastly here, the present state of affairs bears an uncanny resemblance to March 1933 when Keynes published *The Means to Prosperity* in advance of the June/July 1933 World Economic Conference (WEC). Keynes urged the conference to implement 'loan expenditure' on public works. He emphasised that inflation should not be a concern when unemployment was high, and that internationally coordinated action should ensure that the significance of leakages to trade were minimised. Prerequisite to the expenditures was the monetary environment. Keynes advocated especially further reductions in the long-term rate of interest: "This requires a combination of manoeuvres by the government and the central bank in the shape of open-market operations by the bank, of well-judged conversion schemes by the treasury, and of a restoration of financial confidence by a budget policy approved by public opinion and in other ways" (*CWIX*, p. 353). Finally, given most countries were still constrained by the gold standard, he proposed a scheme of gold notes to facilitate broad-based expansion.²³ No doubt today he would have been looking to a Bretton Woods II and his own International Clearing Union.

7.2 Prevention

While policymakers and commentators today concede the immediate need for a low rate of interest, the associated diagnosis demands higher interest rates in retrospect and must inevitably look to higher rates in the future (especially given the extent of discount rate cuts has gone further than Keynes might have envisaged). A typical and early statement of this perspective was the Bank for International Settlements' "new macrofinancial stability framework":

To be more specific, monetary policy might be tightened even with projected inflation under control, given a sufficiently worrisome combination of rapid credit growth, rising asset prices and distorted spending or production patterns. In focusing on a combination of systemic indicators, this proposal is quite different from simply targeting asset prices. (BIS, 2007, p. 148)

²¹ See e.g. Corry, 1987, p. 207.

²² One feature of note is the far greater size of the government sector at present than during the Great Depression (see section 7.3), which might in its own right help to ameliorate the impact of the corporate slump.

²³ Of protectionism he noted: "Currency devaluations and tariffs were weapons which Great Britain had in hand until recently as a means of self-preservation. A moment came when we were compelled to use them, and they have served us well. But competitive currency devaluations and competitive tariffs, ... help no one and injure all, if they are applied all round" (*CWIX*, p. 352).

Looking to the future, the intention is to restrict the growth of the money supply through greater regulation of the financial sector. The doctrine of liberal finance is not challenged, but re-enforced, and taken together the policies amount to a regime of dear but tight money. It is unclear whether such a system is even possible, given the ability of the financial sector to innovate.

From the point of view of the *General Theory*, even if feasible, it is wholly undesirable. The system would operate by bearing down even harder on aggregate demand, causing still higher unemployment. For Keynes the goal of policy was a low rate of interest not a low quantity of money. The great changes to the monetary environment that he demanded and achieved were means to that end, not an end in themselves.

At the National Debt Enquiry he set out a practical manual for post-war monetary and debt management policy that reflected the experiments and experience of his life. Comprised of senior civil servants and Keynes, Lionel Robbins and James Meade from the economics side, it met in April and May 1945. Sir Richard Hopkins, the Permanent Secretary to HM Treasury, drafted the Report.²⁴ The remit of the Enquiry was presented as follows: “We were asked to define more closely an appropriate Treasury policy in regard to cheap money with particular reference to statements in the White Paper on Employment Policy” (NDE Report, para. 2). The Report set out techniques and structures for debt management and associated interest rates. His International Clearing Union could be regarded as its international counterpart. It was published as a White Paper and put to the Bretton Woods negotiations as the position of the UK Government. Neither made great impact on the post-war world.

On a domestic level, the specific mechanisms he had instigated during the war were gradually abandoned after his death. However, international agreements did ensure that the global financial environment was greatly regulated after the end of WWII, and this permitted interest rates to remain relatively low for the next third of a century.

The modern age of dear money followed the fuller dismantling of these arrangements. With financial liberalisation, and the ‘Volker shock’, interest rates rose across the spectrum, and, as seen, stayed high for the next quarter of a century. The outcome follows directly from the theory of liquidity preference, which has the level of interest rates as a social phenomenon. The authorities simply abandoned control to the financial markets. I have come across no other credible explanation.

According to Keynes’s theory a corresponding and permanent reduction in interest rates *across the yield curve* is prerequisite to any substantial restoration of the global market economy. As in the 1930s, this reduction will require a great re-examination of domestic and international monetary systems, and changes that go way beyond those envisaged by policymakers today. Keynes saw the necessity of capital controls, and as noted his theory pointed to his International Clearing Union for international exchange. Finally, from a domestic point of view, just as Keynes saw the

²⁴ The National Archives, Public Record Office, Treasury file T230/95; minutes are on T230/94.

discount rate having no role in the management of exchange rates, it should have no role in the management of inflation.²⁵

7.3 Keynes and economic nationalism

In July 1933, with the majority of the theoretical scheme of the *General Theory* in place, Keynes wrote a piece entitled 'National Self-Sufficiency'. It is perhaps as broad a statement of his worldview in its practical effect as he ever made. He had become convinced that the case for free capital and to some extent free trade were false, and, on balance, detrimental to domestic well-being.

I sympathise, therefore, with those who would minimise, rather than with those who would maximise, economic entanglement among nations. Ideas, knowledge, art, hospitality, travel – these are the things which should of their nature be international. But let goods be homespun whenever it is reasonably and conveniently possible; and, above all, let finance be primarily national. (*CWXXI*, p. 236)

Free capital stood in the way of the reduction in the rate of interest that he saw as essential. On trade, while:

[a] considerable degree of international specialisation is necessary in a rational world in all cases where it is dictated by wide differences of climate, natural resources, native aptitudes, level of culture and density of population. But over an increasingly wide range of industrial products, and perhaps of agricultural products also, I have become doubtful whether the economic loss of national self-sufficiency is great enough to outweigh the other advantages of gradually bringing the product and the consumer within the ambit of the same national, economic, and financial organisation. (*ibid.*, p. 238)

From the perspective of government, he lambasted those who stood in the way of public works: “though how the construction to-day of great and glorious works can impoverish the future, no man can see until his mind is beset by false analogies from an irrelevant accountancy” (*ibid.*, p. 241).

Yet within this broader framework, “[i]n matters of economic detail, as distinct from the central controls, I am in favour of retaining as much private judgment and initiative and enterprise as possible” (*ibid.*, p. 240). He finally and firmly emphasised “For I must not be supposed to be endorsing all those things which are being done in the political world to-day in the name of economic nationalism. Far from it” (*ibid.*, p. 244).

²⁵ That is not to say that Keynes disregarded inflationary concerns. Policies to set long-term rates of interest meant accepting a large increase in the volume of floating debt (see Tily, 2006). Treasury Deposit Receipts (TDRs) were introduced, which had a six-month maturity and slightly higher interest rate than Treasury bills. These were not reservable against cash at the central bank, and so ensured that the increase in floating debt did not lead to a corresponding increase in credit creation. Moreover the whole fiscal strategy outlined in *How to Pay for the War* was concerned with the avoidance of inflation in the wake of the great increase in government expenditure necessary for the conduct of war.

Such doctrines were prominent even in Britain, with Harold Macmillan, the future Conservative Prime Minister, emerging as a figurehead for Economic Nationalism. The 'Preface' of his book, *Reconstruction: A Plea for a National Plan*, explained cause, motive and means:

We must realise the essential contradictions of *laissez-faire* even while we may appreciate the energy and drive of a rugged individualism. The policy we are seeking will only be satisfactory if it goes *deep* enough to correct the maladjustments and reconcile the disharmonies from which our problems arise. But, if revolutionary violence is to be avoided, it must also make its appeal to a sufficiently *broad* strip of public opinion to secure the support for its adoption. It must be at once radical and popular. (Macmillan, 1933, pp. 6–7; his italics)

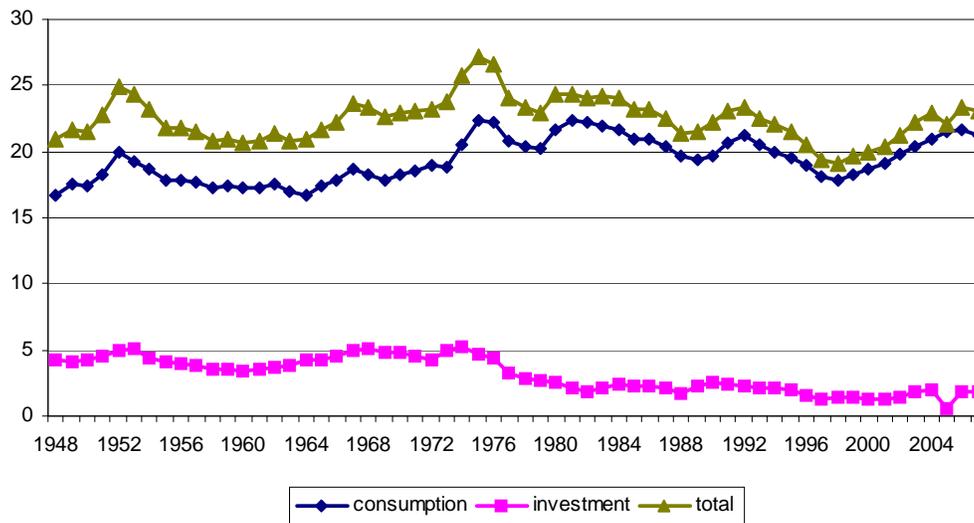
Macmillan and Clifford Allen then led the 'Next Five Years Group' (NFYG; Skidelsky, 1992, p. 438). Allen was a leading Fabian and member of the Labour Party (he took MacDonald's side when the Labour Party split in 1931). After issuing two pamphlets, a fuller manifesto was published as *The Next Five Years: An Essay in Political Agreement* (1935). The 'Foreword' includes a list of 152 signatories drawn from across British society ('drawn from different parties and schools of thought'). The list also indicates those signatories that were members of the 'drafting Committee': Allen, W. Arnold-Forster, A. Barratt Brown (the Principal of Ruskin College, Oxford), Geoffrey Crowther (soon to succeed Walter Layton as editor of *The Economist*), Macmillan and Arthur Salter. The manifesto foreshadowed much of what was to become the post-war agenda, especially planning and the welfare state.

This was not the agenda of Keynes. He saw such an approach as inimical to sense, democratic ideals and of course to economic efficiency. Keynes stood for a market system but operated on a national basis, where the role of the authorities was to set the framework for activity and ensure through monetary and fiscal policy that demand was sufficient for full employment.

Quite possibly the post-war era was founded on compromise, with elements of monetary reform and elements of the planning agenda. Moreover, with the abandoning of this compromise, financial liberalisation has not led to any significant reduction in the size of the state. Indeed, arguably the economy has become increasingly reliant on state spending. There has been scarcely any change government spending as a share of GDP over the whole post-war era, Figure 15.²⁶ In parallel the balance sheet of the public sector has deteriorated, when it improved during the golden age. Figure 14 showed the improvements to the public balance sheet being arrested in the 1970s.

²⁶ The average from 1948 to 1975 was 22.5 per cent, and from 1975 to 2008, 22.6 per cent. Calculations are sensitive to where 1975 scores, but this does not detract from the basic point.

Figure 15: G / Y , %, UK



Source: ONS

My interpretation of these figures is that the higher rates of government intervention have been necessary to preserve a reasonably 'respectable' level of employment in a monetary environment that has acted against private income creation. Liberal finance has led to an economy more precariously reliant on public expenditure.

8. Conclusion

As the world economy faces the greatest economic crisis since the great depression, it is as if Keynes had never lived. Economists are attempting to confront a financial and debt crisis with a model relevant only to a real-exchange economy. Plainly such a model could not and did not predict first the occurrence and then the magnitude of the crisis; yet it still dictates terms for recovery. Moreover it is a model that has been tested and failed in reality: the low inflation regarded as necessary and sufficient for prosperity and stability has been achieved, yet this condition has precipitated the collapse.

Keynes's substantial challenge to the *status quo* is ignored. Keynes understood the nature of a monetary economy, and set out a rich theory of its operation. But this theory did not survive into the literature and especially the textbook:

Now, no doubt, Keynes and his most intimate colleagues began by creating an open-ended system very different from the mechanical excellence of the old determinate 'science'. But its development and application would have implied an historical and sociological approach to the unique sequences of economic development. This the profession was fiercely unwilling to undertake.

Instead a new theoretical edifice was erected which could be reconnected to the neo-classical theory of harmony and just shares in the distribution of income. ...

The 'Keynesian' Revolution gained acceptance because ultimately it was, after its formalisation, deeply conservative in character. (Balogh, 1976, pp. 83–4)

The 'system' of the *General Theory* itself explains our predicament and offers solution that might be profoundly desirable. In the 1930s, in a very similar situation, the mechanisms that Keynes advocated and helped to implement, in spite of conventional opposition (and associated appeals to the sustainability of public debt and the dangers of price inflation that are prominent today), led first to recovery and second to a golden age of economic activity. Today, fierce opposition to Keynes's challenge – or rather any challenge to the mainstream doctrine – remains deeply rooted in policymakers and theoreticians alike. In my view this opposition has been blinded to Keynes by the fallacious doctrines of his 'followers'. In the wake of this great crisis, the economics profession must surely open itself up to the possibility that there is very much more to Keynes than it has been led to believe.

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Annex I

Other empirical analyses of the long-term rate of interest

The great rise in interest rates at the start of the 1980s did not go unnoticed, even if it is not widely understood let alone discussed. In 1984, the IMF addressed the movement of interest rates in the first half of the 1980s (their figures are reproduced on Table A1):

Perhaps the most striking and puzzling feature of monetary conditions in the major industrial countries over the past several years has been the persistence of high real interest rates, on both short-term and long-term financial instruments. These high real rates, which have *no historical precedent* outside periods of price decline during depressions, have persisted, despite lower inflation and the continued existence of a significant margin of economic slack. The phenomenon is quite widespread. Although real interest rates have differed across the major industrial countries, on the whole there has been less divergence of these rates, especially during 1982–84, than in previous periods.

...

These measures imply that real interest rates in the major industrial countries during the 1980s have been significantly higher than those that prevailed in the 1950s and early 1960s and even further above those of the 1970s. Real interest rates increased sharply during the period from 1980 to 1982 and then remained at relatively high levels in 1983 and 1984. ... The average real short-term interest rate in the major industrial countries in 1980–84 was 5.5 per cent per annum and the average real long-term interest rate was 5.8 per cent [see Table A1].

In contrast, average real long-term interest rates for the major industrial countries during the period 1952–65 ranged from roughly 1.5 to slightly over 3 per cent per annum. The contrast is even sharper with the experiences of the late 1970s. During 1976–79, for example, the average real long-term interest rate in the major industrial countries was 0.9 per cent per annum. (IMF, 1985, pp. 123, *my emphasis*)

Table A1: Major Industrial Countries: Real Long-Term Interest Rates on Government Debt

	1977	1978	1979	1980	1981	1982	1983	1984
Canada	0.4	0.7	0.3	0.7	4.2	7	7.5	8.4
United States	0.9	-0.2	-0.3	2	6.8	8.7	8	9
Japan	3.7	3.7	1.4	4.3	6	6.9	6.8	6.1
France	1.6	-0.7	-2.6	0.8	2.4	6.2	5	5.9
Germany, Fed. Rep.	2.7	2	1	2.9	5	5.8	4.9	5.4
Italy	1.6	0.2	-5	-3.6	-0.7	5.9	4.6	4.4
United Kingdom	2.2	1.7	-1.1	-0.1	5.5	7.3	6.1	5.8
Average, above countries	1.7	0.8	-0.3	1.9	5.4	7.5	6.8	7.4
Average, four major European countries	2.1	0.9	-1.3	0.7	3.5	6.3	5.2	5.5

Source: IMF (1985)

Sidney Homer's *A History of Interest Rates*, has been the definitive analysis of the subject since its first edition in 1967. He published a second edition ten years later. Homer died in 1983, and his pupil Richard Sylla was entrusted with the production of a third edition of his work. On the opening page, Sylla warned:

The spectacular rise in interest rates during the 1970s and early 1980s pushed many long-term market rates on prime credits up to levels never before approached, much less reached, in modern history. A long view, provided by this history, shows that recent peak yields were far above the highest prime long-term rates reported in the United States since 1800, in England since 1700, or in Holland since 1600. In other words, since modern capital markets came into existence, there have never been such high long-term rates as we recently have had all over the world. (Homer and Sylla, 1991, p. 1)

Ciocca and Nardozi (1993) built on this analysis, in particular de-bunking any neo-classical explanations for the great rise in interest rates. They observed that saving and investment were higher when interest rates were lower, in direct contradiction to the neo-classical. Referring to Keynes's interpretation of interest rates, they argued:

In the Keynesian conception the high price of money is a matter of economic policy. ... We are not condemned to the perpetuation of the high

interest rates which the world economy handed on as a legacy from the past. (Ciocca and Nardozi, 1993, pp. 117-8).²⁷

In 1997 Luigi Pasinetti reasserted Sylla’s warning, concluding: “The Social burden of the high interest rates is thus upon us, and it is by no means light” (Pasinetti, 1997, p. 168).

At the end of the twentieth century, an edition of the *Oxford Review of Economic Policy* on ‘real interest rates’ set the long-term interest rate performance against measures of economic performance, in particular Gross domestic product and inflation. A summary piece by Allsopp and Glyn (1999, pp. 3–4) assessed the figures reproduced here in Table A2 as follows:

There is a widespread impression that real interest rates have been very high since 1980 in comparison with post-Second-World-War experience. The data in [Table A2] confirm that this is indeed the case. Short-term real interest rates, averaging nearly 4 per cent, have been much higher and a little more stable than between 1950 and 1980. The general picture is confirmed by data on long rates as well.

Most of Allsopp and Glyn’s analysis focused on short rates, though, as in the above quotation, they confirmed the relation for long rates. Moreover, they did not consider explicitly the rate paid by firms for capital expenditure, except by association. They did, however, emphasise the international nature of the phenomenon under discussion:

So it would be wrong to think of ‘the world interest rate’ as much more than summarizing average experience. However, country experience has *not* been so diverse as to make such an average a misleading abstraction. (Allsopp and Glyn, 1999, p. 2)

Table A2: Real interest rates since 1950 (average of USA, UK, Germany and France)

	Mean real short rate (%)	Standard deviation of real rate (%)	Inflation rate (% p.a.)	GDP growth (% p.a.)	Profit rate (%)
1951-68	0.7	2.6	3.2	4.5	15.0
1969-79	0.3	2.3	7.6	3.3	9.3
1980-97	3.8	1.9	3	2.1	9.3

Source: Allsopp and Glyn (1999)

They observed:

²⁷ The authors celebrate the contributions of Fausto Vicarelli (eg 1985) to whom they dedicate their work “with a remembrance and an esteem that the passing of time from his sudden death does not diminish” (*ibid.*, p. 121).

The most remarkable feature ... is that during the 'golden age' of the 1950s and 1960s, short-term real interest rates averaging less than 1 per cent coincided with extremely high real profits rates, which were in turn associated with exceptional rates of growth of capital stock and output. Allsopp and Glyn (1999, p. 3)

The fact that inflation was low over the same period (shown also in Table A2) should also not be neglected by those who regard Keynes's policies as inflationary almost by definition.

More recently the UK Pensions Commission has produced a detailed analysis of long-term rates of interest on both government bonds and equity, hence establishing the costs of capital for government and business alike. The Commission showed time series of returns on UK gilts, fixed-rate US Treasuries and UK and US equities held for various periods over time. Table A3 here summarises their figures for returns over 5 years. The Commission's analysis contrasted the returns over the whole period studied with the significantly higher returns after 1977.

Table A3: Mean annualised real rate of return over 5 year period

	US 1925-2003 UK 1899-2003	1977-2003
UK Gilts	1.4	7.0
US Treasuries	2.2	6.8
UK equities	5.7	10.4
US equities	7.1	10.0

Source: Pensions Commission (2004, pp. 55-63)

That the climate since the 1980s has been of high and not low interest rates is unambiguous from all analyses.

Few commentators have sought to explain any of these movements in interest rates, the best offered are half-baked references towards inflation. Having briefly exhausted all possibilities, the IMF concluded:

The preceding discussion does not suggest any very clear-cut answer to the question of why real interest rates have remained so high after the initial impact of the introduction of monetary restraint had worn off. ...

...

Two factors, however, suggest that it would perhaps be unwise to assume that nominal interest rates adjusted for current inflation will decline all the way back to the average levels of the 1960s and 1970s. First, the gradual acceleration of inflation over the earlier period may have resulted in expected inflation being systematically below actual inflation, and thus in some downward bias in estimated real rates. Second, the possibility cannot be dismissed that new production techniques have increased the productivity of capital in a way that would justify higher real interest rates for an extended period. (IMF, 1985, p. 129)

The *Oxford Review* simply sees them as natural: “[w]e find that high real rates since 1980 seem to be a return to a long-run norm ...” (Chadha and Dimsdale, 1999, p. 17). The Pensions Commission (2004, p. 54) come to the opposite conclusion, with emphasis on inflation:

... periods of extremely attractive real return ... are concentrated in the 1980s and 1990s which saw a sustained deceleration of inflation.

...
One conclusion can however be drawn from this historical data: the rates of return earned on nominal bonds in the 1980s and 1990s were exceptional, caused by an unanticipated decline in inflation, and cannot be expected to repeat in future

But it is to stretch a point to argue that inflation is permanently coming in lower than expected. Moreover, as Table A2 shows, inflation outturns in the golden age and the modern dear money age were almost identical, it is surely more likely that expectations of inflation and ‘hence’ real rates would have been higher in the earlier period (given Keynes’s alleged disregard for inflation). Then (in the main text) the BIS used recent low inflation outturns as an explanation for recent low interest rates. Economists need to recognise that there is a good deal more to economics than inflation.

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Annex II

The multiplier and public works expenditure in the 1930s

In the *General Theory* the multiplier was a nominal relationship; it was not a constant, but Keynes did consider calculations could be made on the assumption of a degree of stability. When Keynes wrote, there were no official statistics of national income and he became intimately involved in their preparation.²⁸ With the benefit of such figures, it is now a simple matter to assess the value of the multiplier, as the ratio of the change in consumption to the change in income, adjusted for trade.

Figure A2.1: The marginal propensities to consume and import, UK

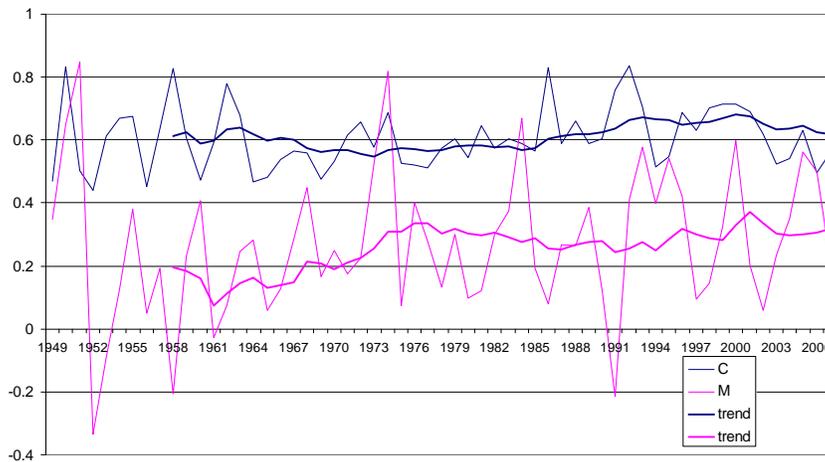
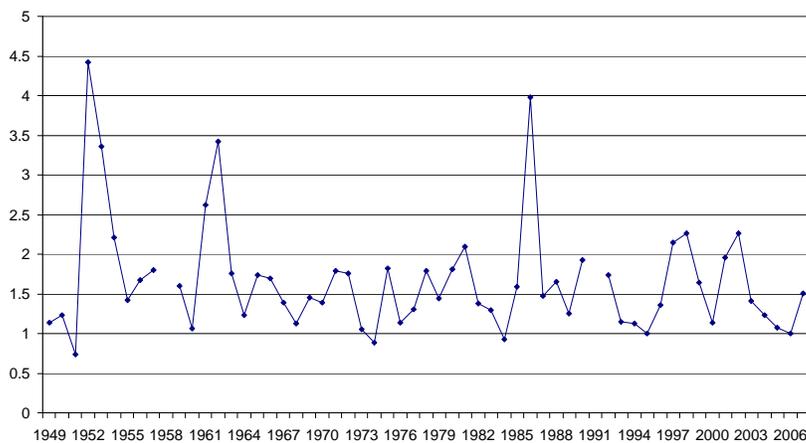


Figure A2.2: The multiplier, UK



²⁸ Tily, Geoff (2009) 'John Maynard Keynes and the Development of National Accounts in Britain, 1895 – 1941' *The Review of Income and Wealth*, 55 (2), Jun., pp. 1-29.

Figure A2.3: The marginal propensities to consume and import, US

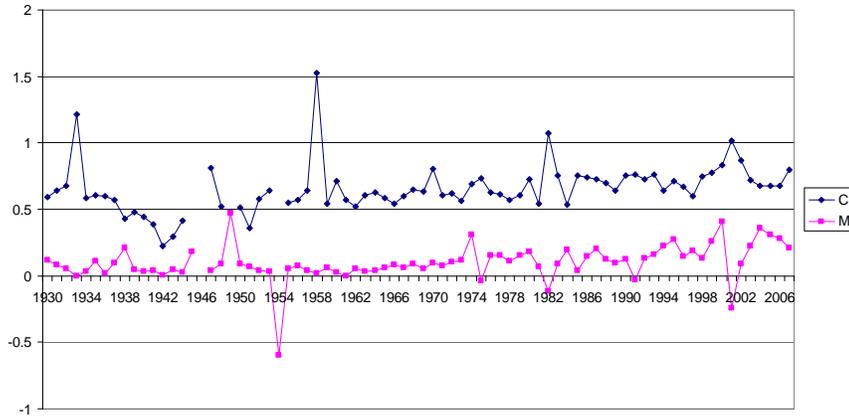
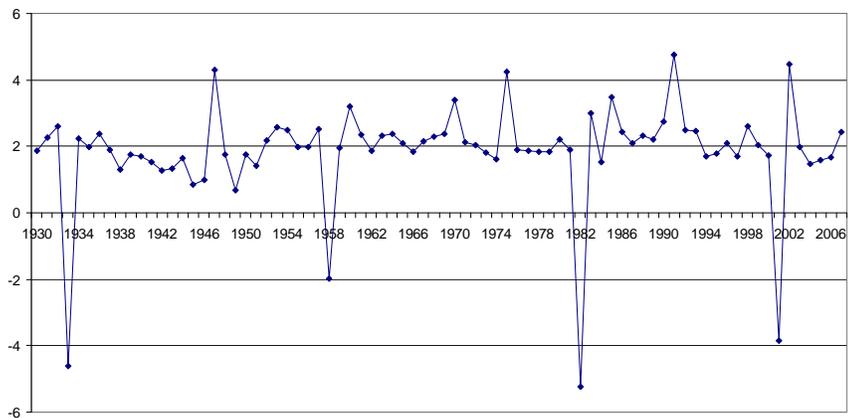


Figure A2.4: The multiplier, US



The figures straightforwardly indicate values for the multiplier of $1\frac{1}{2}$ for the UK and 2 for the US, with the UK consumers more conservative and the UK more dependent on imports. The shares to price and volume vary over time, depending mainly on the extent of spare capacity. But it seems hardly plausible that much would go to price at present.

Historic national accounts information can be used to assess the impact of public works expenditures during the 1930s. Tables A2.5 and A2.6 show for the UK and US levels and changes in key components of aggregate demand and total national income (in current prices).

Table A2. 5: GDP(E), UK, £ millions

	Level:				Change:			
	C	G	M	Y	C	G	M	Y
	£ million							
1928	3939	425	1325	4406				
1929	3983	435	1359	4492	44	10	34	86
1930	3932	443	1185	4443	-51	8	-174	-49
1931	3805	443	989	4063	-127	0	-196	-380
1932	3683	431	823	3913	-122	-12	-166	-150
1933	3696	430	784	3920	13	-1	-39	7
1934	3802	446	845	4170	106	16	61	250
1935	3935	483	898	4280	133	37	53	110
1936	4080	536	976	4540	145	53	78	260
1937	4289	617	1159	4910	209	81	183	370
1938	4392	749	1062	5170	103	132	-97	260
1939	4539	1179	1190	5470	147	430	128	300

Table A2. 6: GDP(E), US, \$ billions

	Level:		Change:					
	Y	G	Y	C	I	X	M	G
1929	103.6	9.4						
1930	91.2	10	-12.4	-7.3	-5.7	-1.5	-1.5	0.6
1931	76.5	9.9	-14.7	-9.4	-4.9	-1.5	-1.2	-0.1
1932	58.7	8.7	-17.8	-12	-4.6	-0.9	-1	-1.2
1933	56.4	8.7	-2.3	-2.8	0.4	0	0	0
1934	66	10.5	9.6	5.6	2	0.6	0.3	1.8
1935	73.3	10.9	7.3	4.4	3	0.2	0.8	0.4
1936	83.8	13.1	10.5	6.3	1.9	0.2	0.2	2.2
1937	91.9	12.8	8.1	4.6	3.6	1	0.8	-0.3
1938	86.1	13.8	-5.8	-2.5	-5.1	-0.2	-1.2	1
1939	92.2	14.8	6.1	2.9	2.2	0.2	0.3	1
1940	101.4	15	9.2	4.1	4.3	0.9	0.3	0.2

In both countries:

- GDP revived substantially with *G*, as public works programmes came on stream (though expenditures were not vast wholly nor were they sustained, increasing most substantially in Britain at the end of the decade);
- in earlier years, the austerity was remarkable: *G* dragged aggregate demand and *Y* did not revive; and
- overall, the recovery to National Income (and employment in parallel) was substantial, beyond the setback in 1938 following *G* going into reverse in the US.

As seen, UK public finances improved in parallel. In the US, the increase in public debt seen as the depression began was arrested; it took off again into the war, but again, as in Britain, it was brought under control in the post-war era, rising again only with financial liberalisation (Figures A2.7, A2.8).

Figure A2.7

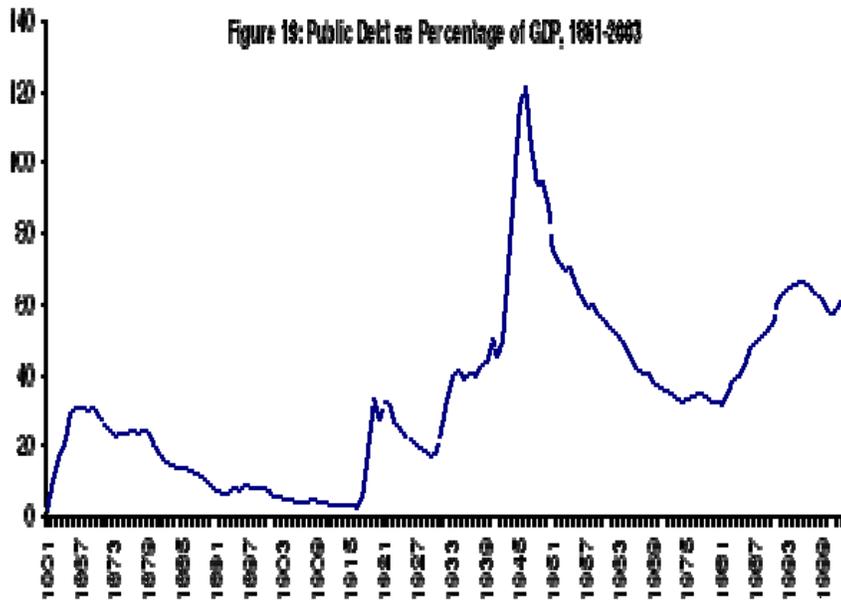
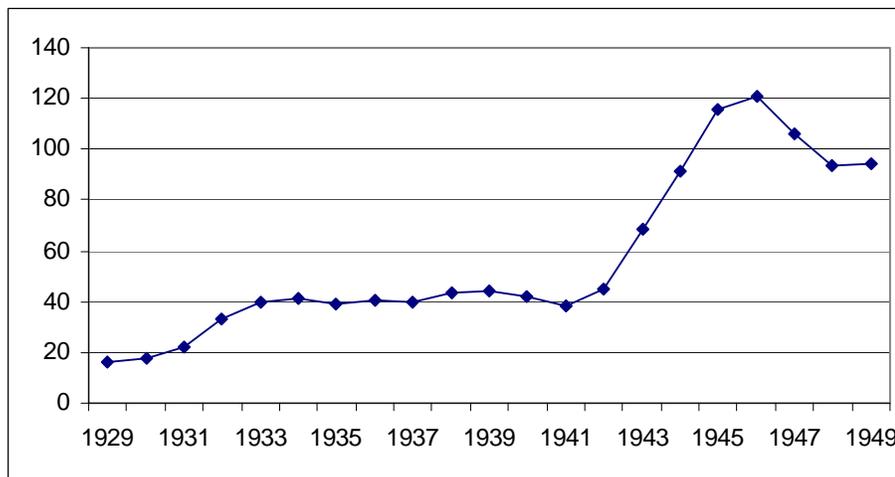


Figure A2.8: Detail



Source: www.treasurydirect.gov