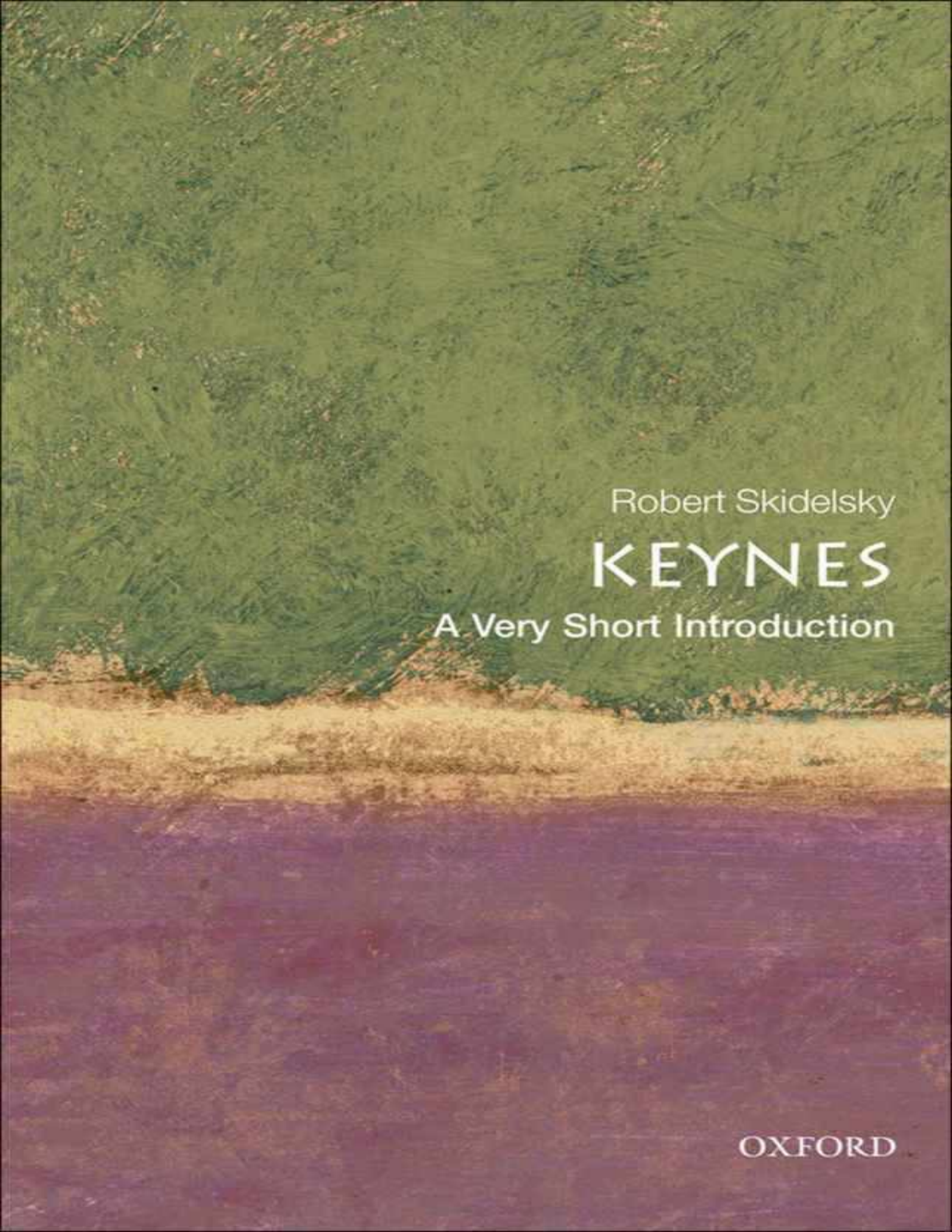
Robert Skidelsky
KEYNES
A Very Short Introduction
OXFORD

Chapter 3
The monetary reformer

Keynes's discussion of the British unemployment problem in the 1920s took place within the framework of the quantity theory of money. He had no doubt that fluctuations in business activity could be prevented by appropriate monetary policy. The quantity theorists of Keynes's day were monetary reformers who wanted to use the theory of money to stabilize economic activity. The quantity theory of money was the first theory of short-run macroeconomic stabilization.

On the face of it, this is curious, because the quantity theory of money is a theory relating the supply of money to the *price level* at which goods are bought, not to the *quantity* of goods produced. Yet, as a matter of observed fact, changes in money and prices *were* associated with fluctuations in quantity of output and employment, and this needed to be explained. For the first thirty years or so of this century, economists, including Keynes, tried to use what they called the quantity theory of money to explain fluctuations in output. They did so, partly because of the observed correlation between monetary events and fluctuations in business activity, and partly because monetary policy offered the most promising parameter of action for those who wanted to manage, but not destroy, the capitalist system. In the 1930s, Keynes abandoned the quantity theory approach to the explanation of short-run fluctuations in output. In *The General Theory*, money still retains its power to disturb the real economy. But its disturbing power arises from its function as a store of value rather than as a means of exchange. This had the further consequence of calling into question the reliability of monetary policy as an instrument of economic management.

The quantity theory was based on the transactions view of money. Money was a medium of exchange, a means of effecting purchases and sales of

goods and services. It has no other purpose, at least in a 'modern' economy with a stable legal and political order and a developed banking system. This being so, a change in the quantity (or value) of money could disturb a previous equilibrium only if it produced non-proportionate changes in agents' money stocks. This indeed was the assumption of those who used the quantity theory to analyse economic fluctuations. Rising prices, it was typically said, benefit investors and entrepreneurs at the expense of savers and wage-earners; falling prices, the reverse. This argument hinged on the distinction between flexible and non-flexible prices. Thus wage rates were assumed to be 'fixed' or at least 'sticky' in the short run, selling prices 'flexible'. At the same time, the transactions view of money made stabilizing the price level seem deceptively easy. Money had no utility other than as a means of effecting transactions. People 'demanded' it, Keynes used to say before 1914, only to get rid of it as quickly as possible. All the central authority had to do was to ensure an appropriate supply of money and all would be well. From before the First World War up to and including his *Treatise on Money*, Keynes's work was in this tradition, though by the end it was becoming increasingly problematic for him.

Two forms of the quantity theory were available when Keynes started work as an economist – Irving Fisher's 'transactions' version, and the Cambridge 'cash balances' approach, developed by Alfred Marshall, who taught Keynes his economics. Keynes used both in his pre-1914 lectures, saying they come to 'practically the same thing'. Fisher's equation of exchange, $MV = PT$, states that, in any period, the quantity of money (M) times its velocity of circulation – the average number of times per period which a pound or dollar is spent (V) – equals the average price of each transaction (P) multiplied by the total number of transactions (T). All this means is that the value of what is spent is equal to the value of what is bought, hardly a surprising conclusion. Three further propositions are needed to convert the equation of exchange into a theory of the price level. First, causation runs from money to prices. Secondly, the velocity of circulation is determined independently of the money supply by the community's level of income and payments habits. These change only slowly. Thirdly, the volume of transactions is determined independently of the quantity of money by 'real' forces. If these propositions are true, any change in the quantity of money will lead to a proportional change in the price level.

In the Marshallian 'cash balances' version of the quantity theory, M = *k* PT, M, P, and T have the same meaning as before, and *k* – the fraction of the community's wealth or income (Marshall tended to use the terms interchangeably) which on average is held as cash during the period – is the reciprocal of V, the velocity of circulation. The Cambridge equation emphasized not the spending of money, but the role of money as a temporary abode of purchasing power between selling and buying. It was a bridge to the 'store of value' function of money by pointing to individual motives for holding liquid assets and suggesting that they could be further analysed.

It did not point too far in this direction to the pre-war Keynes. He regarded the quantity theory of money not just as a logical exercise - as a statement of the conditions necessary for it to be true – but as a realistic set of assumptions about the real world. He certainly believed that the causation ran from money to prices, castigating 'businessmen' and 'popular opinion' for holding the contrary view. He believed that the 'rapidity of circulation' or 'demand for money balances to hold' is institutionally determined and not subject to erratic shifts. He also accepted the third proposition – that the volume of transactions is determined by 'real' forces. All this being so, he accepted the quantity theory in both its versions. At the same time he recognized that fluctuations in prices can have temporary effects on the velocity of circulation and the state of trade, though his discussion was distinctly perfunctory.

Keynes's account of the 'transmission mechanism' from money to prices is strictly Marshallian, indeed he accused Fisher of failing to specify a mechanism. An increase in the central bank's gold reserves leads to lower interest rates. Entrepreneurs increase their borrowing; it is the spending of their new deposits which first causes prices to rise, and this stimulus 'gradually spreads to all parts of the community, until the new gold is needed to finance a volume of real trade no larger… than before'. The price level is what equilibrates the 'demand for cash' with the 'supply of cash'. The important point, though, is that it takes *time* for an injection of money to have its final effect on prices, and it is while prices are adjusting to changes in the money supply that trade may be boosted or depressed. It

follows also that under the gold standard 'the supply of purchasing power depends upon banking and gold jointly'.

The pre-1914 monetary reformers aimed to reduce the influence of gold on the 'supply of purchasing power'. Stabilization of the price level required the quantity of money to be under the control of the central monetary authority. But where legal tender money consisted of gold coins, the long-run value of money was determined by unregulated conditions of supply and demand in the gold market. The late 19th-century fall in the price level was widely attributed to the increased cost of extracting gold from the depleted Californian and Australian mines, as well as to increased gold hoarding in India. Technically, the quantity of gold money was not an exogenous variable. Reformers devised schemes to vary the quantity of gold in money – the tabular standard of Marshall, the compensated dollar of Fisher were examples – so as to achieve a more stable price level. The Swedish economist Knut Wicksell took the bull by the horns: the ideal international standard would be a paper standard, giving central banks complete control over the money supply. In his *Interest and Prices*, published in German in 1898, Wicksell argued that 'there is a certain rate of interest on loans which is neutral in respect to commodity prices, and tends neither to raise them nor lower them'. He called this the 'natural' (or profit) rate. The crux of Wicksell's argument against the gold standard was that it prevented the central bank from adjusting the market rate of interest to changes in the 'natural' rate. Keynes did not pick up this thread till 1930. But even before 1914 he echoed Irving Fisher in advocating a 'more rational and stable' standard than the gold standard. In his *Indian Currency and Finance* (1913), he proposed a reform of the Indian banking system to increase the seasonal elasticity of the stock of rupees, and looked forward to the day when gold-based currencies would be restricted to one or two countries, whose central banks would 'manage' what was, in effect, a fiduciary international standard. 'It is not likely', he wrote, 'that we shall leave permanently the most intimate adjustments of our economic organism at the mercy of a lucky prospector, a new chemical process, or a change of ideas in Asia,' and 'A preference for a tangible reserve currency is… a relic of a time when governments were less trustworthy in these matters than they now are.' His successive plans for managed currencies up to Bretton Woods none the less retained a 'constitutional monarch' role for gold as the

foundation of a pegged exchange-rate system and ultimate safeguard against inflation.

Though ‘constitutional’ schemes for reforming the gold standard failed before the First World War, it was becoming an increasingly ‘managed’ standard as central banks used a variety of devices to offset or neutralize gold flows in the interests of domestic price stability. The effect of an inflow or outflow of gold was seen to depend within wide limits on the action of the central bank. This led pre-war monetary theory to give increasing emphasis to the role of banking policy in determining the money supply. Attention switched from the influence of gold movements on prices to that of credit flows. The quantity theory of money was becoming a quantity theory of credit. In a paper ‘How Far are Bankers Responsible for the Alternations of Crisis and Depression?’, read to the Political Economy Club in December 1913, Keynes argued that banks can lend to entrepreneurs without borrowing the equivalent amount from savers; credit creation can be an independent source of inflation. However, when investment ‘runs ahead’ of saving, there has to be a depression to enable saving to ‘catch up’. These ideas were to be taken up again in the mid-1920s. However, as long as it could be assumed that the central bank had the means to regulate the rate of credit creation by the commercial banks, the existence of credit money posed no danger to its ability to ‘control the money supply’.

Much of the theory and practice of monetary reform was in place before 1914; but Keynes’s war experience and its monetary consequences enriched his theory and gave his policy discussion an urgency it never had before the war. He had advised the Treasury during the banking crisis of July-August 1914, explaining the crisis in terms of an ‘unusual demand for money’ by the banking system, following the failure of foreign remittances and the stock-market collapse. The crisis was averted by the Bank of England purchasing bills from the market. The duty of the central bank to act as ‘lender of the last resort’ to the banking system had been part of central banking theory since the time of Walter Bagehot, who enunciated the doctrine in his classic, *Lombard Street* (1870), and Keynes accepted it without question. His wartime Treasury experience also led him to identify inflation as the mechanism by which a needy government, too weak to tax

honestly, can transfer real resources to itself. In a wartime correspondence with the economist Edwin Cannan of the London School of Economics, Keynes denied that inflation could be overcome simply by limiting the note issue. He wrote to Cannan on 28 January 1918:

> The excessive issue of currency notes and the degree of inflation which exists, connected partly with this note issue, and partly with the increase in bank credits, seems to me due to national expenditure being on a scale beyond what the government can pay for by taxes and loans… As long as this is the case, regulation of the note issue is impossible…. It is more scientific I think to attribute the inflation to the excess expenditure by Government and to hold that it can only be cured by the diminution of expenditure public and private.

More generally, the topics which gained in prominence as compared to pre-war were those arising from wartime inflation, post-war currency disorders, and the overhang of wartime debt. The war and post-war inflations were explained along quantity theory lines by inflationary government finance. The 'purchasing power parity' theory of the exchanges was developed by the Swedish economist Gustav Cassel to explain the link between domestic price inflation and exchange depreciation. The issue of Germany's capacity to pay reparations generated a technical discussion on the nature of the 'transfer problem'. Keynes took an active part in all these discussions. Of particular note is his warning against inflation. In his *Economic Consequences of the Peace*, he quoted with approval a remark attributed to Lenin that 'there is no subtler, no surer means of overturning the existing basis of society than to debauch the currency'. The immense volatility of prices and exchange rates in the immediate post-war period, as well as the change in the balance of power between the United States and Europe, formed the historical raw material of his *Tract on Monetary Reform* (1923).

The explicit goal of *A Tract on Monetary Reform* was domestic price stability. Only stable prices could produce stable or normal business activity. 'I regard the stability of prices, credit and employment as of paramount importance,' Keynes wrote. His argument was that fluctuations in the value of money trigger short-run fluctuations in business activity, because they change class income shares and disturb settled expectations.

Falling prices are said to injure employment, both because money-wages are fixed in the short run, and because falling prices depress expectations of sales proceeds. ‘It is worse, in an impoverished world’, Keynes wrote, ‘to provoke unemployment than to disappoint the *rentier’*. This combination of institutional and theoretical arguments was typical of Keynes. It is one of the sources of the many disputes about what he ‘really’ meant. The important point being made was that price stability was necessary for contractual predictability, which was related to economic stability. Monetary reform was an antidote to social revolution.

Four particular points of interest stand out from the *Tract*. First, Keynes attacked the policy of restoring the gold standard. In this, he took to its logical conclusion the argument of the monetary reformers that stable domestic prices might be inconsistent with stable exchange rates. Instead of domestic prices being required to adjust to the exchange rate, the exchange rate should be adjusted to a domestic price level consistent with a ‘normal’ (that is, reasonably full) level of employment. A scintillating section on the forward market in exchanges is designed to show that traders can ‘hedge’ much more easily against exchange-rate fluctuations than can producers against domestic price fluctuations. Thus ‘contracts and business expectations, which presume a stable exchange, may be far fewer, even in a trading country such as England, than those which presume a stable level of internal prices’.

The crucial context of the argument was the new dominance of the United States. ‘With the existing distribution of the world’s gold, the reinstatement of the gold standard means, inevitably, that we surrender the regulation of our price level and the handling of the credit cycle to the Federal Reserve Board of the United States.’ The American monetary authorities would determine their monetary policy by reference to domestic conditions, not to the requirements of other countries like Britain. The best solution was to divide the world into ‘managed’ sterling and dollar currency blocs. ‘So long as the Federal Reserve Board was successful in keeping dollar prices steady the objective of keeping sterling prices steady would be identical with the objective of keeping the dollar-sterling exchange steady.’ Gold would be retained as the ultimate means of settling international debts.

Secondly, Keynes thought that stable prices could be achieved by monetary policy alone. He did not see wage pressure as a complicating factor. Nor did he query the interest-elasticity of investment, though he did understand that there were expectational limits to real interest-rate changes – an insight he did not exploit till *The General Theory*. Controlling inflation was mainly a matter of stopping inflationary government finance.

Thirdly, Keynes was a broad, not narrow, money man. The right policy was 'to watch and to control the creation of credit and to let the creation of currency follow suit'. This was because the quantity of cash was a backward-looking indicator. It was not the past rise in prices but the future rise which had to be counteracted. The wartime debate between Keynes and Edwin Cannan foreshadows the debates between the 'broad' and 'narrow' money versions of monetarism in the 1980s. The problem of which kind of money to track or monitor was posed for the first time.

Finally, Keynes favoured discretionary management, rejecting a money-supply rule as unsuitable for controlling the credit cycle. He wrote down a simplified form of Pigou's monetary equation, $n=p$ (k + rk'), where n is currency notes and other forms of cash in circulation, p is the index number of the cost of living, k is the real value of cash in hand, k' the real value of bank deposits including overdrafts, and r the ratio of the banking system's reserves to liabilities. The quantity theory, he said, was based on the assumption that 'a *mere* change in the quantity of the currency cannot affect k, r, and k' – that is to say, that these variables are determined independently of n. Consequently a change in n will cause an equiproportionate movement in p. Double the quantity of money, and you double the price level.

> Now, 'in the long run' this is probably true…. But this *long run* is a misleading guide to current affairs. *In the long run* we are all dead. Economists set themselves too easy, too useless a task if in tempestuous seasons they can only tell us that when the storm is long past the ocean is flat again.

When prices are rising, people reduce their 'real balances' (k and k'); when prices are falling they increase them. Central banks vary their reserve

requirements to offset gold flows.

Given the short-run instability of what would now be called the ‘demand for money’ function, there was no stable short-run relationship between the money stock and money national income. Keynes saw that ‘the mood of the public and the business world’ could exert an independent influence on the price level. In trying to stabilize prices, the monetary authority had to be prepared to act on both the supply of money *and* the demand for money; in Keynes’s language, its duty consisted in ‘exercising a stabilising influence over *k* and *k*’, and, in so far as this fails or is impracticable, in deliberately varying *n* and *r* so as to *counterbalance* the movement of *k* and *k*”. The algebraic symbolism made the task of monetary management seem all too easy. Any tendency for real balances to increase can be counteracted by lowering bank rate ‘because easy lending diminishes the advantages of keeping a margin for contingencies in cash’. The central bank can vary the amount of cash it makes available to the banking system by buying and selling securities. As long ‘as we refrain from inflationary finance on the one hand and a return to an unregulated gold standard on the other’, the control of the money supply and thus of the price level will be in the hands of the central bank.

The *Tract on Monetary Reform* recognizes that monetary shocks can affect business activity because of uncertainty about the future course of prices. Quantity theorists had tended to argue that it was only *unanticipated* changes in the price level which produced disturbances to proportionality. Keynes argued, more realistically, that even if price rises or falls are *expected*, uncertainty about the extent of the movement can affect business behaviour. Keynes has identified the central importance of uncertainty: but to what price, or particular set of prices, to attach it in order to explain the rhythms of trade was a problem which was to occupy him over his next two books.

These deeper questions were hardly tested by Winston Churchill’s decision to return sterling to the gold standard in April 1925. In his pamphlet *The Economic Consequences of Mr. Churchill*, published in July, Keynes treated the decision straightforwardly as a monetary shock inflicted by the government on the industry of the country. His argument was that returning

the pound to its pre-war parity with the dollar – £1 = $4.86 – overvalued sterling by 10%, requiring a 10% fall in the money costs of production if the existing volume of British exports was to be maintained. This would meet with intense worker resistance, which could only be overcome, Keynes argued, by 'intensifying unemployment' without limit. Keynes said that these economics of the 'juggernaut' could be short-circuited by means of a 'national treaty' to reduce wages and other incomes by agreement. He suspected, though, that government policy would actually produce a 'jammed' low-employment economy. The government would carry deflation far enough to provoke, but not cure, unemployment, and borrow from abroad to plug the export shortfall.

This is roughly what happened. By 1928, Keynes was producing what was to be his standard summary of the whole episode:

> we have deflated prices by raising the exchange value of sterling and by controlling the volume of credit; *but we have not deflated costs*... The fundamental blunder of the Treasury and Bank of England has been due, from the beginning, to their belief that if they looked after the deflation of prices the deflation of costs would look after itself.

Less than a year after the *Tract* was published, Keynes started a new book which he first called 'The Theory of Money and Credit'. It was to be a study of the theory of money in relation to the 'credit cycle'. In the *Tract*, Keynes had given the monetary authority the duty of offsetting fluctuations in 'cash balances'. But the composition of these balances, and causes of their fluctuations, had not been analysed. In tackling the problem, Keynes reverted to the ideas of his paper of 1913. Banks can lend more or less than the public want to save. The task of monetary policy is to keep bank-lending equal to saving intentions.

In analysing the relationship between 'bank money' and saving, Keynes was greatly influenced by his Cambridge colleague Dennis Robertson, who was then writing his *Banking Policy and the Price Level*, published in 1926. His intellectual engagement with Robertson at this point was decisive for the development of his own ideas. Robertson was, above all, a business-

cycle theorist, drawing on a rich Continental literature to explain why the growth of wealth was spasmodic. Keynes was permanently influenced by two features of business-cycle theory: first, the view that the business cycle is an investment cycle, caused by fluctuations in the expected profitability of capital goods; secondly, that this 'real' cycle is amplified to boom and slump by monetary factors - particularly by the failure of monetary policy to keep investment equal to saving. Robertson thought that 'real' business fluctuations were inseparable from progress. He wanted to use monetary policy, though, to eliminate 'inappropriate' fluctuations in real activity. This might entail abandoning the goal of price stability.

Keynes and Robertson started out by agreeing that only credit inflation or deflation could make investment diverge from voluntary saving. Much of Robertson's *Banking Policy and the Price Level*, including its array of peculiar terms, was devoted to showing how different forms of non-voluntary spending and saving could be brought about by credit operations. This included the idea that temporary inflation creates an investment fund by 'forcing' people to consume less and therefore 'save' more. The famous doctrine of 'forced saving', first stated by Thomas Joplin after the Napoleonic wars, was rediscovered from observation of how the government 'confiscated' its citizens' incomes without taxing them in the First World War. Basically, the government preempts a slice of national output by spending an additional amount of new money created at its behest through the banking system. The additional spending raises the general level of prices (having generated excess demand at the previous level of prices) and private economic actors find themselves needing (or wishing) to *hold* rather than to respend the additional money created, because the increase in the price level has raised their requirements for nominal cash holdings relative to the physical volume of transactions. Attempts by the government to repeat the process will eventually bring an accelerating inflationary spiral, as private actors anticipate and try to thwart the government's purposes by adjusting their own spending.

Keynes's new book started along this track, but eventually left it. He explained to Robertson in 1931:

> When you were writing your *Banking Policy and the Price Level*, and we were discussing it, we both believed that inequalities between saving and investment – using those terms with the degree of vagueness with which we used them at that date – only arose as a result of what one might call an act of inflation or deflation on the part of the banking system. I worked on this basis for quite a time, but in the end I came to the conclusion that this would not do. As a result of getting what were, in my opinion, more clear definitions of saving and investment, I found that the salient phenomena could come about without any overt act on the part of the banking system.

Robertson had talked about savings being either invested or hoarded. Keynes emphasized a third alternative: savings neither invested nor hoarded but used to buy existing assets. Thus saving can 'run ahead' of investment (defined as buying *new* capital equipment), without any slowdown in the overall velocity of circulation. This line of thought was influenced by the speculative Wall Street bull market of 1927–9. Keynes lost faith in the ability of the 'transactions' version of the quantity theory of money to explain short-term business fluctuations. What was important for employment was not the total of transactions in a period, but whether or not money income was being spent on current output.

Another crucial distinction in the *Treatise*, between 'foreign investment' and 'foreign lending', was influenced by Keynes's involvement in the debate on German reparation payments. The fact that British savings, uninvested at home, were being lent abroad, did not mean that all savings were being invested, because, with a fixed exchange rate, any attempt to lend more abroad than Britain's export surplus allowed would cause a drain of gold and force a rise in bank rate at home. This would cause domestic investment to fall by the amount of the excess of foreign lending over the current account surplus.

What Keynes and Robertson were both trying to do, not yet very successfully, was to integrate saving-investment analysis with the theory of money, rather than maintain the rigid separation between them which was a feature of the classical or quantity theory approach.

In his *The Keynesian Revolution in the Making* (1988), Peter Clarke has persuasively argued that the publication of the *Treatise* was held up, and its analysis altered, by Keynes's need to confront the 'Treasury View' developed in 1928–9 to refute Lloyd George's plan to cure unemployment by a programme of loan-financed public works. The author of this notorious 'View' was Ralph Hawtrey. In an article in *Economica* in March 1925, Hawtrey had argued that, with a fixed money supply, any loan raised by the government for public works would 'crowd out' (in today's parlance) an equivalent amount of private spending. Employment could be increased only by credit expansion – borrowing from the banks. But it was the credit expansion which was important, not the public works, which Hawtrey condemned as a 'piece of ritual'. From late 1928, the Treasury, primed by Hawtrey, started to argue that 'What Keynes is after, of course, is a definite inflation of credit' – which was inconsistent with the maintenance of the gold standard. The prime minister, Stanley Baldwin, was fed the lines: 'we must *either* take existing money *or* create new money'. Since the latter was ruled out by the gold standard, the crowding-out argument seemed to hold. Keynes as yet had not developed his consumption function/multiplier analysis to refute it; and even if he had developed it, its applicability in the absence of cheap money would have been open to question.

He took a stride towards developing it in *Can Lloyd George Do It;* a pamphlet he wrote with Hubert Henderson in May 1929. To the Treasury argument that no savings were available to finance *additional* investment Keynes replied that this assumed full employment of all resources. The unemployed resources included savings which had not 'materialized' owing to the 'want of prosperity'. This was an odd way of putting it. But the thought Keynes was expressing – in the language of the *Treatise* – was that business losses caused by recession made the national savings less than they would have been had entrepreneurs been earning 'normal' profits. The implication of this was that any policy (including a loan-financed public works' programme) which succeeded in restoring a 'normal' level of income would create the saving needed to finance the investment.

Corresponding to this, the employment-creating effects of additional government spending would not be limited to those directly employed on government projects. For every man put to work building a road or a house,

at least another would find a job supplying the inputs required. Furthermore, the additional purchasing power thus created would exert a 'cumulative force' on trade activity, making the employment effects of a given capital expenditure far larger than the direct and indirect effects indicated above, though 'it is not possible to measure effects of this character with any sort of precision'. The 'employment multiplier', worked out by Richard Kahn in 1931, was an attempt to measure these 'cumulative' effects.

The more direct approach to the analysis of output and employment opened up by Keynes's confrontation with the Treasury View in 1929 had, in a sense, made much of the *Treatise on Money* redundant, from his point of view, when it was finally published in October 1930. Nevertheless it is a book with a wealth of institutional understanding of financial and money markets, some fundamental theory, and some theoretical loose ends on which Keynes soon started to work.

It is a difficult book to summarize. Its central theoretical proposition is that saving and investment are done by two different sets of people for different motives and there is no automatic mechanism in a credit money economy to keep them equal. There is a rate of profit on capital (which Keynes, following Wicksell, called the 'natural' rate) and there is a rate of interest on loans – the 'market' rate. But the market rate demanded by lenders may be higher or lower than the profit rate available to or expected by investors. Thus the possibility arises that not all income earned will get spent by consumers or investors.

The practical import of all this is that the only balancer a credit-money economy has is banking *policy*. Under the gold standard the Bank of England was prevented from setting bank rate low enough to allow a level of investment equal to what the community wanted to save: hence mass unemployment. Crucial to this demonstration is Keynes's switch in emphasis from the stock of money to the flow of spending. It was insufficiency of spending on investment relative to the rate of saving which caused both the price level to fall *and* people to be unemployed.

Fundamental in terms of economic psychology is Keynes's break from the classical view of saving as providing an automatic route to investment. He

dismissed the ‘abstinence’ theory of economic progress in a couple of superb paragraphs:

> It has been usual to think of the accumulated wealth of the world as having been painfully built up out of the voluntary abstinence of individuals from the immediate enjoyment of consumption which we call thrift. But it should be obvious that mere abstinence is not enough by itself to build cities or drain fens… It is enterprise which builds and improves the world’s possessions… If enterprise is afoot, wealth accumulates whatever may be happening to thrift; and if enterprise is asleep, wealth decays whatever thrift may be doing.
>
> Thus, thrift may be the handmaid and nurse of enterprise. But equally she may not be. And, perhaps, even usually she is not. For enterprise is connected with thrift not directly, but at one remove; and the link which should join them is frequently missing. For the engine which drives enterprise is not thrift, but profit.

Unfortunately, Keynes tried to formalize these pathbreaking ideas in ‘Fundamental Equations’, whose origins lie in an earlier phase of the book, when he was still trying to use the quantity theory of money to explain business fluctuations. Throughout the *Treatise* the reader is being tripped up by dead skins which Keynes had sloughed off while writing it. To adapt the new ideas to the older ones critical terms like ‘income’, ‘profits’, and ‘saving’ are used in special ways. Though Keynes is trying to explain how, if interest rates are prevented from falling, a slump can develop and persist, the spotlight is on changing price levels, not on changes in output and employment.

The three sets of relevant definitions are: (a) the community’s money income (otherwise the ‘normal’ or equilibrium earnings of the factors of production, or costs of production); (b) profits, which are defined as the difference between costs of production and selling prices, and exclude entrepreneurs’ ‘normal’ earnings; and (c) saving, defined as that part of the community’s ‘normal’ income withheld from consumption. The purpose of excluding profits and losses (which Keynes also calls ‘windfalls’) from

income is to segregate the variable causing output to expand or contract. But the attempt results in non-operational definitions of income and saving which were the cause of much misunderstanding. We have the illusion that they stay constant even though profits are positive or negative. The idea that aggregate saving can 'run ahead' or 'fall behind' investment depended entirely on the way income and saving are defined.

Formally, the *Treatise* is an attempt to capture, in a set of equations, the dynamics of an economy in transition from one (consumer) price level to another. We are presented, on the one side, with the flow of money earned by the factors of production in producing consumption and investment goods, and, on the other, its division into the parts which are spent on buying consumption goods and those which are saved. The price level of consumption goods is stable if the proportions of money earned in producing consumption and investment goods are the same as the division of spending between current consumption and saving.

In this situation, costs of production equal the selling prices of consumption goods; profits are zero; saving equals the cost of investment: all true by definition. If, on the other hand, people spend less on buying consumption goods than they have earned producing them, consumer prices fall. In this situation, by definition, costs exceed prices; profits are negative by the same amount; and saving 'runs ahead' of the cost of investment.

This tortured approach was designed to emphasize one key point. If what people want to save exceeds the cost of investment the economy as a whole becomes depressed unless something is happening simultaneously to raise the *value* or profitability of investment. The required transfer of spending from consumption to investment does not happen automatically. Whether it happens depends on 'a different set of considerations': whether the anticipated profitability of investment is going up, or the rate of interest falling, or a mixture of both, at the same time.

Depression arises if the incentive to buy *new* pieces of capital equipment is insufficient to absorb the rate of saving out of 'normal' income – in other words if the expected rate of profit falls below the market rate set by the banking system. Keynes applies the uncertainty analysis started in the *Tract* to a specific set of prices – those of capital goods. It is the oscillations of the

‘natural’ rate of interest, driven by volatile expectations, around the market rate set by banking practices which explains the business cycle.

The *Treatise* contains the first of Keynes’s two famous discussions of the psychology of the stock exchange, much influenced by the collapse of the long ‘bull’ market on Wall Street in 1929. The key idea is that part of savings is ‘held’ for speculative purposes, because of uncertainty about the future value of capital assets. If the price of shares on the stock-market is expected to go up, savings will be redistributed from ‘hoards’ to ‘securities’, and vice versa if the price of shares is expected to fall. When most investors are ‘bulls’ you get a stock-market boom; when most of them are ‘bears’ you have a stock-market slump. Thus a ‘speculative’ motive for money balances to hold is identified in the *Treatise*, but it does not become Keynes’s liquidity-preference theory till *The General Theory*.

Keynes does not doubt that the ‘gap’ between investment and ‘saving’ can be cured by lowering the market rate of interest. But this was prevented by the gold standard. In an open economy under a fixed exchange-rate system, the rate of interest has two jobs to do which may be incompatible: to regulate investment and to manage the balance of payments. If a community’s desire to lend savings abroad exceeded its net export surplus, gold would be exported, which the monetary authority would have to offset by raising the rate of interest, thus increasing the cost of capital at home. The ultimate effect of a high bank rate would be a decline in ‘efficiency wages’ (national income), making possible an enlargement of the export surplus. This restates the inconsistency of policy thesis expounded in the *Tract*. Keynes’s exposition of the *modus operandi* of bank rate remains a classic of its kind; but it is a price-level, rather than output, adjustment model that he has in mind.

Did Keynes see flexible wages as a complete cure for any shift in the consumption or investment function? One part of the *Treatise* suggests he did. In Book IV, we get a classical credit-cycle story depending on lagged wage adjustment. In the upswing, there is a sequence of commodity (price) inflation, profit inflation, and income inflation, which then reverses itself in the downswing: prices fall, profits fall, and finally money-wages fall as the final act in the adjustment process. Yet in Book III, Keynes tells the famous

‘banana parable’, in which flexible wages do not cure the initial disturbance because, if intended saving goes up in response to a thrift campaign, while employers reduce wages, ‘the spending power of the public will be reduced by just as much as the aggregate costs of production’. If interest rates are fixed, there will be no position of equilibrium till either all production ceases and the community starves to death, or till growing impoverishment causes the community to save less, or unless ‘investment is stimulated by some means or another’, for example, by loan-financed public works.

If both interest-rate adjustment and public works are ruled out, then the only realistic adjustment mechanism left is impoverishment. Keynes called this ‘nature’s cure’. He did not make sufficiently clear that the first story (Book IV) related to an open economy in which cost reductions can lead to an increased export demand, and the second to a closed economy in which there is no export sector. He also failed to explain how ‘saving’ could continue to exceed investment in banana-land in face of cumulative business losses and income decline. This was the main technical business left over from the *Treatise*, largely the result of his non-operational definition of ‘saving’.

The main object of national monetary policy should be to maintain a rate of interest consistent with full employment at a price level given, in the long run, by the behaviour of ‘efficiency wages’. Such interest-rate autonomy could only be guaranteed by periodic adjustment of the exchange rate. The existence of downward wage rigidity, Keynes argued, was incompatible with a ‘laissez-faire attitude to foreign lending’. Hence he doubted whether ‘it is wise to have a currency system with a much wider ambit than our banking system, our tariff system and our wage system’. This somewhat extreme statement of monetary nationalism was not entirely inconsistent with the idea of a more flexible international currency system.

Keynes rightly regarded the Fundamental Equations of the *Treatise* as variations on the Fisher and Cambridge equations of exchange. But the causal sequence had been reversed. It was the forces affecting the demand for money balances, not the actions of the monetary authority in supplying those balances, which triggered off changes in the price level. However, he still expected the monetary authority to be able to neutralize the effect of

those forces by supplying an appropriate quantity of money. ‘Those who attribute sovereign power to the monetary authority in the governance of prices’, he wrote,

> do not, of course, claim that the terms on which money is supplied is the *only* influence affecting the price-level. To maintain that the supplies in a reservoir can be maintained at any required level by pouring enough water into it is not inconsistent with admitting that the level of the reservoir depends on many other factors besides how much water is poured in.

Between 1929 and 1931, Keynes used the *Treatise’s* saving—investment disequilibrium model as the basis of his policy advice to Ramsay MacDonald’s Labour government, caught up in the first stages of the world depression. On the Macmillan Committee, set up by Philip Snowden, Labour’s chancellor of the exchequer, to advise him on currency and credit matters, Keynes put forward six possible remedies for the slump, applicable to Britain’s existing position. He ruled out devaluation except as a last resort. There were a number of suggestions for lowering domestic costs of production. One of them, ‘an agreed reduction of the level of money incomes’, reverted to his suggestion of 1925. Export industries might be relieved of taxes like national insurance contributions; or they might be rationalized. Three further remedies were directed to increasing employment at existing costs of production. The first was Protection, which ‘does the trick, whereas in present conditions free trade does not’. The second was his old policy of mobilizing savings running to waste abroad in a loan-financed public works programme. His final remedy was for concerted international action to raise the world price level.

This litany of suggestions was put forward in February-March 1930. Protection became increasingly appealing as the world slump deepened. Keynes had been appointed to the prime minister’s new Economic Advisory Council in January 1930; in July, he was made chairman of a subcommittee of economists to produce ‘an agreed diagnosis… and a reasoned list of possible remedies’. In his own memorandum to the committee, dated 21 September 1930, Keynes invented an elegant language for talking about the relationship between Britain’s rigid economic structure and its declining

international position. He defined the 'equilibrium terms of trade' as those which prevail 'when the level of money wages at home relatively to money wages abroad is such that the amount of the foreign balance (i.e. of foreign investment) *plus* the amount of home investment at the rate of interest set by world conditions… is… equal to the amount of home savings'. British unemployment was largely due to the equilibrium terms of trade having been worsened by the return to gold in 1925 without any corresponding reduction in the money costs of production. Sterling's overvaluation had narrowed the export surplus available for foreign investment while imposing a high bank rate, which lowered domestic investment. Thus total investment was falling short of full-employment saving – whence business losses and unemployment.

The policy alternatives suggested by this analysis were to *meet* the worsened equilibrium terms of trade by cutting costs of production (particularly money-wages) or to *improve* them by reducing the pressure to lend abroad and/or enlarging the foreign balance at given terms of trade – pointing to a mixture of loan-financed public investment and protection. Keynes accepted that Britain's standard of living had to fall, but argued that raising prices was a better method for achieving this than lowering money-wages: there would be less social resistance, and the burden would fall on the whole community, including the *rentier* class.

In arguing the case for loan-financed public investment, Keynes made use, for the first time, of a primitive version of Richard Kahn's multiplier theory. Tariff protection was put forward as a way of increasing the foreign balance as well as business confidence, but also because 'any manufacturing country is probably just about as well fitted as any other to manufacture the great majority of articles'. The last sentiment was a fundamental breach with free-trade thinking. If the government rejected such policies, it would logically be forced to meet the equilibrium terms of trade by making deflation effective. The worst policy of all was wobbling between the two.

The exclusion of devaluation and the importance of business 'confidence' thus led Keynes to a theoretically based argument for protection as his favourite 'remedy' for the slump in the period leading up to Britain's abandonment of the gold standard in September 1931. In reaching this

politically conservative, if theoretically radical, conclusion, Keynes had been shaken by the evidence of both the Bank of England and the Treasury to the Macmillan Committee earlier that year. The Bank of England had cast doubts on Keynes's belief in the sovereign efficacy of monetary policy. Low interest rates, the Bank's spokesmen had argued, were not enough to make businessmen borrow if investment prospects were gloomy: one could lead the horse to the water, but not make it drink. A loan-financed public works programme, argued Sir Richard Hopkins of the Treasury, would produce 'psychological' crowding out of private investment if there was widespread mistrust of the schemes on which the proceeds of the loan were to be spent – or, he might have added, of the government doing the spending. Protection was the only policy which promised to meet the theoretical *and* confidence requirements of success in the given conditions.

These considerations influenced the subsequent development of Keynes's theory, and indeed of the Keynesian revolution in policymaking. Inventing theoretical models 'relevant' to the real world implied the development of policy instruments appropriate to a wide variety of realistic circumstances. Keynes the theoretician and Keynes the policy adviser were never far apart.