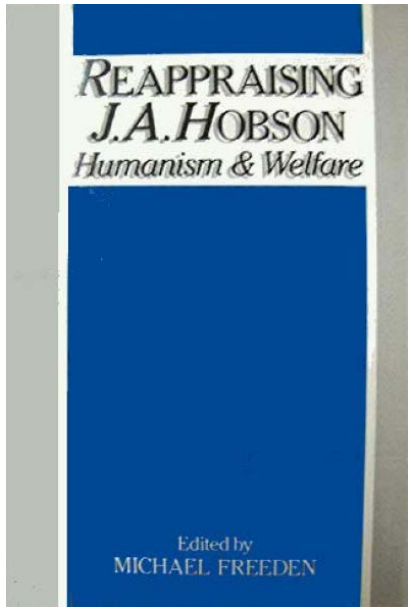

Hobson and Keynes as economic heretics

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INTRODUCTION

In his old age, Hobson professed himself gratified that 'Mr J.M. Keynes, though not in full agreement with my analysis, has paid a handsome tribute to my early form of the over-saving heresy'.[1] This tribute, extending to seven pages, printed in a prominent position in the twentieth century's most famous book on economics, has in itself guaranteed Hobson's reputation a measure of continued professional recognition. The result has been that students of economics almost invariably know his name—but often little more than his name. Whether Hobson's work in this field deserves to be remembered as more than an extended footnote to the *General Theory* is a question that has, from time to time, provoked sympathetic economists into making stronger claims on his behalf. The most far-reaching, and also the most influential in left-wing circles, was that advanced by G.D.H. Cole: 'For me at any rate, what is commonly known as the Keynesian was much more the Hobsonian revolution in economic and social thought.'[2]

Cole's declaration may, however, tell us more about his own ideological affinities than about Hobson's intellectual achievements. D.J. Coppock's scrupulous attempt to argue that Keynes was 'ungenerous in the account he gave of Hobson's theory' carries more scholarly authority.[3] From a close study of half-a-dozen of Hobson's economic treatises it shows that, while his theoretical formulations may have been crude, they contain passages that are pregnant with insight. Supplied with the appropriate distinctions—'several suppressed assumptions must be made explicit'—a good deal more can be squeezed out of Hobson than might have been expected; and it accordingly becomes 'hard to understand how Keynes could have overlooked such statements'.[4] If only he had, on the basis of his presumed acquaintance with Hobson's writings, put together this paragraph from *The Economics of Unemployment* (1922) with that paragraph from the second edition of *The Industrial System* (1910) and the other paragraph from *Rationalisation and Unemployment* (1930), Keynes could have discovered an altogether fuller and more suggestive anticipation of his own central conceptions! In particular, Coppock suggested that the admittedly unsystematic Hobson—'his argument lacks rigour'[5]—can none the less be read as pointing towards contraction of total income as the means by which excess saving is eliminated, which begins to sound very much like the equilibration process of the theory of effective demand. Further exegesis along these lines, scrutinizing possible analytical anticipations, seems unnecessary. But this whole issue can be put into historical perspective by seeking to establish what actual, direct, demonstrable influence (if any) Hobson exerted upon the development of Keynes's thought.

HERESY

Hobson's heresy was, in the first place, underconsumption. In maintaining that a general process of over-saving was possibie—and that it was the root cause of economic depression—he put himself beyond the pale of orthodox economics. He first took up this position in the book he wrote with A.F. Mummery, *The Physiology of Industry* (1889), published at just the time when, under the guidance of Alfred Marshall, economics was seeking to establish its claims to academic respectability. The defensive mentality of the emergent profession partly explains the prickly exclusiveness that Hobson thereafter encountered. 'This was the first open step in my heretical career', he later recalled, 'and I did not in the least realize its momentous consequences'.[6] Faced with little alternative, Hobson made the best of his career as a self-conscious outsider.[7]

Keynes, by contrast, could hardly have been more of an insider. Born in in Cambridge, the son of a don who had done respected work in logic and economics, the winner of scholarships to Eton and to King's—here was a gilded youth selected by that old family friend, Alfred Marshall, as fit to bear the torch of Cambridge economics. Keynes was to admit: 'I was brought up in the citadel and I recognise its power and might.'[8] Now it was against this same Marshallian school that Hobson directed some of his characteristic shafts, notably in the two books in which he turned towards problems of economic methodology. This was the field in which John Neville Keynes had published a standard work, which Hobson subjected to sustained criticism on the grounds that its positivist approach excluded ethical considerations and value judgements. 'Like Professor Marshall', Hobson commented in 1901, 'Dr Keynes wants to simplify by falsification'.[9] The same charge against 'the Cambridge doctrine' was repeated and developed in the mid-1920s, largely by reference to Marshall and his successor as Professor of Political Economy at Cambridge, A.C. Pigou—with a passing reprimand for a junior figure, H.D. Henderson.[10] Marshall and Pigou had been pre-eminent among Maynard Keynes's teachers; Henderson was currently his close colleague and collaborator.

Filial loyalties alone, then, might suggest that, from the time he began his studies in economics in 1905, Keynes would be disposed to distrust this persistent critic, from whom he considered one had to expect, along with some stimulating ideas, also 'much sophistry, misunderstanding, and perverse thought'.[11] For nearly a quarter of a century, the star pupil of the Cambridge Economics Faculty remained sceptically impervious to anything that the underconsumptionist Hobson might be trying to tell him.

There was another Hobson, however, with whose temperament and outlook Keynes developed an ambivalent sympathy. For Hobson comprehended his insight about the impossibility of unlimited saving within a more general formulation: 'It is at root a very simple fallacy, viz. the contention that what anyone can do, all can do.'[12] It is, in short, the fallacy of composition, or what Hobson preferred to call the individualist fallacy. It is a recurrent theme in many of his writings and one that he was fond of illustrating by saying that though any one boy might go from a log cabin to the White House, all boys could not simultaneously become President of the United States. When Hobson seized upon the term heretic to describe himself it was in the broader sense: subsuming the underconsumptionist doctrine under the individualist fallacy, thereby casting doubt upon the adequacy of *laissez-faire* economics in general. Moreover, he located the root of his own unorthodoxy in psychological predisposition as well as in logical analysis. In his autobiography, he insisted that he had not taken the name heretic in a spirit of bravado; but he recognized that the 'break-away disposition', which he prized as a means to progress, might itself be suspect as 'a pugnacious self-assertion of superiority over the accepted thought or faith of others'.[13]

Thus for Hobson the doctrine of underconsumption, though neither trivial nor incidental, was 'a narrower economic heresy'.[14] Intellectually, it was an inference from a fundamental

logical distinction; temperamentally, it was the product of a particular cast of mind. In both respects, Keynes manifested significant affinities with Hobson's general approach appreciably before he was prepared to acknowledge any force in Hobson's most notorious economic contention. This is literally apparent in the language that Keynes began to use about the limitations of the free market in the 1920s. When he first proposed public works in 1924, he claimed that in considering this abridgement of *laissez-faire*, 'we are brought to my heresy—if it is a heresy'.[15] Keynes's thirst for originality and his readiness to shock made him susceptible to the temptations of striking an iconoclastic pose. Once doubtful of an orthodox proposition, he was not the man to dissimulate conformity. He began toying with the imagery of himself as a heretic a decade before Hobson—apparently prompted by Keynes's usage—arrogated the term.[16] Certainly Keynes became fascinated by this metaphor as applied to himself, asking after the *General Theory* was completed: 'how can one brought up a Catholic in English economics, indeed a priest of that faith, avoid some controversial emphasis, when he first becomes a Protestant?'[17] Here I stand, he now told his German readers: I can do no other.

A TREATISE ON MONEY

Similarities of language, however, though they might indicate general temperamental congruence, may turn out to be misleadingly superficial when it comes to specific intellectual influence. Though in Keynes's *Treatise on Money* (1930) the analysis can be described in terms of over-saving, its provenance remains basically neo-classical. If Keynes was impelled to acknowledge, for the first time, a possible theoretical convergence with underconsumption, it was one that he substantially repudiated. The word 'over-saving', in fact, could mean two things. When Hobson used it, he meant underconsumption; but when Keynes used it in the *Treatise* he meant underinvestment. Unlike Hobson, who saw saving and investment as two names for the same process, Keynes now sought to make a distinction between them in order to emphasize that a problem existed over how they were brought into equilibrium. He maintained that it was attempted over-saving that left investment deficient, whereas Hobson held that it was actual over-saving that resulted in actual overinvestment. As Keynes put it, any reconciliation of such a theory with his own would only be 'at a later stage in the course of events'[18]—meaning, presumably, that a deficiency in consumption ('Hobsonian over-saving') might in due course, through its erosion of profitability, depress the level of investment ('Keynesian over-saving').

That these difficulties were substantial, not simply terminological, can be seen by considering the appropriate remedy for each condition. 'Kenyesian over-saving' could best be remedied by stimulating investment; 'Hobsonian over-saving' only by stimulating consumption. Thus, while Keynes was prepared to consider a whole range of possible expedients, he called his proposals for home investment 'my own favourite remedy—the one to which I attach the greatest importance'.[19] Hobson, conversely, remained lukewarm about schemes for public works. His own plans for redistribution of income aimed to boost consumption, but also candidly avowed their rationale as a means of reducing the saving—or over-saving—which he regarded as the other side of the same coin. A decrease in saving, however, had little attraction for Keynes. 'If we can find *no* outlet for our savings, then it would be better to save less', he conceded. 'But this would be a counsel of despair.'[20]

Yet the *Treatise* showed Keynes adopting a rhetoric about thrift that had long been Hobson's trademark. The *Physiology of Industry* had opened with an assault on Mill's proposition that 'saving enriches and spending impoverishes the community along with the individual.[21] Its own demonstration of the consequences of over-saving led up to the conclusion: The labourers, therefore, are the chief sufferers from the saving habits of the rich,

and, in so far as evil proceecls from poverty, the highly extolled virtues of thrift, parsimony, and saving are the cause.'[22] In the *Treatise* Keynes did not disparage the utility of saving; but when he insisted that it only had this utility in so far as it permitted investment to take place, he challenged a conventional preconception. 'It has been usual', he wrote, 'to think of the accumulated wealth of the world as having been painfully built up out of that voluntary abstinence of individuals from the immediate enjoyment of consumption which we call thrift'. In extolling enterprise instead, he suggested that 'not only may thrift exist without enterprise, but as soon as thrift gets ahead of enterprise, it positively discourages the recovery of enterprise and sets up a vicious circle by its adverse effect on profits'.[23]

It was at this point, already sidling up to the church door with his own theses stuffed in his pocket, that Keynes seems to have glimpsed the old heretic in a new light. Writing to Hobson apropos of a draft article recapitulating his views, Keynes admitted that

reading it has brought home to me how very near together you and I are on this matter. You have done all the pioneer work and the essential truth has been in you. But logically I have always felt your standpoint to be unsatisfactory. Now that I have worked out a point of view of my own which, to me at any rate, is logically satisfactory, I see how very near it comes to your view.[24]

Keynes's description of his new book as 'a synthesis of orthodox economics with your own unorthodoxy' was no doubt ingratiating but not misplaced. For the *Treatise* is indeed a synthesis between, on the one hand, new notions of saving, and, on the other, a fundamentally neo-classical concept of equilibrium.[25] 'Keynesian over-saving', which was merely another name for underinvestment, was a condition of disequilibrium, when the interest rate was thwarted in its normal function of establishing equilibrium between saving and investment. Interpreted in these terms, 'Hobsonian over-saving' could be recognized as a special case under the analysis of the *Treatise*, albeit one that had been misleadingly specified by underconsumptionists like Hobson, who had not 'succeeded in linking up their conclusions with the theory of money or with the part played by the rate of interest'.[26] The very interesting correspondence that took place between Keynes and Hobson in 1931 fastened upon this point. Keynes sought to disabuse Hobson of the misapprehension that 'there must be a body of real capital corresponding to the uninvestable savings' by referring him to the Banana Parable in the *Treatise*. In the banana republic, bananas were the only item of production or consumption. A thrift campaign, by increasing the proportion of income saved, obviously withheld that part of income from consumption—but did not necessarily divert it into investment. What happened? The same amount of production took place, and it was all sold (for bananas do not keep), but at reduced prices. The general public pocketed the gains through consumption at lower prices; but the entrepreneurs made equivalent losses, which ultimately had to be covered from the excess of savings. The thrift campaign had not increased the wealth of the community through higher investment; it had only transferred wealth from producers to consumers.[27]

Hobson's response was that these unfavourable consequences of a fall in prices could in principle be offset by maintaining the proportion of income devoted to consumption; and that the trouble arose in practice when there was a refusal to raise consumption in this way. Keynes had no quarrel with this; he recognized that it brought them closer together; but he reiterated that there was 'also another way out besides the way of increased consumption, namely through a fall in the rate of interest'. For, by opening up new market opportunities at more attractive prices, this would stimulate investment so as to absorb the excessive savings. 'If you could accept this other side of the shield which I offer', Keynes wrote, 'as well as the

face which you have stamped with your imprint, we should be at peace'.[28]

Hobson's reply has not survived. But it was such as to provoke Keynes to reaffirm that the Hobsonian analysis held only so long as the interest rate failed to fall fast enough to stimulate investment. He acknowledged a limiting case where the interest rate, having already fallen to zero, was obviously incapable of falling further—'at which point I would agree with you that my alternative exit is closed, and that your exit of more spending and less saving is the only one left'. But this was only a hypothetical possibility, not an approximation to the real position. Hence Keynes's reiterated contention: 'It is the failure of the rate of interest to fall fast enough which is the root of much evil.'[29] In saying this, Keynes showed his continued confidence in the equilibrating mechanism of the interest rate.

THE MOVE TO THE GENERAL THEORY

All of this was perfectly consistent with the analysis of the *Treatise*. Yet by the time Keynes concluded his correspondence with Hobson, the *Treatise* had been subjected to a searching critique, which ultimately led to the reformulation of Keynes's theories. In particular, the *Treatise* was discussed at length by the 'Circus' of younger economists at Cambridge; and Richard Kahn, largely as a result, put forward the concept that we know as the multiplier. Through successive increments of consumption, passed from hand to hand, aggregate income was multiplied in a determinate way until it produced a level of saving sufficient to match the initial investment. The essence of the multiplier mechanism was thus that an equilibrium between investment and saving was achieved, not through variations in the interest rate but through variations in output. What the Circus was concerned with was the crucial role of changes in *output* (given that the economy was at less than full capacity) rather than changes in *price*, on which Keynes had focused in the *Treatise*.[30]

One of Keynes's illustrative set pieces, at the time of the *Treatises* publication, was the paradox which he called after the widow's cruse (which was continually replenished with oil; see I Kings 17: 12–16). An example of it, as he explained to the Macmillan Committee, was when consumers on fixed incomes sought to increase their rate of saving:

prices will fall still further, so that they can both save and consume as much as before, and however much they save they can always consume as much as before. It is the widow's cruse.

Their position was thus analogous to that of the consumers in the Banana Parable. Moreover, because the entrepreneurs would lose and would be forced to dispose of their assets at knock-down prices, 'gradually the whole wealth of the community will pass into the hands of those savers, and those savers can go on consuming all the time just as much as they did before'.[31]

But *what* would they be consuming? How *could* it go on? In the Banana Parable, whereas consumers initially made a killing for similar reasons, retribution none the less lay around the corner. Indeed it can be read as implying a primitive multiplier process, which worked through reduced consumption to contract incomes, output and employment, and thus presumably established a new (and sub-optimal) equilibrium position.[32] In November 1930, however, when Keynes explained the widow's cruse to the Macmillan Committee, his delight in it seems to have closed his perceptions to such implications. It took the deliberations of the Circus during the following months to discover that there was a fallacy here: a concealed assumption of fixed output.

How soon Keynes's eyes were fully opened to this fallacy is not clear. For in November 1931, when he might conceivably have been twelve months the wiser, he still reverted, in

effect, to the analysis of the widow's cruse in order to make a point that he did not feel that Hobson had grasped, in the concluding shot of their exchanges:

The point is that when savings exceed investment prices fall, so that that part of income which is spent buys just as much goods as would have been purchased by the whole of the income if nothing had been saved. The paradox is that saving in excess of investment involves in itself no sacrifice whatever to the standard of life of the consuming and saving class.

Although there would be a transfer of wealth, there would be 'no change in the aggregate of wealth and no change in the rate of consumption'—which surely implies no change in output either. The only consolation for Hobson, on the receiving end of this disquisition, was a final caveat: 'Obviously this cannot go on long without the producers seeking to protect themselves from such losses. Hence unemployment etc. etc.'[33]

It is not surprising, in the light of this correspondence, to find that it ran into the sand at this point. Keynes's attempt to patch up the widow's cruse, or simply to ignore the fact that it was fatally cracked, did nothing to make it serviceable. Judging from his apologetic closing comment—'I must be at pains to expound the whole matter again from the bottom upwards'—he seems to have sensed as much himself. This can be read as an early hint that the *Treatise* was not to be the last word. It may indeed be the earliest indication that Keynes was proposing a major reformulation of his theory.[34]

Whatever their other differences about the concept, Keynes and Hobson were in agreement upon one crucial aspect of 'over-saving': it might be dysfunctional for the community as a whole but it was not irrational for the individual savers. Hobson had spent much of his life trying to dispel misconceptions on this score. There is no limit to efficacious thrift on the part of an individual', his first book had emphatically stated. It identified the root of the difficulty in 'the fundamental fallacy which underlies the Economist's view of Saving, the assumption that the interests of the Community must always be identical with the interests of its several members'.[35] This crucial distinction—one of Hobson's most characteristically trenchant ideas—was, of course, the individualist fallacy or the fallacy of composition.

What role, then, did this conception come to play in Keynes's thought? Analytically, this constitutes the most important question concerning the relationship between Hobson and Keynes. The answer, moreover, is highly provoking. For there is, I believe, strong reason to regard the fallacy of composition as integral to the conception and development of the theory of effective demand in the early 1930s. Though the concept was hardly new to the author of the *Treatise on Probability* (1921), it was only a decade later that he seized upon it as a key that could turn in the lock of a door that he needed to open. Keynes himself made two repeated claims about his own thinking during this period: first, that it underwent a revolution, and secondly, that this rested upon ideas that were 'extremely simple and should be obvious'.[36] Whatever his subsequent toils in writing the *General Theory* so that it constituted a rigorous exposition, fit for his fellow economists, what he regarded as paramount was the simple basic conception at its heart. In this sense, the general theory behind the *General Theory* might be regarded more as an application of what later became game theory rather than a *tour de force* in technical economic analysis.

I hope to have succeeded in demonstrating elsewhere, moreover, that Keynes had seized upon his new theory of effective demand before the end of 1932.[37] When he explained it for the first time, in his university lectures in the Michaelmas Term of 1932, he did so by outlining 'two fundamental propositions', both distinguishing between the choices open to individuals and the outcome necessarily true in the aggregate.[38] This distinction was an analytical tool that could be applied to a variety of decisions: about holding money, about

saving and spending, about cutting wages. Hence the structure of the *General Theory,* with its emphasis on 'the vital difference between the theory of the economic behaviour of the aggregate and the theory of the behaviour of the individual unit'.[39] It is hardly too much to say that Keynes's status as the major pioneer of macroeconomics rests upon this analysis.

If such an interpretation is accepted, it has a specific relevance here. From an analytical viewpoint, it presents a strong *prima facie* case for ascribing decisive significance to these characteristically Hobsonian insights in the making of the *General Theory*. From a historical viewpoint, however, there remains considerable difficulty in finding empirical evidence that would corroborate Hobson's direct influence. In fact, it seems that Keynes, not for the first time, progressed by a series of intuitive flashes towards an understanding that he only formalized into a coherent theory at a late stage. From the end of 1930, under the impact of the world slump, he was prompted, time and again, to ask whether competitive strategies—a flight into liquidity, implementation of wage cuts, a policy of tariffs, resort to devaluation—that were rational for one person, or for one firm, or for one country, were universally valid or viable: and by the end of 1932 he had generalized this distinction without ever acknowledging a specific debt to Hobson.[40]

PREDECESSORS

Having stumbled upon his new theory, Keynes cast about for unsuspected predecessors—a number of whom, along with Hobson, receive their meed of praise in the *General Theory*. 'As is often the case with imperfectly analysed intuitions', Keynes wrote of Silvio Gesell, 'their significance only became apparent after I had reached my own conclusions in my own way'.[41] Some names on his list had suggested themselves almost immediately. Having given the first exposition of the theory of effective demand during the Michaelmas Term of 1932, Keynes teased his audience in the final lecture by references to the 'traditionally uncultured' outlook of the Economics Faculty, and alluded to his own 'habit of browsing among old books', which he promptly turned to advantage. He became discursive over how the classical economists had regarded usury; he spoke up in defence of the mercantilists; he commended Mandeville's *Fable of the Bees,* above all, he reminded his audience of the triumph of Ricardo's polished theoretical reasoning over Malthus's crude but firm grasp on reality, so that 'for a hundred years this primitive common sense has lived only in uneducated circles'.[42] Keynes's rediscovery of Malthus was a genuine catalyst in the crystallization of his own thought; though even here he posthumously attributed to Malthus a suspiciously cogent (and Keynesian) doctrine of 'effective demand'.[43]

In his 1933 lectures Keynes found no time to hunt predecessors, but in 1934 he reverted to this theme in the course of a discussion of Say's Law. This proposition—essentially that the process of supply must create a sufficient demand to purchase the whole of it—formed the basis of Ricardo's proposition that over-production was impossible. It is critically examined in chapter 4 of the *Physiology of Industry,* from which the *General Theory* was to cite, and endorse, a comment on Marshall.[44] In his lecture of 29 October 1934, however, Keynes seemed unaware that Marshall had written in this sense at all; and though the lecture repeated previous comments on Ricardo and Malthus, and now added references to Marx, Gesell and Major Douglas, there is no recorded mention of the name of Hobson.[45]

This is fully congruent with surviving drafts of the *General Theory,* from which it appears that Keynes was at this stage projecting two historical chapters on his antecedents.[46] The first of these, on mercantilism, was circulated in proof in the summer of 1935. When Roy Harrod read it, he acknowledged the 'age-long tradition of commonsense' as worthy of note, but cautioned Keynes as being 'inclined to rationalise isolated pieces of common sense too much,

and to suggest that they were part of a coherent system of thought'.[47] Keynes's gloss on his remarks—'Roy strongly objects to chapter 26 as a tendentious attempt to glorify imbeciles'—should not be construed as covering Hobson, for whom Harrod subsequently evinced respect.[48] It was not this but the further chapter that was to deal with 'the notion of "effective demand"', presumably from Malthus (or Mandeville) onward. Only at a very late stage were the two conflated into what became chapter 23 of the *General Theory*.

The surviving evidence, in sum, suggests that Keynes did not seriously begin his study of Hobson's writings until the summer of 1935, by which time the preceding twenty-two chapters of his book, with their full exposition of the theory of effective demand, had already been set up in proof. It was in July 1935 that Keynes told Hobson that a section on his ideas was to be included in the *General Theory,* and Hobson accordingly supplied Keynes with an unpublished autobiographical paper from which substantial quotation was made.

Keynes worked from his own copy of the *Physiology of Industry*, which is annotated with his cryptic markings—the only such copy of Hobson's works to survive in Keynes's library. The marked passages are largely those cited in the *General Theory:* substantial sections of the preface, summarizing the argument, with supporting quotations drawn chiefly from the early chapters. Keynes lighted upon passages that argued that capital formation was not uniquely dependent upon an unchecked exercise of thrift, and that saving could not usefully be carried beyond a level limited by consumption.[49] The *Physiology of Industry* claimed that 'no more capital can economically exist at any point in the productive process than is required to furnish commodities for the current rate of consumption'. Keynes jotted down his own gloss: 'capital brought into existence not by saving but by the demand arising from actual and prospective consumption.'[50]

It is clear that Richard Kahn was asked to examine these materials, and the short but revealing letter he received from Keynes is worth quoting in full.

Thanks very much for taking so much trouble about the Mummery. Hobson never fully understood him and went off on a side-track after his death. But the book Hobson helped him to write, The Physiology of Industry, is a wonderful work. I am giving a full account of it but old Hobson has had so much injustice done to him that I shan't say what I think about M's contribution to it being, probably, outstanding.[51]

It was Mummery, forty years in his Himalayan grave, whom Keynes honoured *in coram* as his intellectual ancestor; it was the publication of the one book that Hobson had written in collaboration with him that was hailed as marking 'in a sense, an epoch in economic thought'.[52] Keynes, however, can be called tactful rather than insincere in privately offering Hobson 'the consolation of being remembered as a pathbreaker in economic theory';[53] this was readily compatible with the candid public qualification to the *General Theory*'s tribute, that 'Mr Hobson laid too much emphasis (especially in his later books) on under-consumption leading to over-investment'.[54]

CONCLUSION

The spirit in which Keynes recognized the value of Hobson's insight is perhaps best caught in a radio broadcast, part of a series in which both participated, which went out at the end of 1934. Hobson had given a popular recapitulation of his views on underconsumption. Although he started by taking 'the word "saving" to mean paying people to make more plant or other capital goods'—that is, the *use* made of saving in investment—he then turned his attention to the *lack of use* often made of it, in the process mentioning idle bank deposits. The

approximation to Keynes's analysis was, at best, only rough and ready. Yet Hobson firmly stressed, on the one hand, the inability of orthodox theory to account for this position and, on the other, the helplessness of any individual in effecting a remedy.[55]

Keynes, speaking a month later, pointed to a fundamental theoretical gulf between those economists who believed the system to be self-adjusting and those, like Hobson, who rejected such a view. It was in this context that Keynes described the latter as 'heretics'—a reference adopted by Hobson in his autobiographical lecture, 'Confessions of an economic heretic', the following summer. The heretics of today', Keynes maintained, 'are the descendants of a long line of heretics who, overwhelmed but never extinguished, have survived as isolated groups of cranks'. Even when right, it was often because their flair, being stronger than their logic, had preserved them from drawing otherwise inescapable conclusions. So where did Keynes stand? 'Now *I* range myself with the heretics', he proclaimed—he could do no other—but knowing them to be 'half-right, most of them, and half-wrong'.[56]

Likewise, in the *General Theory,* Hobson was congratulated for putting 'one half of the matter, as it seems to me, with absolute precision'; while the root of his mistake was identified as supposing excessive saving to cause an *actual* over-supply of capital.[57] Even after reading Keynes's 'great book', Hobson still found difficulty in accepting this conception, arguing that actual overinvestment was one stage in the cycle, and also hankering after idle savings as part of the explanation.[58] In either event, it still seemed to him a fairly straightforward case of underconsumption.

Keynes made a final effort to define their differences: 'The apparent failure of consumption in such circumstances is not really due to the consuming power being absent, but to the falling of incomes. This falling off of incomes is due to the decline in investment occasioned by the insufficiency of the return to new investment compared with the rate of interest.' In writing this, in February 1936, Keynes surely gave a fair account of 'the main points on which we have diverged at the later stages of the argument'.[59] He knew that Hobson was nearing eighty—'my brain is getting feeble and unable to concentrate effectively'[60]—but Keynes paid him the implicit compliment of sustaining the sort of critical discussion that had opened between them in 1930. The explicit compliment with which their correspondence closed rendered Keynes's attitude nicely: 'I am ashamed how blind I was for many years to your essential contention as to the insufficiency of effective demand.'[61]

On the whole, then, the best authority on the relationship between Hobson and Keynes remains the account in the *General Theory*. In it Keynes stated the extent of his debt with generosity and defined their similarities with precision. On neither score did Hobson have any quarrel with him. In particular, Hobson remained unreceptive to the income-adjustment process that lay at the heart of the theory of effective demand; and efforts to read it back into his own work must falter accordingly. If this is the good reason why Keynes could not have taken such ideas from him, the bad reason is that Keynes was simply unfamiliar with the bulk of Hobson's *oeuvre*. It was a deficiency for which Keynes made belated and partial amends once he had independently arrived at conclusions that he recognized as speaking to Hobson's distinctive concerns.

Goodwill was not lacking from 1930 onward, but only in 1934–5 was Keynes's mind triggered into a full appreciation of the extent of their affinity. By that time, the theory of effective demand had already taken shape; and the pivotal notion around which its analysis revolves—the fallacy of composition—was a further parallel in the two men's work rather than a transmitted influence. Again, Keynes might have learnt more from Hobson had he shown himself as receptive to suggestion when it came from outsiders as when it came from Cambridge economists reared like himself in the Marshallian tradition. When he read the *General Theory,* Hobson undoubtedly felt that the individualist fallacy, which had long lain deep in the very arsenal of orthodox economics, had finally. been exploded; and thereby the

citadel hoist with its own petard. He hoped that Keynes's book would revolutionize economics, and had no grounds to suspect its author of grand larceny; but, in an innocent piece of petty pilfering of his own, he was content to appropriate the copyright of the label heretic as a badge of honour in his declining years. It was, by any reckoning, a fair division of the spoils.

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1 J.A. Hobson, *Confessions of an Economic Heretic* (1938; ed. Michael Freeden, Brighton, 1976), p. 194. I am grateful to Stefan Collini, Donald Moggridge, Barry Supple and John Thompson for their comments on this essay.

2 *New Statesman,* 5 July 1958; for Cole's role as a filter of perceptions about Hobson and Keynes see Peter Clarke, *Liberals and Social Democrats* (Cambridge, 1978), pp. 272–3.

3 D.J. Coppock, 'A reconsideration of Hobson's theory of unemployment', *Manchester School,* vol. 21 (1953), pp. 1–21, at p 1; see also David Hamilton's interesting 'renovation', 'Hobson with a Keynesian twist', *American Journal of Economics and Sociology,* vol. 13 (1953–4), pp. 273–82; and E.E. Nemmers, *Hobson and Underconsumption* (Amsterdam, 1956), esp. pp. 85–113.

4 Coppock, ibid., pp. 10, 16

5 ibid., p. 7

6 *Confessions,* op. cit. (n1) p. 30; see the similar passage quoted by Keynes in the *General Theory:* from Hobson's 1935 lecture of the same title: *JMK,* vol. 7, p. 365. All references in this form are to *The Collected Writings of John Maynard Keynes,* ed. Donald Moggridge and Austin Robinson (Royal Economic Society, 1971–89).

7 For useful studies of Hobson's work see Michael Freeden, *The New Liberalism* (Oxford, 1978) and John Allett, *New Liberalism. The Political Economy of J.A. Hobson* (Toronto, 1982).

8 *JMK,* vol. 13, p. 489 *(Listener,* 31 November 1934).

9 Hobson, *The Social Problem* (1901), p. 69; ch. 6 of this book is mainly an attack upon Marshall and J.N. Keynes.

10 'Neo-classical economics in Britain', *Political Science Quarterly,* vol. 40 (1925), pp. 337–83, at pp. 341–8; this section reprinted in Hobson, *Free Thought in the Social Sciences* (1926), pp. 96–104.

11 *JMK,* vol. 12, p. 388 (*Economic Journal,* 1913); this was a review of Hobson's book, *Gold, Prices and Wages* (1913).

12 *Confessions,* op. cit. (n1), p. 34; see *Social Problem,* op. cit. (n9), p 30, for a similar statement forty years previously.

13 *Confessions,* op. cit. (n1), pp. 7, 91.

14 ibid., p. 29.

15 *JMK,* vol. 19, p 228, see also p. 225 (*Nation,* 7 June 1924).

16 Even in the mid-1920s there is no invocation of the metaphor of heresy where one might expect it in Hobson's writings—that is, in the sort of context where it is invoked ten years later, compare Hobson in *Free Thought in the Social Sciences,* op. cit. (n10), pp. 45–8, 52–3, with *Confessions,* op. cit. (n1), pp. 88–92; for Keynes's introduction of the term see below at n.55.

17 *JMK,* vol 7, p. xxv (preface to the German edn of the *General Theory*).

18 *JMK,* vol. 5, p. 160 (*Treatise,* vol. 1).

19 *JMK,* vol. 20, p. 126 (Macmillan Committee, 6 March 1930).

20 *JMK,* vol. 20, p. 353 (to Montagu Norman, 22 May 1930).

21 Mummery and Hobson, *Physiology of' Industry* (1889), p. iii.

22 ibid., p. 182.

23 *JMK*, vol. 6. p. 132 (*Treatise*, vol. 2).

24 Keynes to Hobson, 23 April 1930, Keynes Papers; these unpublished letters were first used in the late Alan Lee's pioneer work, 'A study of the social and economic thought of J.A. Hobson' (London Ph D. thesis, 1970), pp. 289–96

25 It could perhaps be said that such views on saving and investment had been anticipated by Knut Wicksell and Dennis Robertson; but Keynes certainly gave them a new salience.

26 *JMK*, vol. 5, p. 161 (*Treatise*, vol 1).

27 See JMK, vol. 5, pp. 158–60 (*Treatise*, vol. 1).

28 *JMK*, vol. 13, p. 333 (Keynes to Hobson, 28 August 1930); see also pp. 331–2 (Hobson's 'Notes on over-saving', 18 August 1930).

29 *JMK*, vol. 13, pp. 333–4 (Keynes to Hobson, 2 October 1930).

30 For the Circus see *JMK*, vol. 13, pp 337–43 and the other sources listed in Peter Clarke, *The Keynesian Revolution in the Making, 1924–36* (Oxford, 1988), p. *244*, n45.

31 Private minutes of the Macmillan Committee, 7 November 1930, p. 13 (copy in the Public Record Office, T 200/5); compare the Danaid Jar as explained in *JMK*, vol 5, p. 125 (*Treatise*, vol. 1)

32 This sort of argument has recently been developed in B. Littleboy and G. Mehta, 'Patinkin on Keynes's theory of effective demand', *History of Political Economy*, vol. 19 (1987), pp. 311–28, esp. pp. 313–16, 324–7; and I regret that I did not have the benefit of it when considering this point in *Keynesian Revolution in the Making*, op. cit. (n30), p. 252. The contrary position, which I continue to find persuasive, has been elucidated with exemplary rigour in Don Patinkin, *Anticipations of the General Theory?* (Chicago, 1982), pp. 15–16.

33 *JMK*, vol. 13, pp. 335–6 (Keynes to Hobson, 1 November 1931). It is interesting to compare this with what Keynes had written to R.G. Hawtrey, nearly a year previously, specifying the normal order of events as first involving a change in prices and only subsequently a change in output; see *JMK*, vol. 13, p. 143 (Keynes to Hawtrey, 28 November 1930).

34 *JMK*, vol. 13, p. 336 (Keynes to Hobson, 1 November 1931). A month later, on 9 December 1931, he wrote to Nicholas Kaldor: 'Well, I must be more lucid next time. I am now endeavouring to express the whole thing over again more clearly and from a different angle; and in two years' time I may feel able to publish a revised and completer version' (*JMK*, vol. 13, p. 243).

35 *Physiology of Industry*, op. cit. (n21), pp 108, 105.

36 *JMK*, vol. 7, p. xxiii (preface to the *General Theory*).

37 See *Keymesian Revolution in the Making*, op. cit. (n30), pp. 259–64, which in this respect modifies the standard accounts in D.E. Moggridge, 'From the *Treatise* to the *General Theory:* an exercise in chronology', *History of Political Economy*, vol. 5 (1973), pp. 72–88; Moggridge, *Keynes*, 2nd edn (1980), pp. 91–119; Don Patinkin, *Keynes's Monetary Theory* (Durham, NC, 1976), chs 7–9; Patinkin, *Anticipations*, op. cit. (n32), Pt 1.

38 Lecture notes of R.B. Bryce, 24 October 1932, typescript edition by Thomas K. Rymes, A18 (Marshall Library, Cambridge).

39 *JMK*, vol. 7, p. 85 *(General Theory).*

40 See *Keynesian Revolution in the Making*, op. cit. (n30), pp. 269–72.

41 *JMK*, vol. 7, p. 353.

42 Bryce notes, 28 November 1932, Rymes edition, A48–51.

43 *JMK*, vol. 10, pp. 88ff. *(Essays in Biography);* and see p. 71n for Moggridge's helpful editorial note on the dating of these passages.

44 *JMK*, vol. 7, p. 19n, citing *Physiology of Industry*, p. 102.

45 See the notes by Bryce and by (Sir) Bryan Hopkin for 29 October 1934, Rymes edition,

C8 and H8–9.

46 Compare draft tables of contents, *JMK*, vol. 13, pp. 423–4, 525–6.

47 *JMK*, vol. 13, p. 555 (Harrod to Keynes, 30 August 1935).

48 *JMK*, vol. 13, p. 650 (Keynes to Joan Robinson, 3 September 1935). I have to confess that I myself construed it thus in *Liberals and Social Democrats*, op. cit. (n2), p. 273, but, on closer inspection, now find this implausible (and uncharitable). Harrod was responsible for the publication of a (posthumous) 4th edn of Hobson's book, *The Science of Wealth* (Oxford, 1950).

49 e.g. *Physiology of Industry*, op. cit. (n21), pp. 35–6.

50 ibid., p. 63, with Keynes's pencilled note, Marshall Library.

51 *JMK*, vol. 13, p. 634 (Keynes to Kahn, 30 July 1935).

52 *JMK*, vol. 7, p. 365 *(General Theory)*.

53 Keynes to Hobson, 31 July 1935 (copy), Keynes Papers.

54 *JMK*, vol. 7, p. 370.

55 Hobson, 'Underconsumption and its remedies', *Listener*, 31 October 1934, pp. 735–6.

56 *JMK*, vol. 13, pp. 488–9 ('Is the economic system self-adjusting?', *Listener*, 21 November 1934); compare *JMK*, vol. 7, p. 371 *(General Theory}*.

57 *JMK*, vol. 7, pp. 367–8.

58 *JMK*, vol. 29, p. 209 (Hobson to Keynes, 10 February 1936).

59 *JMK*, vol. 29, pp. 210–11 (Keynes to Hobson, 14 February 1936).

60 *JMK*, vol. 29, p. 208 (Hobson to Keynes, 3 February 1936).

61 *JMK*, vol. 29, p. 211 (Keynes to Hobson, 14 February 1936)

7
J.A. Hobson as a macroeconomic theorist

ROGER E. BACKHOUSE

INTRODUCTION

Hobson made some very important contributions to what we now term macroeconomics, the subject that deals with the economy as a whole, including issues such as the determination of the price level (and hence inflation), aggregate output and employment. We start with his theory of money, to which most commentators have paid scant attention,[1] after which we turn to his much better-known theory of underconsumption.[2] Hobson was, of course, concerned with many aspects of economics and his contributions to many of these formed part of a coherent system of thought. His theory of underconsumption, for example, was linked to his theory of distribution and it formed the basis for his views on imperialism and international trade. For reasons of space, however, and in order to focus attention on Hobson's distinctive contributions to macroeconomics, these wider issues are neglected here. In addition, the focus here is on Hobson's contribution to macroeconomic theory, leaving aside his contributions to debates on macroeconomic policy.

MONETARY ECONOMICS

Money, spending and prices

The starting point in all Hobson's work on money and prices was the assumption that prices are determined by supply and demand for the goods in question, not by the quantity of money. This notion was forcefully expressed in *The Physiology of Industry:*

So long as the sellers of commodities can sell all they have to offer at the current price, prices cannot fall, and this holds good equally, whether gold is scarce or plentiful. Sellers do not trouble to ask any question as to the state of the Bank reserve, or the cost at which gold is being produced. All they care to know is, whether they can sell everything they have to offer at the current price. If they believe they can, neither scarcity of gold, nor anything to do with gold, will induce them to take a lower price. If, on the other hand, they believe that they will not be able to sell all they have to offer at the current price, then prices will fall, no matter how plentiful gold may be, or to what depth its cost of production may have fallen.[3]

Supply and demand were, for Hobson, a general explanation of prices.

This perspective led Hobson to focus exclusively on flows of purchasing power to such an extent that in *Gold, Prices and Wages,* his most comprehensive treatment of money, he defined money to mean what we would nowadays refer to as aggregate income.

By quantity of money, regarded as a factor in price-change, we signify the amount of

purchasing power actually applied in buying goods during a period of time, for example a year.[4]

Money for Hobson was thus currency plus bank deposits *multiplied by* the velocity of circulation or, in other words, the total flow of expenditure during a year. Given this definition there would undoubtedly be a close relationship between 'money' and prices: if total expenditure increases and the flow of goods does not, it is inevitable that the price level will rise. In this sense the quantity theory was true: indeed, it was a truism.[5]

Where Hobson parted company with orthodox economists was in his view of the relationship between money, understood as currency and bank deposits, and the level of spending. He argued that the main source of what he called money is previous receipts. In addition to this, however, there are two other sources of purchasing power: the minting of new gold coins, and new bank credit. New gold coins are not received in payment for goods but 'represent fresh gold dug out of the ground and coined and stamped as legal tender by governments for the miners'.[6] Bank deposits represent new purchasing power provided that they are the result of bankers making new advances; if bank deposits increase simply because businessmen have paid in a corresponding amount of coins, notes or cheques there will be no change in the level of spending.[7] To sum up,

The supply of money, the aggregate of purchasing power expended upon the supply of goods and services during any given year, consists thus of three contributions.
First and chief, the gross receipts from the payments or purchases made during the year.
Secondly, the additional gold or notes issued as currency during the year.
Thirdly, the additional credit issued as loans, discounts or other advances by banks.[8]

This view of what determined spending led to some strong conclusions about the price level. The first is that if prior receipts are the only source of income, there can be no change in the price level.

If all money were thus derived from prior acts of sale…it would appear as if the quantity of money must vary directly and proportionately with the quantity of goods, and that therefore prices must remain stable.[9]

Conversely, if new money is created, either by government or by the banks, the volume of spending will rise. If production is unchanged prices must, therefore, rise.[10]

It might be thought that such an approach, stressing the circular flow of income and providing for an exogenous source of spending, would have led Hobson towards a Keynesian multiplier theory.[11] This was not the case. Hobson explicitly denied the existence of any 'second round' effects of bank credit on spending: after an increase in bank credit has been spent once it will, he claimed, have no further effects.

When the banker first loaned it, placing it to the deposit account of his customer, it operated as a creation of new purchasing power. He who received the credit found himself in possession of so much more 'money', and no one had any less than before. Of course, as soon as this specially created money has once been expended, it begins to appear in the gross receipts of the businesses producing the goods on which it has been expended, and passes into bank accounts on ordinary terms with other cheques. What effect this bank-made credit has upon prices is, of course, exhausted by its first use by the borrower who uses it to

supplement ab extra his ordinary supply of money got from selling goods. The person who receives it next receives it in payment for goods which the borrower buys, gets it not not as an addition, but as an ordinary part of the gross earnings of his business. …its further 'circulation' produces no further effect on prices.[12]

Elsewhere Hobson is even more emphatic about there being no multiplier effects.

If the increase of £10,000,000 entering our national income were all expended directly in demand for commodities, it is manifest that its effect on prices would not exceed our estimate. The very common notion that it would is based upon a quite illicit line of reasoning to the effect that the trades producing the goods first bought with the £10,000,000 would use this increased income in demanding a corresponding increase of commodities on their part, and so on with other trades supplying these commodities, until the original increased demand and its effect on prices are multiplied many times over. This argument is utterly fallacious; the effect of the £10,000,000 upon the aggregate demand and so on prices is completely exhausted on the first application, all that is added to the total income and so to the total purchasing-power of the community for the year is £10,000,000.[13]

Hobson's rejection of the multiplier could hardly be more explicit or more emphatic. In this respect he was even further from Keynesian ideas than were more orthodox economists such as Bagehot[14] and Walker.[15]

The quantity theory of money

This theory of how money was linked to spending and hence prices formed the basis for a critique of the quantity theory.[16] His first argument, used in both *The Physiology of Industry* and *Gold, Prices and Wages,* was an empirical one: he took estimates of gold production and of national income and worked out the changes in the price level predicted by his theory. In 1889 the issue was falling prices, which many economists blamed on the shortage of gold.[17] It was widely believed amongst those who blamed falling prices on a shortage of gold that there was a shortfall in gold production amounting to about £2m. per annum. Total expenditure in the UK was estimated at £1, 270m. Hobson used his theory to put these figures together and to argue that the shortage of gold could account for a fall in demand of only 2/1270 or 0.16 per cent per annum.[18] The alleged shortage of gold could thus explain only a small fraction of the 30 per cent fall in prices that took place between 1872 and 1885. Twenty-four years later he used the same argument to show that the rise in gold production between 1895 and 1910 was insufficient to cause any significant rise in the price level. The world stock of gold was believed to have increased by £67m. during this period. The gross British national income was estimated at £10, 000m. and on the assumption that this comprised no more than 10 per cent of world income Hobson conjectured that world income must be at least £100, 000m. Gold production could account for a rise in the price level of at most 0.1 per cent (the actual increase in prices was about 20 per cent). This led him to conclude that even if 'the entire output of gold was directly expended by those who get it from the mines in purchasing goods, the effect in raising prices would be very trifling'.[19]

In *The Physiology of Industry* this was the main argument against the quantity theory but in *Gold, Prices and Wages* it was supplemented by a number of arguments, all based on the role of credit in an industrial economy. The first of these arguments was that increases in the volume of credit had been far larger than increases in the quantity of gold and that this was the main monetary factor behind the rise in prices: 'so far as an increased quantity of money

is responsible for the rise of prices, it consists mainly in expansion of credit.'[20]

The second argument was that credit was created in response to demand. Credit, Hobson argued, was created not out of gold but out of goods.

The main staple out of which credit is made is vendible goods, and the extension of credit must be attributed mainly to a growth of the vendible goods which can be used for making it. … Credit is based on goods and expands with the quantity of goods available as valid security.[21]

Credit is based on the ability of borrowers to repay, with all credit being backed by some sort of collateral. Provided that suitable borrowers are available, bankers will lend the maximum they can safely lend.[22]

It might be objected that if credit rests on goods in this way, every expansion of credit would be matched by an expansion of goods, with the result that credit could never be responsible for a rise in prices.[23] Hobson's answer to this was that credit could be increased by reorganizing production.

Large masses of new credit are due, not to the production of more goods, but to the reorganization of businesses in forms rendering these goods available as securities for credit issues. So long as this change is proceeding, increased quantities of credit will come into being without any necessarily corresponding increase of goods. That goods in general are expanding along with, and partly as a result of, the new organization of businesses may be taken for granted, but there is no reason to presume that this increase of goods will be commensurate with the increase of credit.[24]

Hobson also argued that saving can increase credit: when saved income has performed its 'real task' of purchasing capital goods, the share certificates created can be used as the basis for a further expansion of credit, unaccompanied by any expansion of goods. In this process of credit-creation gold is important only because bankers have to hold reserves in order to retain the public's confidence. Gold, however, and this is Hobson's third argument, was of declining importance. As confidence in banks had grown, he argued, so reserve ratios had fallen.[25] This was a process that could proceed even further, for gold was not 'economically' necessary: its value was dependent on confidence just as much as was the value of paper currency. Even the Bank of England's reserve contained a large quantity of securities. Hobson thus concluded that 'the credit system of this country is based, in its final economic analysis, not on gold but on the real wealth of the country'.[26] A further consequence of increasing confidence in paper money was that not only was a smaller gold reserve required, but 'money-instruments' would change hands more frequently: the velocity of circulation would increase.[27]

The implications of this for the quantity theory can best be seen by considering Fisher's equation of exchange,

$$MV+M'V'=PT.$$[28]

In this equation M denotes the quantity of notes and coin and M' the quantity of bank deposits, with V and V' their respective velocities of circulation. P is the price level and T the volume of transactions. Quantity theorists such as Fisher argued that changes in M led to changes in the level of income, PT.[29] To do this they argued (1) that M' was related to M, and

(2) that V and V' were stable. Hobson's arguments, discussed above, showed that neither of these assumptions was justified.

In his discussion of the quantity theory Hobson also addressed the problem of the observed behaviour of gold supplies, prices and interest rates. This is interesting because this was a problem that also concerned orthodox quantity theorists such as Fisher and Wicksell. If changes in the money supply were the cause of changes in prices and interest rates we would expect falling prices to be associated with high interest rates, and rising prices with low interest rates. If the supply of gold increases, bankers will find themselves with increased reserves and will try to increase their lending. To do this they will have to reduce the rates of interest charged on loans: bank rate will fall. The resulting credit expansion will raise spending and hence prices. An equilibrium will be reached when prices have risen enough to absorb the additional quantity of credit. If there is a shortage of gold the process is reversed.[30]

The problem was that the opposite was observed. Hobson focused on gold reserves and interest rates in England from 1890 to 1911, whereas others (such as Wicksell) considered the relationship between prices and interest rates over a longer period,[31] but both sorts of evidence led to the conclusion that monetary expansion and rising prices were associated with high, not low, interest rates. Hobson's explanation was that the motive force was profitability. If opportunities for profitable investment increase then demand for credit will rise, raising interest rates. As credit increases, so demand for reserves will increase and gold will be attracted.[32] This explanation of why rising gold reserves were associated with high interest rates, which Hobson saw as undermining the quantity theory, was very similar to the explanations offered by quantity theorists, such as Fisher and Wicksell, of which he was so critical.[33] Hobson also noted that this expansion of credit might be cumulative: rising credit leads to rising prices, which in turn lead to a larger borrowing power (collateral securities will be worth more) and to a further rise in credit, and so on. This is Wicksell's cumulative process.[34]

The interest rate and the price of money

At the end of his critique of the quantity theory Hobson put forward ideas on what constitutes the real 'price of money'. The puzzle he was concerned to resolve was the fact that the hire price of money (the interest rate) frequently moves in the opposite direction to the purchase price of money (the reciprocal of the price level). With other goods, he claimed, such behaviour is impossible: if the purchase price of cars rises, for example, the hire price must also rise. Hobson's explanation is that, with the exception of governments and financial institutions, people never purchase money: they merely hire it. A sovereign, for example, should be regarded as 'a vehicle of transport, an instrument in the process of exchange, which passes through the temporary possession of a series of persons, each of whom receives it and uses it for this single act of service'.[35] It is thus not the purchase price but merely the hire price that matters, the real 'price of money' being the interest rate. Recognition of this principle, he claimed, 'will clear up a good many obscurities in the movements of money and prices'.[36]

Hobson as a monetary theorist

Hobson clearly had some very important insights into monetary economics. He was right in insisting that prices must be explained in terms of supply and demand, and that monetary factors could affect prices only through affecting supply and demand. His observations that the velocity of circulation varies and that credit is the main feature of the monetary system were very important. There were, however, a number of crucial flaws in his monetary theory.

Hobson's analysis of the way in which flows of new money affected the economy stood in

a long tradition, going back to Cantillon in the eighteenth century.[37] It was an approach to monetary economics that was capable of development, but Hobson's theory suffered from two notable shortcomings. First, he completely failed to see the multiplier effects that would ensue. Other writers may not have worked out these effects completely satisfactorily, but there was no justification for Hobson's wholesale rejection of the idea. Second, Hobson failed to allow for the possibility of hoarding. The level of spending is equal to income plus new money *minus* hoarding.[38] Hoarding offsets the effects of new money, and explains why income may fall if insufficient new money is created.

This failure to see the significance of hoarding is linked to the major defect in Hobson's monetary theory: his complete failure to see the need for an analysis of supply and demand for stocks. This failure is made clear by a passage from *The Physiology of Industry*.

We have seen that the only demand which the community can exert is a demand for consumable articles by consumers, all other so called demands being resolvable, when regarded from the community's point of view, into mere changes of ownership. Currency, therefore, cannot be demanded; the community possesses exactly the same number of sovereigns whether any given sovereign is in the pocket of A. or B., or C., or in the cellars of the Bank of England.[39]

In this passage Hobson and Mummery argued that it does not make sense to talk of demand for currency or any other asset. Their argument here is fallacious. Although it may be impossible for buying and selling to alter the stock of an asset, it is still possible to examine the conditions under which the community will be satisfied with the stock that it holds: in other words to examine the conditions under which demand will equal this given stock.[40]

This failure to see even the possibility of analysing the demand for a stock, let alone the necessity of doing so, had several implications. First, there is the failure to allow for hoarding, discussed above. Secondly, the quantity theory is essentially a proposition about the relationship between the stock of money and the flow of income. Thus although Hobson was able to understand many of the arguments used by quantity theorists, he never understood the theory properly. Thirdly, his arguments about the rate of interest are faulty because of his inability to see the significance of stocks and stock/flow relationships. The purchase price of an asset is the price of a stock, and the hire price is the price of the flow of services yielded by the asset. The two are linked by the rate of interest. If the interest rate changes, the hire price and the purchase price of an asset may diverge. For example, if the purchase price of a car is fixed and the rate of interest rises, the hire price will rise (if the car is financed by a bank loan, the hirer will have higher costs to recoup).[41] There is thus no paradox to explain.

When he claimed to have undermined the quantity theory, Hobson interpreted it as involving a very strict relationship between gold and prices: he viewed the quantity theory as a theory of gold control. He thus ridiculed Fisher for proclaiming the quantity theory at the same time as conceding that neither the ratio of currency to deposits nor the velocity of circulation was constant.[42] Hobson's arguments were, however, much less effective against more flexible versions of the quantity theory. Indeed, there is a remarkable similarity between some of Hobson's arguments and Wicksell's: a major part of Wicksell's argument was conducted in terms of a 'pure credit' economy, where gold played no role whatsoever. Whereas Hobson saw himself as destroying the quantity theory, however, Wicksell saw himself as developing and extending it.

Hobson may have been right in claiming that there had been, over the preceding decades, a progressive rise in both the velocity of circulation and the ratio of credit to gold, but given the

banking system's need for reserves (which he accepted) it was quite feasible for the supply of credit to be constrained by the stock of gold in the short run. He never followed up the implications of this. It is thus fair to conclude that, whilst Hobson had no problem in disposing of the simplest, popular versions of the quantity theory, his arguments contained many flaws, and were weaker than those of more sophisticated quantity theorists such as Wicksell.[43] Because of his complete neglect of the problem of stock/flow equilibrium he simply by-passed some of the central issues of monetary economics.[44]

THE THEORY OF UNDERCONSUMPTION

Saving and investment

As is well known, Hobson explained unemployment in terms of underconsumption or over-saving. In any attempt to understand this theory the most important thing to note at the outset is the way in which he thought of saving and its relationship to investment. He made the assumption, strange to economists brought up on Keynesian theory, that savings were, by and large, invested: that a high rate of saving implied a high rate of capital accumulation.

Saving means something more than this ['not consuming']. It signifies not only abstention from consumption, but application as a means of further production.[45]
Every act of saving in a complex industrial society signifies making, or causing to be made, forms of capital which are essentially incapable
of present consumption—i.e., future of productive goods.[46]
A person who, instead of spending, saves, invests his savings.[47]

There were two reasons for this. The first is that Hobson attempted to view the problem from the point of view of society as a whole.[48] Thus 'saving' that merely transfers income from one individual to another (for example, a thrifty individual lending money either to a spendthrift or to a fraudulent promoter of companies) is, from a social point of view, not saving at all. In addition, 'saving' that simply results in the creation of excess capacity, though it may increase the capital owned by the individual concerned, does not increase the community's 'real' capital and should not be considered as saving.[49] The second reason for Hobson's conflation of saving and investment is his refusal to attach much significance to hoarding.[50] He acknowledged the possibility of hoarding, but argued that in modern industrial societies this was abnormal.[51] As a result he adopted a position close to Say's Law.

In modern industrial society there is no wish to keep more money idle, in men's pockets or in their bank accounts, than is required for the normal conveniences of economic life. It might, therefore, be assumed that all incomes when received would without much delay be employed either in buying consumables (spending) or in buying capital goods (saving).[52]

Despite this view of saving, however, Hobson took issue with John Stuart Mill's dictum that 'everything which is produced is consumed; both what is saved and what is to be spent; and the former quite as rapidly as the latter'.[53] Mill's argument was essentially that when individuals save they lend the money to investors who employ workers to create capital goods. What happens, therefore, is that savings are used to pay for consumption by workers in the investment goods sector. Hobson's criticism was that Mill failed to see that the person who saves 'necessarily produces something which neither he nor anyone else consumes at

once' (for example, steam engines). He was thus looking a stage further ahead than Mill.[54]

Saving and consumption

Hobson's main argument about unemployment was that it was necessary to have the right balance between saving and consumption, and that underconsumption would emerge if savings were too high relative to consumption. The reasoning is that because all savings are invested, high saving will lead to high investment, which increases the flow of future output. If there is to be a market for this output, it is necessary that there is a sufficiently high level of future consumption. Problems arise because building a factory, for example, though it may create an immediate demand for consumption goods, does not create any future demand to match this increased supply. If this future demand is not forthcoming the result will be excess capacity and unemployment once the factory comes into operation. Excessive saving, therefore, creates a problem not whilst the investment is being undertaken, but once it is in place and is beginning to produce output.[55]

The need for future consumption to provide a market for the output produced by new capital goods means that it is necessary to have the right balance between investment and consumption. There is, however, an asymmetry. If there is excessive saving, the result is unemployed resources; whereas if there is insufficient saving, the fact that incomes will be constrained by full employment output means that excess demand will not emerge.

Hobson's view of the need for a balance between saving and consumption is clearly summed up in the following passage.

In a stable society…all the income is spent: there is no place for saving. But in a progressive society where the future rate of consumption is to exceed the present, for a larger population with a higher standard of comfort saving is essential. A little saving will only make provision for a slight rise in the volume of consumption; more saving is needed for a larger rise. The right amount of saving out of a given income, i.e. the right proportion of saving, will be determined by the amount of new capital economically needed to furnish a given increase of consumption goods. Over a period of years there will be a rate of saving which will assist to produce the maximum quantity of consumption goods.[56]

He implicitly took the growth rate as given, arguing that a certain level of saving is required if capital is to be accumulated at the right rate.[57] If capital is accumulated too fast, consumption will not keep pace with demand. This is the same as the problem that underlies the Harrod-Domar growth model: the difference is that Hobson took the growth rate as given, calculating the appropriate saving rate, whereas Harrod and Domar took the savings ratio as given, calculating the 'warranted' growth rate.[58] It is worth noting that Hobson clearly understood what we now refer to as the accelerator—the relationship between investment and the growth of output that is necessary to derive an optimal savings ratio. As the following passage makes clear, he believed the accelerator (or capital-output ratio) to be at least 4.

The plant required to produce any individual commodity by modern standards vastly exceeds in value the individual commodity itself, and we certainly do not over-estimate this difference if we assume that an increase of ten per cent. in the annual consumption of any community would require an increase of fifty per cent. in the production of that commodity during the year of increase. … Thus if a community increases its consumption from 10x wealth to 11x wealth a year, production must during the year in which this increase takes place exceed consumption by 4x wealth in order to accumulate the additional forms of capital required; that is to say, production must during this year amount to 15x wealth. So soon, however, as

consumption, having reached 11x annually, no longer increases, a production of 11x wealth annually alone is required.[59]

This is a remarkably precise statement of the acceleration principle.[60]

The orthodox position on Say's Law was that, although there could not be general underconsumption, it was possible for there to be insufficient demand in one sector and excess demand in another—that there could be an imbalance between the level of demand in two sectors. Hobson claimed that a similar argument could be used to explain 'general' underconsumption. In a situation of underconsumption, what was happening was that people were trying to postpone too much consumption to the future. There was thus an imbalance between present and future consumption caused by the fact that, whilst there were no limits to the extent to which individuals might wish to postpone consumption, there were strict limits as to the amount of consumption that the community as a whole could postpone to the future. Not only were limits imposed by depreciation, obsolescence and limited knowledge of the future,[61] but there was also the limitation imposed by the need to ensure that current consumption was high enough for existing productive capacity to be fully utilized. The problem of underconsumption was thus one of intertemporal disequilibrium. This is summed up in the following quotation.

It is universally admitted that from ignorance or miscalculation too much new capital often flows into certain industries or groups of industry, and too little into others; some are congested, others starved. … But if this waste from misdirection in the application of capital at a given time is admitted as a natural occurrence, why is it unreasonable to expect that a general misdirection of capital, not as between one set of industries and another, but as between one period of time and another, may occur?[62]

The causes of underconsumption

Hobson's views on why underconsumption was likely to be a perennial problem changed significantly during the 1890s. In *The Physiology of Industry* he and Mummery emphasized the difference between the interests of the individual and the interests of the community. Individuals are in competition with each other and may invest what, from a social point of view, is an excessive amount in the hope of gaining a competitive advantage over their rivals.[63] As one commentator has put it, 'the economic taproot of oversaving…was to be found in the independent nature of corporate decision-making in a market economy'.[64]

During the 1890s Hobson started to see the cause of underconsumption as resting in a maldistribution of income, relating this to his theory of surplus. In *The Problem of the Unemployed* (1896) he attributed high savings to the high level of 'unearned' incomes.

The reason why attempts are made by individuals to establish more forms of capital than are socially required, is that they possess certain elements of income which are not earned by effort, and which are therefore not required to satisfy any present legitimate wants. …a man who draws a large income without working for it cannot and does not spend it.[65]

The simplest illustration of this was that one cannot enjoy a good dinner without having performed some physical exercise. He quoted J.J. Astor as saying that he had all the necessaries of life and that as a result he could do nothing with his income but invest it. Given that a large proportion of the nation's capital was owned by wealthy individuals, the result was that savings were very high.

The failure to fully utilise consuming-power is due to the fact that much of it is owned by those who, having already satisfied all their strong present desires, have no adequate motive for utilising it in the present, and therefore allow it to accumulate.[66]

The final stage in the evolution of Hobson's theory was to explain the origins of 'unearned' income using the theory of the surplus which he developed during the 1890s.[67] The surplus was the amount by which output exceeded the amount needed to maintain the factors of production (workers' subsistence plus depreciation of capital). Part of this surplus was 'productive', in that it provided the incentives necessary for growth to take place: it included the interest payments necessary to induce savers to supply the required amount of capital, and the wages necessary to the wages necessary to stimulate growth in the quantity and quality of labour. The remainder was the 'unproductive surplus', which comprised all economic rent plus all factor payments beyond those necessary either to maintain factor supplies or to stimulate growth.[68] This 'unproductive surplus,' he argued, was the cause of underconsumption, for the right level of saving will occur only if the ratio of saving to consumption is determined by 'a close comparison between present and future pleasures and pains'.

The rightness of such calculations would be based upon the fact that all saving required a proportionate effort on the part of the individual or the community that made it. If in a society that was not communistic but individualistic this prime condition were present, and all saving involved a corresponding effort or sacrifice, the right adjustment between saving and spending would be equally secure. But if, as regards any large proportion of the saving, this condition is not present, there is no automatic guarantee for the maintenance of the right proportion between spending and saving. Now that 'saving' which is made out of unproductive surplus income is not amenable to this calculus; unearned in origin, such 'surplus' is not allocated to the supply of any particular human needs, as is the case with that income required to maintain or stimulate human efficiency of production. It may, indeed, be said that human craving for expenditure on luxuries is insatiable, and that wealthy owners of 'surplus' income must be conceived as balancing present against future satisfactions, and so making painful sacrifices when they save. But such balancing will be far looser and will yield very different results from the balancing of working men who are called upon to save.[69]

Hobson was thus going much further than merely assuming, as was the case in his earlier works, that the rich save more than the poor.

There are two main problems with this theory. The first is that Hobson did not make it clear why consumption should be linked to the effort involved in earning the income.[70] *It may be that the rich take less care in working out the optimal balance between consumption and saving than do the poor (they have less need and less incentive to do so), but there seems to be bo good reason why this should be linked to effort. The second problem is that in this passage Hobson appears to be suggesting that, if everyone were deciding their saving behaviour in an optimal way, the resulting level of savings would be socially optimal. But the point of Hobson's other arguments is that there is a divergence between the private and social benefits from saving: that it is in the interests of individuals, when considering their own position, to save more than is socially optimal. The argument about the surplus thus seems irrelevant to Hobson's main theory. This is not, of course, to say that the distribution of income may not be an important cause of high saving.*

Hobson and 'Keynesian' unemployment

Hobson's main explanation of unemployment was clearly the one outlined above. There are, however, some passages that suggest an explanation of unemployment that is much closer to Keynes's. Consider the following passage from *The Physiology of Industry*.

The community considered as the recipient of money incomes produces consumable articles; the community considered as the spender of money incomes buys and consumes these articles. If, owing to its desire to save, it refrains from spending the whole of its money income, the whole of the consumable articles produced cannot be sold. Over-supply is, in consequence, caused, and prices and incomes fall until the production of consumable articles is reduced to the total actually consumed.[71]

The significant feature of this passage is that it distinguishes saving from investment: contrary to what is claimed elsewhere, this passage analyses saving independently of investment. Such saving is, furthermore, related explicitly to hoarding, for his argument is that people save up for the future either through investing their savings or through hoarding money (Mummery and Hobson referred to storing up money in a stocking).[72] Interestingly, Mummery and Hobson quoted Alfred Marshall as saying that 'though men have the power to purchase, they may choose not to use it', describing him as being 'alone amongst economists' in holding this view.[73] They fail to note that such a remark could just as easily have been taken from John Stuart Mill.[74]

The final point to note is that it is because Hobson neglected the possibility of hoarding that his monetary theory remains separate from his theory of saving and investment.[75] If we take his theory whereby expenditure comprises income and newly created money and introduce hoarding, we can very easily show that this is the same as assuming that demand equals income plus the difference between investment and saving.[76] This is very close to the theory Keynes put forward in his *Treatise on Money* and it has much in common with Wicksell's theory.

CONCLUSIONS

Hobson was, despite his many failings, a remarkable macroeconomic theorist. First, his theory of money and output, with its stress on the role of expenditure flows in determining the price level, contained important insights. Had Hobson allowed for the possibility of hoarding, he might easily have produced a theory very similar to that found in Wicksell's *Interest and Prices*[77] or Keynes's *Treatise on Money*. Allowing for the possibility of hoarding would also have provided a link between his monetary economics and his underconsumption theory. Secondly, his statement (jointly with Mummery) of what we now call the acceleration principle, over a decade before other economists took up the idea, could hardly be bettered. The only doubt here is whether it was Hobson or Mummery who was responsible for it. Finally, in perceiving the connection between the accelerator, the savings ratio and the growth rate he was anticipating a problem not tackled until Harrod's work many years later. Like his predecessor, Malthus, even though he never managed to express his ideas in a form that convinced his orthodox colleagues, he was right in persisting with his theory of underconsumption.

Hobson's main failure was his failure properly to understand the arguments of his orthodox contemporaries. As things were, not only were there serious weaknesses in some of his arguments, but he expressed his ideas in such a way as to make it easy for economists to dismiss them. For example, although *Gold, Prices and Wages* was a *much* better book than

Keynes claimed,[78] Keynes was to a great extent justified in claiming that,

One comes to a new book by Mr. Hobson with mixed feelings, in hope of stimulating ideas and of some fruitful criticisms of orthodoxy from an independent and individual standpoint, but expectant also of much sophistry, misunderstanding, and perverse thought.[79]

Hobson's complete dismissal of the ideas underlying the multiplier represented not just a failure to anticipate later Keynesian theory, but rather a rejection, apparently for no good reason, of generally accepted ideas. More important, his failure to analyse demand for stocks and the consequent neglect of hoarding on the one hand resulted in his misunderstanding of the quantity theory and on the other hand caused him to produce a theory of money and income that had some very strange implications. His definition of money as income and of saving as investment in order to derive paradoxical results could be seen as examples of sophistry.[80]

Of course, Keynes did, as Peter Clarke points out in Chapter 6 in this volume, later make amends when he described Hobson and Mummery as members of 'a brave army of heretics' who preferred to see the truth obscurely and imperfectly rather than to maintain error, reached indeed with clearness and consistency and by easy logic but on hypotheses inappropriate to the facts.[81] However, although there are places where Hobson, in his work with Mummery, seemed to have approached a 'Keynesian' theory of deficient demand, these were no more coherent and were given no more prominence than the equivalent passages of J.S. Mill, whose work we have to take as representing the classical orthodoxy. Though it may have led him to similar policy conclusions, Hobson's real break with orthodoxy did not run on Keynesian lines, but involved his argument for long-term stagnation, where he has to be seen as a precursor, not of Keynes, but of Harrod and Domar.[82]

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1 E.E. Nemmers, *Hobson and Underconsumptionism* (Amsterdam: North Holland, 1956) gives the subject two pages. Others neglect Hobson's treatment of money altogether, despite the fact that, as we shall see, this is fundamental to any appraisal of his theory of underconsumption.

2 See Nemmers, op. cit.; D.J. Coppock, 'A reconsideration of Hobson's theory of unemployment', *Manchester School*, vol. 21 (1953), pp 1–21; W.F. Richmond, 'John A. Hobson: economic heretic', *American Journal of Economics and Sociology*, vol. 37 (1978), pp. 283–94; and J. Allett, *New Liberalism. The Political Economy of J.A. Hobson* (Toronto: University of Toronto Press, 1981).

3 *The Physiology of Industry* (London: John Murray, 1889), pp. 196–7.

4 J.A. Hobson, *Gold, Prices and Wages* (London: Methuen, 1913; reprinted, New York: Augustus M. Kelley, 1973), p. 9.

5 When he wished to refer to what we now define as money he used terms such as 'money-instruments' (ibid., p. 62) or 'pieces of money' (ibid., p. 152).

6 ibid., p. 14.

7 ibid., p. 15.

8 ibid., p. 19.

9 ibid., p. 13.

10 This process can be described by a simple equation. Using modern terminology define Y as nominal income and ΔM as the increase in the money supply (which may comprise either new currency or bank deposits). Hobson's theory is then

$$Y_t = Y_{t-1} + \Delta M_t$$

It is easy to see that the conclusions described in the text follow from this equation.

11 The role of new money in this theory is very similar to that of government expenditure in Keynesian theory.

12 *Gold, Prices and Wages*, op. cit. (n4), pp. 16–17.

13 *The Industrial System* (London: Longmans, Green, 1910), pp. 272–3. See also *Gold, Prices and Wages*, op. cit. (n4), pp. 25–9.

14 *Lombard Street* (London, 1873).

15 F.A. Walker, *Money, Trade and Industry* (2nd edn, London, 1889). See R.E. Backhouse, 'F.A. Walker's theory of "hard times"', *History of Political Economy*, vol. 19, no. 3 (1987). For further discussion of the history of the multiplier theory, see J.F. Wright, The genesis of the multiplier theory', *Oxford Economic Papers* (1975).

16 *Gold, Prices and Wages* was clearly a response to Irving Fisher's *The Purchasing Power of Money* (1911).

17 Bimetallism (basing the currency on silver as well as gold) was being proposed as a remedy. For a concise introduction to the main monetary controversies of this period see R.E. Backhouse, *Economists and the Economy* (Oxford. Basil Blackwell, 1988), pp. 110–20.

18 *Physiology of Industry*, op. cit. (n3), pp. 200–1. For reasons that we will not go into here, Hobson argued that this represented the maximum effect of the shortfall in gold production.

19 *Gold, Prices and Wages*, op. cit. (n4), p. 25.

20 ibid., p. 71. The statistics on which this conclusion is based are on pp. 50–1. It is worth noting that these statistics are also used to provide support for some of the arguments discussed below: for example, the argument that credit has expanded in response to demand and that the rise in holdings of gold is a response to this (see the summary on pp. 51–2).

21 ibid., pp. 72–3 and 88.

22 ibid., p. 35.

23 Though Hobson did not refer to it by name, this is the so-called 'real bills doctrine', used by Adam Smith and widely held in the early nineteenth century.

24 *Gold, Prices and Wages*, op. cit. (n4), pp. 88–9.

25 ibid., p. 63.

26 ibid., p. 81.

27 ibid., pp. 62, 151.

28 Hobson discussed this equation, though he did not write it down explicitly, in ibid., pp. 143–6. The equation is of course a generalization of Fisher's more well-known $MV=PT$.

29 They also argued that it would be P rather than T that changed in response to M. Hobson, however, was not concerned with this stage in the argument.

30 See *Gold, Prices and Wages*, op. cit. (n4), pp. 36–7. Hobson was here presenting the orthodox argument.

31 Wicksell's evidence is discussed in Backhouse, *Economists and the Economy*, op. cit. (n17), pp. 117–19.

32 This theory explained why the greatest credit expansions should have been in North and South America, countries where enormous investment opportunities were available. *Gold, Prices and Wages*, op. cit. (n4), pp. 49–53.

33 Wicksell's argument was expressed in terms of the natural rate of interest. Increased opportunities for investment would raise the natural rate relative to the market rate of interest, causing inflation. Though expressed in a different way, Fisher's explanation of the paradox was substantially the same.

34 The same theory, including the cumulative process, had also been worked out by H.

Thornton, *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain* (1802; edited by F.A. Hayek, London: LSE, 1939). There is no evidence as to whether Hobson had read either Thornton or Wicksell.

35 *Gold, Prices and Wages*, op. cit. (n4), p. 153.

36 ibid., p. 178.

37 *Essai sur la nature du commerce en generale* (1755; translated by H Higgs, London, 1922).

38 Using the terminology of a previous footnote,

$$Y_t = Y_{t-1} + \Delta M - \Delta H,$$

where ΔH is the increase in hoards of money. Y will rise or fall according to whether ΔM is greater or less than ΔH. Hobson's reasons for neglecting hoarding are discussed below.

39 *Physiolog of Industry*, op. cit. (n3), p. 189.

40 In terms of a supply and demand diagram, Hobson and Mummery's argument is that the supply curve for money is vertical This does not mean we cannot draw a demand curve

41 If we had a small fall in the price of a car together wih a large rise in the interest rate it would be possible for the purchase price to fall and the hire price to rise.

This aspect of the stock/flow relationship is not merely a modern theoretical construction. It was clearly stated by L. Walras, *Elements of Pure Economics* (1874; translated by W. Jaffé, London: Allen & Unwin, 1954).

42 *Gold, Prices and Wages*, op. cit. (n4), pp 145–6.

43 Fisher's quantity theory was certainly far from being such a simple theory. He presented it, however, using a series of extremely simplistic, mechanical analogies, playing down the complications, in such a way as to leave himself open to misinterpretation.

44 His writing touched on such issues in several places, such as where he referred to the need for additional credit to be absorbed, but he did not follow them up.

45 *Physiology of Industry*, op. cit. (n3), p. 47.

46 J.A. Hobson, *The Evolution of Modern Capitalism* (London: Walter Scott, 1906), p. 292.

47 *Industrial System*, op. cit. (n13), p. 50.

48 Coppock, op. cit. (n2), p. 3, refers to this as a concern with the normative aspects of saving.

49 He defined real capital as capital that is 'animated by the productive force in economical work' (*Physiology of Industry*, op. cit. (n3), p. 51). In other words, it is the capital stock adjusted to remove any excess capacity.

50 This was discussed in a different, though related, context in the previous section.

51 *Industrial System*, op. cit. (n13), p. 50.

52 *Rationalisation and Unemployment* (London: Allen, 1930), p. 33.

53 *Modern Capitalism*, op. cit. (n46), p. 295.

54 That Hobson's view is, terminology aside, substantially the same as Mill's is shown by a passage where Hobson writes, 'So long as the "saving" is actually in progress—i.e. *so long as the factory and machinery are being made* [note the identitication of saving and investment]—the net employment of the community is just as large as if the money were spent to demand commodities' (*Physiology of Industry*, op. cit. (n3), p. 79).

55 See, for example, *Physiology of Industry*, p. 75; *The Problem of the Unemployed* (2nd edn, London: Methuen, 1906; 1st edn, 1896), pp. 74ff; *Industrial System*, op. cit. (n13), pp. 305–6.

56 *Industrial System*, p. 54.

57 Define

$$g = \frac{\Delta Y}{Y}$$

as the growth rate of income,

$$v = \frac{I}{\Delta Y}$$

as the incremental capital-output ratio (the accelerator) and

$$s = \frac{I}{Y}$$

(savings are identical to investment). It is then easy to show that

$$s = \frac{I}{Y} = \frac{\Delta Y}{Y}\,\frac{I}{\Delta Y} = gv$$

Given *v*, therefore, we can calculate the value of s needed to sustain any given growth rate.

58 R.F. Harrod, 'An essay in dynamic theory', *Economic Journal*, vol. 49 (1939), pp. 14–33; E. Domar, 'Capital expansion, rate of growth and employment', *Econometrica*, vol. 14 (1946), pp. 137–47. See Coppock, op. cit. (n2), pp. 9–10; Nemmers, op. cit. (n1), p. 86.

59 *Physiology of Industry*, op. cit. (n3), pp. 85–6.

60 Because this idea is found only in *The Physiology of Industry* it is impossible to know how far it should be associated with Hobson. It is possible (though there is no evidence for this) that it was an idea of Mummery's to which Hobson never paid any attention.

61 See, for example, *Modern Capitalism*, op. cit. (n46), p. 306; 'Underconsumption: an exposition and a reply', *Economica*, vol. 13 (1933), pp. 407–8.

62 *Modern Capitalism*, pp. 306–7.

63 *Physiology of Industry*, op. cit. (n3), pp. 114–16. He likens the situation to that of a competitive examination.

64 Allett, op. cit. (n2), p. 105.

65 *Problem of the Unemployed*, op. cit. (n55), pp. 88–9.

66 ibid., p. 92.

67 This theory is discussed in *The Economics of Distribution* (New York: Macmillan, 1900; reprinted New York: Augustus M. Kelley, 1972).

68 *Industrial System*, op. cit. (n13), ch. 4, especially p. 80.

69 ibid., pp. 284–5.

70 Coppock, op. cit. (n2), p. 4.

71 *Physiology of Industry*, op. cit. (n3), pp. 98–9.

72 ibid., pp. 107–8. Once again we have the problem of not knowing how far this passage reflects Hobson's thinking.

73 ibid., p. 102.

74 See, for example, J.S. Mill, *Essays on Some Unsettled Questions of Political Economy* (1844), p. 70.

75 Keynes, *A Treatise on Money*, vol. I (reprinted as *The Collected Writings of John Maynard Keynes*, edited by D. Moggridge, vol. V, London: Macmillan), p. 161, referring to 'Mr J.A. Hobson and others', commented that 'I do not think they have succeeded in linking up their conclusions with the theory of money or with the part played by the rate of interest'.

76 Define savings as

$$S = \Delta H + I^s$$

where I^s is the amount of investment directly financed by savers. Similarly, assume that new money is created by banks lending money to investors, so that

$$I = I^s + \Delta M.$$

Our earlier equation thus becomes

$$\begin{aligned} Y_t &= Y_{t-1} + \Delta M + \Delta H \\ &= Y_{t-1} + I - S \end{aligned}$$

The explanation of why I and S can be unequal is that we have postulated an income-expenditure lag: this year's income equals last year's spending. Saving is thus the difference between this year's consumption and last year's expenditure, whereas investment is the difference between this year's consumption and this year's expenditure. In his *Treatise on Money* Keynes achieved a similar result through defining saving as the difference between consumption and 'normal earnings'. We have simply used last year's earnings instead of 'normal' earnings.

77 Wicksell, *Interest and Prices* (1894; translated by R.F. Kahn, London: Macmillan, 1934).

78 Keynes described the book as 'very bad' and 'much worse than a stupid book could be'. See his review of *Gold, Prices and Wages* in *Economic Journal*, vol. 23; reprinted in *The Collected Writings of John Maynard Keynes*, edited by D. Moggridge, vol. XI (London: Macmillan).

79 ibid., p. 388.

80 We should perhaps be charitable towards the latter in view of the problems Keynes and his colleagues had, during the 1920s and 1930s, in working out appropriate definitions of saving and investment.

81 J.M. Keynes, *The General Theory of Employment, Interest and Money* (1936; reprinted in *The Collected Writings of John Maynard Keynes*, edited by D. Moggridge, vol. VII), pp. 364, 366 and 371.

82 See Keynes, *A Treatise on Money*, vol. I, p. 161. See also Peter Clarke's essay in this volume (Chapter 6).