Reflections on B.P. Adarkar's[1] *Years of High Theory*[2] 1934 - 1941[3]

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> **"It is a tragedy that the basic contributions of B P Adarkar, … , *on monetary theory and policy*, … should have faded out of public memory in contemporary India."**
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> Khatkhate, 1988 p. 2093; italics added.

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[1] *Bhalchandra Pundlik Adarkar* (1903-1988), was – in the period relevant here – first, at the Benares Hindu University and, then, at Allahabad University, till 1941. Thereafter, he left University life for a successful, policy-oriented, career in the Indian Government, latterly in its diplomatic service, too (cf., J. Krishnamurty, 2011, Khatkhate, 1988 and Chandavarkar, 1988, 1989). There are a couple of curious inaccuracies in the Adarkar entry in Krishnamurthy (*ibid*). First of all, Adarkar's classic 'contribution to Keynesian thought' was first published *in 1935* [Velupillai's copy of the 1935 edition of this important work once belonged to The University of Manchester library], *not in 1939*; the 'Keynesian thought' refers to the *pre-General Theory* contributions by Maynard Keynes, especially - but not only - to Monetary theory. Secondly, in the reprinted copy of the 1946 report by Adarkar, the first page of the body of the book (repeated on the back-cover blurb) states, 'This book was originally published prior to 1923 .... .' *This must be an error*, for at least two reasons: one, Adarkar would have been a 'teenager', if the statement in the blurb is correct on the dating of the 'original'; secondly, Adarkar was *not* a 'Member' of the 'Labour Investigation Committee', of the Government of India till more than two decades later. It is, of course, possible that a precocious teenager could have authored this report 'before1923', but does not seem likely in view of the second observation.

[2] *Pace* George Shackle: **The Years of High Theory - Invention & Tradition in Economic Thought 1926 -1939** (Shackle, 1967). This title was adopted on the suggestion of an extremely helpful and constructively critical, anonymous, referee's report. We are greatly indebted to this report, and the Editor's comments, both of which we have taken into account, quite substantially, in this revision. There are of course, minor points of disagreement with the comments, and these are made clear - or, to the best of our ability, *clearer* - in the rewriting of the original paper.

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Abstract

Adarkar's fundamental inter-war contributions to the foundations of monetary theory and the theory of monetary policy, largely from the perspective of the evolution of Keynes' thoughts and insights into a monetary theory of production, is studied sympathetically. A case is made that the issues at the frontiers of monetary macroeconomics – particularly, the nihilistic stance on monetary policy – can be criticized for illogical and empirically meaningless propositions, reflecting Adarkar's acute analysis during what we call his *Years of High Theory* (1934 – 1941). Some conclusions are suggested, on a revival of a Monetary Macroeconomic alternative to the varieties of orthodoxies now prevalent, based on Wicksell, Keynes – *and Sraffa*.

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§ 1. A Preamble

> "There is a message of hope in this [the control of money towards the end of industrial stability], if we will heed it. We may not perhaps be able to counteract all the disturbances set up by the new structural and physical forces, but instead of sitting with folded hands, we can well adopt the manlier course of doing all that we can, and, through well-organised and genuine endeavour, realise all the immense *economic possibilities that the future holds in store for us*."
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> Adarkar, 1935, pp. 124-5; italics added.

In hoping that we may, if we want, 'realise ... the immense economic possibilities that the future holds in store for us,' Adarkar was echoing his *maestro*, Maynard Keynes' extolling of the virtues of the 'lillies of the field' and the 'economic possibilities for our grandchildren' (Keynes, (1930), 1931).

The melancholy observation by Deena Khatkhate, on the title page, now more than a quarter of a century ago, is further reinforced by the comprehensive 'fading out' of current frontiers in monetary theory and the theory of monetary policy 'the basic contributions of B P Adarkar', *not only* 'out of public memory in contemporary India'[4]. But the stirrings at the beginning promised much. Adarkar's two early books were most favourably reviewed in prestigious Journals by three '*young Turks*', who in later years went on to different kinds of 'fame'[5].

In this essay we *try* to rectify, even if inadequately and only partially, this comprehensive negligence of Adarkar's pioneering contributions to the frontiers – and its shifting – of monetary theory and the theory of monetary policy, during his *Years of High Theory, 1933-1941*.

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[4] The *only* contemporary texts on Wicksell or Keynes, in which there is a any reference to Adarkar, as far as we know, are Chiodi (1991) and Lawlor (2006). We expected at least a 'nodding' acknowledgement to Adarkar (1935) in Hansson (1982), Leijonhufvud (1968), Ladler 1989) or Woodford (2003), but were *not* surprised that such was *not* the case.

[5] *Marjorie Tappan Hollond* (1936), Director of Studies at Girton College, Cambridge (and in this a direct predecessor of the first author!) and Joan Robinson's implacable nemesis; *Eleanor Lansing Dulles* (1936), a sister of the controversial Dulles brothers; and *Harold Barger* (1937), later a Chairman of the economics department at Columbia University, who was 'expelled' by the radical young members of the department, from attending their courses (Tharp, 1970).

Thus, in the next section we outline, succinctly, but as faithfully as our abilities permit, the fundamental contributions to monetary theory and the theory of monetary policy by Adarkar, as encapsulated in his outstanding works of the years *1934 – 1941*. To be sure, there were important contributions from his fertile pen in the years before 1933 (for example, Adarkar, 1932, 1933) and those that came after 1941 (for example, Adarkar, 1946 a), but here the theoretical *fecundity* seemed to have 'dried up', for reasons that puzzled even sympathetic *aficionados* like Khatkhate (*op.cit*).

We also try to place in the *forefront* some of the key issues of *enduring relevance* that Adarkar emphasized, in monetary theory and the theory of monetary policy, against which to understand and interpret *the perennial frontiers of many kinds of modern orthodox monetary theoretic macroeconomics*. The pervasive and subversive nature of *monetary neutrality*, the *natural rate à la Wicksell* and the kind of dichotomy between a *barter* and a *monetary economy* that implies the stunted vision that emphasizes that *money is only a veil* emerge as the key triptych, the unifying or disciplining concepts, in this variant of modern monetary macroeconomics.

Finally, in § 3, we speculate that a comprehensive study of Adarkar's unfortunately neglected works in monetary theory and the theory of monetary policy may result in the eventual emergence of a critical monetary macroeconomics, one that is a synthesis of *Wicksell*, *Keynes - and Sraffa*.

Some residual elements of Adarkar's considerations, like the notion of *optimum* and *bliss*, for both of which we conjecture that he was indebted to Ramsey (1928), should be topics for discussion in a more detailed homage to his work. In Adarkar (1935) they are mentioned, but their presence is not crucial for his more central themes and results.

We hasten to add that there were also exceptions to the sustained importance of monetary theory and the theory of monetary policy in Adarkar's work of these *Years of High Theory*. For example, there is the important critique of the conclusions in Shirras (1935), by Adarkar & Sen Gupta (1936). On the other hand, it is not unlikely that the investigation by Adarkar & Sen Gupta (*op.cit.,*) was inspired by the kind of suggestion made by Keynes[6] to his undergraduate pupil, David Champernowne[7]. Given Adarkar's persistence in emphasizing the *critical* and the *logical*, in his investigations of the modern classics of interest rate theories – Wicksell, Cassel, Fisher, Keynes, Hayek and Sraffa, in particular – the way *the contrapositive in logic*[8] is used to cast serious doubts on Shirras's conclusion regarding the *Pareto law*, may be the *pièce de résistance* of the Adarkar & Sen (*ibid*, p. 170; italics added) critique:

> "Professor Shirras's argument is that *if* Graph I is *not linear*, Graphs II and III are *not linear*, inasmuch as these latter resemble it as regards some of the points. However, this line of thinking might well be *reversed*, and it might be asserted with as much truth that *if* Graphs II and III are, as they look, *linear*, Graph I too *cannot be non-linear*!'

There are three observations on Adarkar's contributions in his *Years of High Theory* that we feel obliged to make.

Firstly, somewhat trivially, his abundant use of Latin phrases - occasionally, also, French and German - to illustrate (usually) a point of disagreement with one or another of the eminent theorists' work he dissects and discusses - Wicksell, Fisher, Cassel, Böhm-Bawerk, Hayek, Keynes and Sraffa. *Ipse dixits, ignoratio elenchi, je ne sais quoi*, are some of the typical examples that stumped our smooth reading of the Adarkar classics.

Secondly, although he castigates Hayek - correctly we believe - for his 'supreme indifference to *Konjunkturstatistik*' (Adarkar, 1936, p. 284; italics in the original) - an umbrella term for economic statistics - he himself shows no evidence of any actual use of original statistical material - not even index numbers of the kind used and developed by Wicksell and Keynes - in

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[6] Although the reference to Pigou (1932) - presumably to its Chapter II, in Part V – belies this interpretation!

[7] Is it pure speculation that the investigation by Adarkar & Sen Gupta (*op.cit*) was inspired by the kind of suggestion made by Keynes to his undergraduate pupil, David Champernowne? As Champernowne (1973, p. 1) recollected in the opening sentences of his King's College (of which College Adarkar had also been a member as, indeed, the first author of this essay) prize fellowship dissertation of 1936:

> "The choice of the subject 'The Distribution of Income between Persons' had arisen from a suggestion to the author, as an undergraduate, by one of his supervisors, Mr. J. M. Keynes, that he should search for an explanation of the remarkable degree of conformity with Pareto's law displayed by many statistics of income-distributions published by the taxation authorities of various countries."

[8] The *contrapositive* in standard mathematical logic is: ***If A then B = If ¬ B then ¬ A***.

his writings of the period 1933-1941[9]. Of course, had Adarkar, in his *Years of High Theory* known what Sraffa had already achieved on constructing a composite commodity - *via* what came, eventually to be known as the *Standard Commodity* (Sraffa, 1960, Chapter IV) - he may have been less perplexed in his discussion in Adarkar (1935, Chapters, VI & VII) and Adarkar (1937 a).

Thirdly, although there is some sterling, yet constructive, critique of Wicksell (1898) and - a less critical - discussion of Keynes (1930) - Adarkar seems to have missed the point that was made by Sanger (1898), in his brilliant review of **Geldzins und Güterpreise** on index numbers, weighted means and the lack of specification of the adequate number of commodities to make sense of the numbers generated by these summarising statistics. Adarkar relies on weighted averages to define theoretical concepts and may not have been aware of the pitfalls inherent in such a methodology. We point this out only because we will have occasion, below, to extol the virtues of the Sraffa device of *own rates of interest*, particularly to define a theoretically sound money (or market) rate of interest (and a '*natural rate of interest*' via the auxiliary device of the *Standard Ratio* in Sraffa, 1960[10]).

One last methodological 'confession'. In the critical part of this essay, we have invoked only the relevant literature that Adarkar could have had access to, but somehow did not use in developing his own critiques and theories. This is particularly true of Wicksell (1898 a), Sanger (*op.cit*), Wicksell (1923), Adler (1932) and Myrdal (1933).

§ 2. The Contributions of the *Years of High Theory*

> "Mr. Adarkar's book [**The Theory of Monetary Policy**] is well worth reading. … The book is in no sense confined to a reiteration of old truths but throws new light on obscure problems.
>
> Dulles, *op.cit*, p. 633.

[9] Only two tables and one chart - of statistical data and figures derived from them - are displayed in Adarkar (1935), all of them secondary, and none in the other classics of 1934, 1936, 1937 a, 1937 b and Adarkar & Ghosh (1941), are evident.

[10] This comment addresses the important point raised by the anonymous referee: 'I do not understand the inclusion of Piero Sraffa in a programme designed to think seriously about money. Would not Keynes' work on own rates be a consistent addendum to the enterprise?' We think the referee makes a valid point, but it was Sraffa who devised the notion of the own-rates of interest, in his devastating critique of Hayek (Sraffa, 1932), as was acknowledged by Keynes (1936, p. 223, footnote). Adarker & Ghosh (1941, p. 287, item (d), does, finally, acknowledge the rigorous definition of the money rate of interest - or the 'market rate' - in terms of Sraffian own-rates of interest. If this is combined with Sraffa's cryptic statement (Sraffa, 1960, p. 33, § 44), then our stance on the relevance of Sraffa (1960) 'in a programme designed to think seriously about money' becomes clear (we hope).

We believe Adarkar's fundamental contributions to Monetary Theory can be characterised in terms of the answers he developed, over a seven-year period, to the following basic question:

> *How can the theoretical relation between interest rates and commodity prices, in a monetary economy, be formalised such that Banking Policy can be structured in terms of aims and means to achieve industrial stability.*

It is, admittedly, one question, but with many sub-parts so that there could be, potentially, multiple answers to the sub-problems. If such is the case, can these answers to the sub-problems be amalgamated into one, overall, answer? This is a subsidiary question, which Adarkar answers in the affirmative, but not directly.

In any case, the concise two-part answer to the above central problem of a monetary economy is:

> I*n 'normal times'*[11]*, Banking Policy must strive to achieve I = S & Costs = Prices*[12] *such that there is industrial stability. The means of Banking Policy are in terms of influencing the money rate of interest; the aims of Banking Policy are (commodity) price stability.*

The way the central problem of monetary theory is posed, the answer(s) given, by Adarkar in his classic contributions of 1934-1941, imply a return to the classics by Wicksell, Fisher, Cassel, Hayek, Keynes and Sraffa[13].

Adarkar approaches the solution to the central problem in a variety of ways: by a critique of the above six eminent theorists and their attempts at answering one or another part of the central problem; by directly 'attacking' the central problem; and by references to practical Banking policy in the face of actual developments in real-life economies.

The critique of eminent theorists proceeds by way of tackling the classic works by Wicksell (1898, 1929), Fisher (1899) in Adarkar (1934, 1935, ch. II), Hayek (1929, 1933) in Adarkar

[11] See Adarkar, 1935, pp. 114-118 & p. 124.

[12] Of course on the basis of particular definitions of Savings, Investments, Costs and Prices.

[13] We think the chapter on Interest as Cost (ch. IV, in Adarkar, 1935), is sightly anomalous in this scheme of things, particularly because Adarkar mistakes Waldo F. Mitchell for Wesley C. Mitchell. We do not think Adarkar would have bothered writing this chapter, had he not mistaken the former for the latter - and, in any case, the chapter is only a little over two pages long.

(1935, 1937 a), Cassel (1923, 1929) in Adarar (1935, ch. III), Sraffa (1932) in Adarkar (1935, ch. VII) and above all, Keynes (1930), initially, but later also Keynes (1936), in Adarkar (1935, ch. VIII, 1936 b) and Adarkar & Ghosh (1941).

In the case of Wicksell[14] (1898, 1929), Adarkar's starting point is that the Swede *tried* to define a natural rate of interest in the real sphere and a money rate of interest in the sphere of the monetary economy, and approached the central problem of the 'relation between interest and prices' in terms of *four* tests (Adarkar, ch. V):

(a). Stabilisation of a (commodity) Price Level (defined in terms of index numbers of a weighted index of relative prices);

(b). Equalisation of (current) Savings with (current) Investment;

(c). A *Natural Rate of Interest* defined and identified for a non-monetary, 'real', economy, in terms of lending and borrowing '*in natura*';

(d). This *Natural Rate of Interest* also defined in terms of the prospective yield on investment in real capital;

Now, Adarkar is well aware that item (c) and (d) are based on Wicksell's mastery and extensions of Austrian capital theory, in the form given by Böhm-Bawerk; but his surprising ignorance of Myrdal (1933, which was of course, known to Adarkar) - or even Hicks (1933) - is the key to his failure to try to build on Wicksell rather than criticise the great Swede, as Hayek and Cassel do. As a matter of fact, Myrdal's characterisation of a Wicksellian *Monetary Equilibrium* is defined in terms of a level for the 'Normal' - i.e., 'Natural' - Rate of Interest, in 'three different spheres of price formation' (Myrdal, 1939, p. 37):

> (1). Productivity defined via roundabout processes of production, measured by an appropriately defined period of production;
>
> (2). Capital Market conditions;
>
> (3). Commodity Market Criteria;

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[14] It may be apposite to recall what Heckscher (1953, p. 119) remembered:

> "....Wicksell did somewhat unexpectedly reveal before the [*Nationalekonomiska Föreningen*] in 1898 what was perhaps his greatest theoretical achievement, his theory of the connection between interest rate and money value."

Wicksell, then, requires that the three values of the Normal Rate of Interest emerging from the above three spheres should equal each other. This is where Myrdal's 'immanent criticism' of Wicksell (1897, 1898, 1929), on the basis of Lindahl's development of an expenditure-based national income analysis - long before Keynes (1936) - allows a fruitful and measurably rigorous extension and definition of a *Monetary Equilibrium* (quite different, and incomparable to the General Equilibrium of the orthodox theory of a barter economy). Myrdal (and Lindahl) do not minimise or shy away from the difficulties and inconsistencies in the original Wicksellian scheme - they just take it as a starting point for what became the Neo-Wicksellian Monetary Macroeconomics of the Swedes. Adarkar's circumlocutions, all with noble intentions on paying Wicksell a pioneer's due, are almost entirely irrelevant in the face of the Lindahl-Myrdal innovations[15].

Two points raised by Joan Robinson (1939, pp. 493-494; italics added) in her superb review of Myrdal (1939) are a kind of post-mortem on Adarkar's scholarly mastery of Keynes *before* the *General Theory*:

- "Professor Myrdal remarks upon 'the attractive Anglo-Saxon kind of unnecessary originality' of Mr. Keynes and Mr. Robertson, who discovered for themselves many ideas already worked out by Wicksell, and this book provides much evidence of the advantages which the Swedish economists enjoyed in the freedom that Wicksell won for them from *the tyranny of Say's Law and the Quantity Theory of Money*."
- "He shows, first of all, that to make sense of Wicksell's 'natural rate of interest', it is necessary to interpret it as the expected rate of profit (the "marginal efficiency of capital" of Mr.Keynes' General Theory), and he shows how the inducement to invest can be treated in terms of a difference between the *price* and the *cost* of capital goods. He then introduces what he regards as his own most important original contribution to the debate - the distinction between saving and investment *ex ante* and *ex post*. This is essentially a device to explain the fact that the rate of *saving* and the rate of *investment* for the *community as a whole* are *necessarily equal....* ."

[15] As a matter of fact, *ditto* for Hayek (1929, 1933), and Adarkar's trenchant criticisms of Hayek in Adarkar (1935, ch. VI & 1937 a) - as well as Cassel (1923, 1929) and Adarkar (1935, ch. III). Adarkar's critique of Fisher is quite another matter, but part of this was pre-empted by Adler (1932, p. 96, at least so far as the central problem of monetary theory is concerned and the way it was approached, first, by Wicksell and, then, by Lindahl and Myrdal.

Adarkar's strictures against the use of 'prospective' in *ex ante*, his *social* saving and investment, his strange reluctance to mention the role of Say's Law in orthodox (non-) monetary economics, and so on, prevented him from the transition to the economics of the General Theory and Neo-Wicksellian Swedish economics, till after the event - *ex post*, so to speak

One of the best ways, in our opinion, to read and appreciate Adarkar's neglected classic on *The Theory of Monetary Policy, at least in a contemporary critical approach to monetary theory and the theory of monetary policy*, would be to consider it as a companion work to the classic by Eprime Eshag (1963). In this way they would form a valuable antidote to the, often implicitly, *critical* approach to the Cambridge vision of Monetary Theory[16], spanned by Hayek (1931), at one end of the orthodox spectrum, and Lucas (1995) at the other, linked by Patinkin (1965; 1956, 1989) and Leijonhufvud (1968)[17]. That which we find common to the orthodox – anti-Keynesian – approach to monetary theory is its virulent stance on *neutrality* and its desirability and, indeed, necessity for substantiating the perennial *neoclassical dichotomy* (or, equivalently, the *classical dichotomy*) between a barter and a monetary economy, and the relevance of the former to derive propositions about the latter. The denial of this possibility is what unified Wicksell and Keynes, in the first instance and, then their second generation followers, especially Lindahl and Myrdal in the case of the former, and Kahn and Robinson, in the case of the latter.[18]

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[16] We consider the *Cambridge tradition* in theorising about money and a monetary production economy to have begun with Thornton (1802) and 'end' with Keynes (1936), with – especially – Ricardo, Marshall, Pigou and Robertson (before 1936), providing the intermediate, transitory, path towards a final synthesis at the hands of Maynard Keynes. Incidentally, Thornton, through his daughter, Marianne Thornton, bequeathing a substantial sum (believed to have been £8,000, originally, and worth about £750,000, today) to her great nephew, *Morgon Forster* ('E. M. Forster'), the celebrated author of *A Passage to India* – and a fellow 'Kingsman' to Keynes and Adarkar – enriched the Indian connection with Cambridge.

[17] None of the three, as might be expected, even mention Eshag (op.cit) or Adarkar (ibid). Irving Fisher and Milton Friedman, especially in this context of orthodoxy, together with Hayek, form the triptych that defines the field Lucas has now made his own nihilistic monetary theoretic and theory of monetary policy frameworks. The *quantity theory*, *neutrality* and the *classical dichotomy*, form the three pillars that underpin the neoclassical monetary theoretic and theory of monetary policy edifice.

[18] As Hicks pointed out, with clarity and candour (Hicks, 1934; 1982, p. 42):

Thus the works by Adarkar in his *Years of High Theory*, on monetary theory and the theory of monetary policy, can be said to be unified by a deep critical study of *neutrality, the classical dichotomy* and the *quantity theory*, essentially from an anchoring in Keynes (1930). Adarkar (1937b) and Adarkar & Ghosh (1941) are the exceptions to this anchoring in Keynes' *Treatise*.

Adarkar (1936), which he himself characterized as 'an essay on the theory of the trade cycle[19], is essentially a critical 'review article' of Durbin (1935), but again from the point of view of Keynes' *Treatise* (cf. in particular, pp. 94 &98). It is, however, much weakened by the absence of an analytical definition of '*a progressive state*'[20], which was not only 'in the air' at the time he wrote this review article (cf., Cassel, 1923, § 6, p. 34, ff., Wicksell, 1923 and Åkerman, 1923, 1924); as well as in the books by Harrod, 1936, Haberler, 1937 and Lundberg, 1937), but also by a non-familiarity of the formal framework for the 'aims and means of monetary policy' developed by Lindahl (1924, 1929 & 1930), independently and before both Keynes (1930) and Keynes (1936)[21].

> "I was lucky I had the Myrdal [1933] so early; Keynes did not read it until the English translation appeared in 1939."

See also Kahn (1975, especially pp. 14-16).

[19] Lokanathan's (1938) later critical review of Harrod (1936), in the **Indian Journal of Economics**, does not seem to have caught Adarkar's critical eye, even although the latter's articles of the *Years of High Theory*, in the sub-period 1936-1941, *all* appeared in the same Journal.

[20] The perceptive anonymous referee commented that: 'The reader might like to know, for instance, how BPA's theory of the trade cycle suffered from the absence of a treatment of the "progressive state".' Unfortunately 'BPA did NOT have a 'theory of the trade cycle', independently of the Wicksellian attempt at devising one when there was a lack of congruence between the 'natural' and 'money' rates of interest, thus leading to an unstable 'cumulative process'. The only attempt, of the times, that was even half-way successful, was that by Adler (1932), which still remains unpublished - except of course, the theories of economic expansion of the Neo-Wicksellians.

[21] In personal correspondence with the first author, the late Bent Hansen, who produced the 'last flowering' of the 'Stockholm School' (Hansen, 1951), and was Lindahl's last formal doctoral student, wrote as follows (*Letter to Velupillai*, January 2, 1985; emphasis in the original):

> "[Lindahl] did not expect much from Keynes. He had a low opinion about A Treatise on Money which he (rightly) found much inferior to his own two volumes on Penningpolitik [Monetary Policy].

The enduring relevance of the contributions of his *Years of High Theory* depend crucially on Adarkar's prescient critical analysis of Fisher's *rate of return* (Adarkar, 1934), Hayek's *neutral money doctrine* (Adarkar, 1937a), the chapters on Wicksell and Sraffa (V & VII, respectively in Adarkar, 1935) as well as chapters XI – *Is Barter Theory Relevant?* – and XV – *The Gibson Paradox* (*ibid*). Between these contributions of the *1934-1941* period, and considering as one article in two parts his review of the GT (Adarkar, 1937b) and the critically pedagogical polemic on *Mr. Keynes's Theory of Interest* (Adarkar & Ghosh, 1941), we are able to think of seven classics in seven years that encapsulate Adarkar's vision for an enlightened understanding of monetary theory and the theory of monetary policy.

Although Adarkar (1934 & ch. II of 1935) brilliantly analysed and dissected Fisher's so-called real rate of return, correcting its computation by including an expectational term, it was his - i.e., Adarkar's - inclusion of the additional term of the interest on *Principal,* in the calculation - even of an approximate - of the value of the effective rate of return that was decisive in casting serious doubts upon the Fisher-based analysis of disequilibrium dynamics.

Taking them in reverse order of publication, the greatest difference between the review of the ***GT*** in 1937 and an evaluation of the debate on interest rate theory sparked off by the *liquidity preference* **vs**. *loanable funds* theory, is his *increasingly critical* attitude towards Ohlin as a representative of the Neo-Wicksellians, or, as Ohlin referred to them, the *Stockholm School*[22]. Whether this is because Myrdal (1939) had been published in this 'interregnum' and Adarkar

> He told me .. .. that he thought the General Theory was much the same as the Treatise against which I argued strongly"

The Anglo-Saxon literature – 'the attractive Anglo-Saxon kind of unnecessary originality', *pace* Myrdal (1939, p. 8) - had to wait for the classics by Lindahl, Myrdal and Lundberg to appear in English (and the masterly review by Robinson, 1939) to realize that the *neo-Wicksellians* had produced a framework for a monetary production economy, based on Wicksell (1898), that was at least as innovative as Keynes and Kalecki. It may well be useful to put on 'written' record also the following. When Kaldor interviewed Velupillai, in May, *1973*, he had only one question: 'Why do you want to come to Cambridge when you have Lindahl in Sweden'? Lindahl had died in *1960*!

[22] In private correspondence between Lindahl, Lundberg and Hammarskjöld, there was complete agreement that Ohlin did *not* represent the monetary theory of the neo-Wicksellians. These letters are deposited in the *Lindahl Archives*, with which the first author worked, as far back as the early 1980s.

was finally able to free himself of a reliance on the Davidson-dominated interpretation of the developing monetary theory of the Swedes in Thomas (1936)[23], we can only conjecture. More importantly, however, there was the characteristically brilliant review by Joan Robinson (1939), of Myrdal (*op.cit*), which - as we hinted above with the two quotes - finally and decisively showed how and why Swedish sequence analysis, which entailed disequilibrium dynamics, was perfectly consistent with the *GT* device of aggregate Savings (***S***) = aggregate Investment (***I***), which Keynes had to struggle to define, escaping from the self-imposed strictures of the *Treatise*.

As an aside, Robinson (op.cit) and Shackle (1967, chapter 10) came to the realization that it was Myrdal's innovative accounting concepts of ***ex ante*** – ***ex post*** which implied that the disequilibrium dynamics of the Hammarskjöld-Lundberg sequence analysis was perfectly consistent with Keynes' macrostatical accounting identity between ***S*** and ***I***. As Joan Robinson has emphasized many times, Kalecki's 'Keynesian' macroeconomics had the advantage of starting from Marxian two-department theory of accumulation and *reproduction*; the Neo-Wicksellians, again emphasized by Joan Robinson (*op.cit*), had the advantage of having Wicksell's *unstable cumulative process* as the starting point for their development of macroeconomics. Thus, these two alternative visions of macroeconomics were intrinsically dynamic, whereas Keynesian macrodynamics was an *ex post* (sic!) construction, primarily by Harrod (1936 & 1939), which was grafted onto the *macrostatics* of the *GT* and caused so much misinterpretations and the eventual emasculation at the hands, first, of the *Neoclassical Synthesis*, and subsequently by all and sundry, to result in the unrecognisable[24] *New Keynesian* edifice.

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[23] Which was itself seriously deficient in understanding and representing the works by Lindahl and Myrdal, in developing Wicksell's macrodynamic framework, even along the lines of the early critique by David Davidson.

[24] From the point of view of the **GT**, Kalecki or the Neo-Wicksellians (although Woodford, 2003, the repository of *New Keynesian Economics* is often referred to as a Neo-Wicksellian 'manifesto' of modern macroeconomics (cf, Hoover, 2006)), we believe it is a case of *déjà vu*, in the sense that the Neoclassical Synthesis is alive and well as the *New Neoclassical Synthesis* (Goodfriend & King, 1997) - and, therefore, *Say's Law*, the nihilism implied by *Neutrality,* the absence of any concern for the f*allacy of composition*, and the *classical dichotomy* (i.e., the dichotomy between a barter and a money economy), are all alive and well. It is what Joan Robinson tirelessly referred to as 'pre-Keynesian economics after Keynes', but her

Therefore, it remains an intellectual puzzle for us to understand why Adarkar's works of the *Years of High Theory* do not refer to Kalecki[25].

Adarkar's critical - albeit sympathetic – exposition of Wicksell's monetary theory, especially the role played by the natural, or normal, rate of interest, jointly with the money, or bank rate of interest, in price stabilization is, however, masterly. Yet it is marred by both an unsympathetic – understandably – and possibly, incomplete understanding of *Austrian capital theory*. Moreover, This resulted in Adarkar's slightly confused critique of Wicksell and seemed to have influenced also his otherwise critically justified exposition of Hayek's Wicksellian claims. Both the reviews by Karve (1936) and Barger (1936) make this point, in their otherwise laudatory summary of the achievements of Adarkar (1935)[26].

The entirely warm and appreciative analysis of Sraffa's thesis on the *Own Rates of Interest*, developed first in his celebrated dissection of Hayek's **Prices and Production** (Sraffa, 1932), is one of the finest introduction to that great Italo-Cambridge economic theorist's precise work in what eventually was encapsulated in Sraffa (1960). In many ways Adarkar's chapter VII, in Adarkar (1935), is an independently superb introduction to the notion of the *Own Rate of Interest*, especially in the way it is contrasted with *Fisher's Real Rate Doctrine* (Adarkar, 1934). Adarkar cannot be blamed that he was not aware that Sraffa had already – indeed, as early as the late 1920s – devised the concepts of the *Standard Commodity* and the *Standard Ratio*. As a result some of Adarkar's critical observations – or, perhaps, doubts regarding Sraffa's claims – were not quite correct.

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other phrase is more apt: *Bastard Keynesianism.* Alas we disagree with the referee's *opinion* that 'The charge of "nihilism" is uncalled for, "virulent" or otherwise'. The word 'nihilism' is liberally used in Adarkar (1935), exactly in the context in which we use it.

[25] Although this may well be due to the entirely justifiable reason that in this period Kalecki's works were dominated by developing theories of aggregate fluctuations in seemingly *non-monetary* economies.

[26] The critique, especially by Barger, is a specialized version of the more general – still sympathetic – critical observation by Owen Meredith (1931), on the lack of a Capital Theoretic basis for Cambridge Monetary Theory. One had to wait a full thirty years before Sraffa suggested a monetary theoretic foundation for capital theory (Sraffa, 1960, p. 39).

On the other hand, it remains a mystery that Adarkar did not rely more on Fisher's critique of Böhm-Bawerk's notion of a period of production and the third ground he had formulated for the existence of a positive rate of interest. What later came to be called the *Truncation Theorem*, which became the basis for Hicks' development of a Neo-Austrian Capital Theory can be found in recognizable embryo form in Fisher (1907[27], especially chapter 4 and the related appendices).

Knowing this, coupled to what became one important aspect of Sraffa's critique of 'the period of production'[28] (Sraffa, 1960, pp. 44-45), may have diffused some of the sympathetic criticisms in the reviews of Karve and Barger.

There is, finally, *Gibson's Paradox* (Adarkar, 1935, chapter XV). We believe Adarkar had an unerring intuition for considering issues that were going to be perennially unresolved, in the sense that new wine was regularly filling old bottles and inspiring the thoughtful researcher at the frontiers of monetary macroeconomics. This ability coupled to the fact that he had an absolute mastery of Keynes' *Treatise*, meant that it was inevitable – in a book with the subtitle, *With Special Reference to the Relation between Interest Rates and Prices* – Gibson's Paradox would at least be mentioned. That Keynes referred to it as (Keynes, 1930, Vol. II, p. 198; italics added) 'one of the most completely established *empirical facts* in the whole field of *quantitative economics*' would have acted as a magnet to Adarkar, who would have wanted to find a solid, enduring, theoretical explanation for it. Despite the dominance of the exact logic of theory in Adarkar's work, it has always been in the service of policy, often monetary policy. That an exact logical theory to underpin Gibson's Paradox, even at the frontiers of quantitative

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[27] Velupillai was once the proud owner of Wicksell's personal, penciled, copy of Fisher (1907), which had been presented by the author to the great Swede, with a penned dedication! The particular part where Fisher constructs an example to refute the general validity of Böhm-Bawerk's third ground, has the margin remark by Wicksell: '*sabla jox*'!

[28] Adarkar persistently refers to this as the '*social* production period'. We would like to add that some of the above paragraphs are meant to answer the referee's observation; 'In what sense did BPA misunderstand Austrian capital theory?'. It is not clear to us that Adarkar understood that one of the differences between Wicksell and Cassel was that the former's contributions were underpinned by a thorough understanding - and extensions of - Böhm-Bawerkian capital theory; the latter's on 'nothing', except his own unfounded confidence. This difference is never pointed out by Adarkar, in discussing Cassel, Wicksell and the former on the latter (particularly in Cassel, 1929, without however mentioning 'Wicksell').

macroeconomics today, is a testimony to Adarkar's unfailing intuition to 'home in' on the relevant empirical facts that need to be encapsulated in an economic theory, not just an *ad hoc* mathematical framework.

Adarkar's most enduring contributions, as a critique of orthodox monetary theory and the theory of monetary policy, that have survived every test of time, is in his sustained and merciless critique of Hayek (Adarkar, 1937 a, Adarkar, 1935, chapter VI) and his cogent skepticism and irrelevance of any notion of a barter economy as a norm from which active monetary policy rules can be devised (chapter XI, *ibid*). These three contributions, together, form a coherent critique of the frontiers of monetary theory and the theory of monetary policy – of the futility of any theoretical basis for the notion of money neutrality; of the irrelevancy of any framework for a monetary production economy where Say's Law is rejected; and, finally, the impossibility of deriving any kind of monetary policy rule on the basis of the classical dichotomy.

If we are to summarise, in one proposition, the important lesson to be learned from a study of Adarkar's contributions in his *Years of High Theory*, then it is that *a monetary equilibrium* - despite its Wicksellian underpinnings – in a neutral money economy, subject to the classical dichotomy cannot imply any cogent monetary policy rule for a monetary production economy, especially one which relies on any notion of a period of production to provide capital theoretic foundations.

This may appear to be a negative conclusion; however there are positive aspects to any serious, analytically derived, negative conclusion. We have not derived – explicitly – these positive aspects, in this essay; it will be the subject matter of a sequel to this one.

§ 3. Brief Concluding Notes

> "[I]ndeed, [Keynes's *General Theory*] is one of the greatest of modern economic works, a fitting companion to Adam Smith's *Wealth of Nations*[29], Ricardo's *Principles of Political Economy*,

[29] Thus writes the *Adam Smith Prize* winner of 1933 (see **Nature**, Vol. 132, p. 977, 23 December), a member of an honour roll of distinguished Indian economists who were recipients of the same prize, including, among others, Amartya Sen (1954) and Manmohan Singh (1956).

> Marshall's *Principles* and Pigou's *Economics of Welfare*[30] – akin to these and yet dissimilar, inasmuch as its main theses, if they are finally accepted by *economic logicians*, bid fair to *revolutionise*[31] *the entire fabric of modern economic theory and practice and, withal, sweep away at one stroke much that is prosaic, artificial, vague and irrelevant in economic writing*."
>
> Adarkar, 1937b, p. 229; italics added.

Adarkar's opening sentence in the above review of the ***GT*** is (italics added):

> "A reviewer's function is ordinarily threefold: to *describe*, to *appreciate* and to *criticise*."

I hope we have judiciously combined these three desiderata in 'reviewing' Adarkar's enduring contributions to monetary theory and the theory of monetary policy. We are convinced that a non-orthodox, advanced, critical lecture course on monetary theory and the theory of economic policy can – and should – be based on the seven classics by Adarkar contributed during his *Years of High Theory*.

The one additional element missing in the contributions by Adarkar during his *Years of High Theory* is any consistent statement of the *fallacy of composition,* which is - in a sense - the *obverse side of the failure of Say's Law.* We felt that Adarkar often slipped into unsubstantiated claims on a transition from the individual to the market – whether it be of the thorny, but strictly personal, concept of anticipations, in many variations, or of (excess) demand and supply functions. This may well be our main criticism of Adarkar's impressive work in these *golden seven years*.

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[30] Adarkar should, surely, have added Petty's *Political Arithmetick*, *An Essay on the Principles of Population* by Malthus, Mill's *Principles of Political Economy*, *The Theory of Political Economy* by Jevons and, perhaps, also Edgeworth's *Mathematical Psychics*, to these *five pillars* of contributions to variations on the theme of English (although Smith, as a *Scotsman*, may be a dubious inclusion, here!) *Classical Political Economy*. These classics of English Political Economy could be considered the *Ten Pillars of Economic Wisdom* (no remembrances of the five pillars of Islam, the *ten pillars of Buddhism*, or even the more modern – dare we say, trivial, paean to free enterprise – Nassau Institute's *ten pillars of economic wisdom*).

[31] See Keynes' letter to Bernard Shaw (Keynes, 1935).

All the rest of our criticisms are easily rectifiable, analytically, conceptually and even mathematically. For now, this must remain a conjecture, but made in all seriousness.

In his masterly critique of Hayek's uncompromisingly orthodox approach to an active *nihilism* – is this a paradoxical statement, akin to the ***sound** of one hand clapping*? – Adarkar observed (p. 265; italics added):

> "Recently a writer[32] has quite optimistically suggested that the clash between rival theories of a Tweedledum-and-Tweedledee *sham fight* attributable to the sheer ineradicable pugnacity even of academical economists."

With Adarkar, we do not believe that the 'clash between rival theories' is a 'sham fight'. We subscribe to the view that the claims of orthodoxy, often camouflaged in irrelevant and *sham* mathematics[33], have to be exposed for what they are: empty of analytical content, tinged with ideological undertones, and pronounced with false exactness.

Three notions, based on the tripod of *preferences*, *endowments* and *technology*, underpin the complacent analytical claims of orthodox economics: *equilibrium*, *stability* and *optimality*. Adarkar uses these concepts, in the context of monetary production economy, without any underpinnings in the 'tripod'. Perhaps this is his implicit statement of the fallacy of composition. If so, our task, along the untrodden path broached by Adarkar, is to make explicit the irrelevance of the 'tripod' for a macroeconomics of the monetary production economy.

If we succeed in taking even a few steps in this direction, then it is our considered view that the rest of the path will be laid out in terms of a possible synthesis of the visions of Wicksell, Keynes – and Sraffa.

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[32] The reference is to Macfie (1934).

[33] The referee asks: 'How/why is the mathematics "sham"?'. Our answer is given in copious technical, rigorously mathematical, writings by the first author. We would like to add that it is decidedly against our wish - learned at the feet of our teachers - not to refer to our own works, in any exposition of the writings of another author - in this case, Adarkar. However, we will be happy to supply the referee with any number of 'justifications' for this statement, in terms of the writings by the first author, if a written request is made.

We think it is fitting, in an Indian context, and given Adarkar's mastery, and admiration, of and for, Keynes and his economics, and *Keynes the Man*, to end with his poignant characterisation of his great hero[34] in terms of the goddesses of wealth, knowledge and 'dance', Adarkar, 1946, p. 779:

> [Keynes] was undoubtedly the most successful among economists and he achieved that rare and coveted combination of 'Lakshmi' (the Goddess of Wealth) and Saraswati (the Goddess of Learning) in his own life. What was more, he added the celestial gift of an 'Urvashi'[35] to it by marrying Lydia Lopokova, a Russian dancer of international fame."

References

Adarkar, Bhalchandra Pundlik (1932), Mr. Keynes and the Canonists (i), in: Saving and Usury: A Symposium (with contributions by: B.P. Adarkar, B. K. Sandwell, J. M. Keynes and K. E. Boulding), **The Economic Journal**, Vol. 42, March, pp. 123-141.

Adarkar, Bhalchandra Pundlik (1933), *The 'Fundamental Error' in Keynes's Treatise,* **The American Economic Review,** Vol. 23, March, p. 87.

Adarkar, Bhalchandra Pundlik (1934), *Fisher's Real Rate Doctrine*, **The Economic Journal**, Vol. 44, June, pp. 337-342.

Adarkar, Bhalchandra Pundlik (1935), **The Theory of Monetary Policy: With Special Reference to the Relation Between Interest Rates and Prices**, P. S. King & Son, Ltd., London.

Adarkar, Bhalchandra Pundlik (1936), *The Price-Level in a Progressive State*, **Indian Journal of Economics**, Vol. XVII, Issue 1, pp. 89-100.

Adarkar, Bhalchandra Pundlik (1937a), *Professor Hayek's Neutral Money Doctrine*, **Indian Journal of Economics**, Vol. XVIII, Issue 1, January, pp. 265-292.

[34] It must have pained Adarkar, personally, that he was not one of the recipients of a copy - let alone the proof-sheets - of the *GT*, when it was published. But he was not alone in the distinguished class of scholars who did not receive such a copy: neither did Myrdal or Lindahl (or, for that matter, any of the New-Wicksellians), although Cassel, Frisch, Heckscher and Ohlin (none of them Neo-Wicksellians!) did do so (Keynes, 1979, p. 207).

[35] Velupillai remembers, vividly, a childhood with his Father reading about the Rambai-Urvashi rivalry, in the stories of the wise King, Vikramadhithan, and the latter's resolution of the competition between the two divine dancers (in favour of Urvashi)!

Adarkar, Bhalchandra Pundlik (1937b), *Review* [of **The General Theory of Employment, Interest and Money** by John Maynard Keynes], **Indian Journal of Economics**, Vol. XVIII, Issue 1, pp. 229-233.

Adarkar, Bhalchandra Pundlik (1941), **The Indian Fiscal Policy**, Kitabistan, Allahabad.

Adarkar, Balchandra Pundlik (1946), **Report On An Enquiry Into Conditions Of Labour In The Engineering And Minerals And Metals Industries In India**, Government of India Press, Simla.

Adarkar, Bhalchandra Pundlik (1946 a), *Lord Keynes of Tilton – A Tribute*, **The Eastern Economist**, 10 May, pp. 779-781.

Adarkar, Bhalchandra Pundlik & D. Ghosh (1941), *Mr. Keynes's Theory of Interest*, **Indian Journal of Economics**, Vol. XXII, Issue 2, pp. 285-300.

Adarkar, Bhalchandra Pundlik & S. N. Sen Gupta (1936), *The Pareto Law and the Distribution of Incomes in India*, **The Economic Journal**, Vol. 46, March, pp. 168-171.

Adler, Solomon (1932), **Wicksell's Theory of Interest and its Influence**, M.Sc Thesis, London School of Economics.

Barger, Harold (1936), *Review* [of The Theory of Monetary Policy by B. P. Adarkar], **The Economic Journal**, Vol. 46, September, pp. 502-503.

Cassel, Gustav (1924), **The Theory of Social Economy**, [translated by Joseph McCabe] Harcourt, Brace and Company, New York.

Cassel, Gustav (1929), *The Rate of Interest, the Bank Rate, and the Stabilization of Prices*. **The Quarterly Journal of Economics**, Vol. 42, No. 3, August, pp. 511–29

Champernowne, David. G (1973), **The Distribution of Income between Persons**, Cambridge University Press, Cambridge.

Chandavarkar, Anand. G (1988), *B.P. Adarkar and Keynes: The Ganges and the Cam*, **Economic and Political Weekly**, Vol. XXIII, No. 43, Oct., 22, pp. 2207-2208.

Chandavarkar, Anand. G (1989), **Keynes and India: A Study in Economics and Biography**, The Macmillan Press, Ltd., Houndmills, Basingstoke, UK.

Dulles, Eleanor Lansing (1936), *Review* [of **The Theory of Monetary Policy** by Adarkar], the **Journal of the American Statistical Association**, Vol. 31, September, pp. 633-635.

Durbin, E. F. M (1935), **The Problem of Credit Policy**, Chapman & Hall, Ltd., London.

Eshag, Eprime (1963), **From Marshall to Keynes: An Essay on the Monetary Theory of the Cambridge School**, Basil Blackwell, Oxford.

Fisher, Irving (1907), **The Rate of Interest: Its Nature, Determination and Relation to Economic Phenomena**, The Macmillan Company, New York.

Goodfriend, Marvin & Robert King (1997), *The New Neoclassical Synthesis and the Role of Monetary Policy*, **NBER Macroeconomics Annual** 1997, Vol. 12, January, pp. 231- 296.

Haberler, Gottfried (1937), **Prosperity and Depression: A Theoretical Analysis of Cyclical Movements**, League of Nations, Geneva.

Hansen, Bent (1951), **A Study in the Theory of Inflation**, Rinehart & Co., New York.

Hansen, Bent (1983), *Letter to Velupillai*, 2nd January.

Hansson, Björn A. Hansson (1982), **The Stockholm School and the Development of Dynamic Method**, Croom Helm, London.

Harrod, Roy F (1936), **The Trade Cycle: An Essay**, Oxford University Press, Oxford.

Hayek, F. A (1931), **Prices and Production**, Routledge & Sons., London.

Hayek, F. A. von (1933; editor), **Beiträge zur Geldtheorie**, Springer-Verlag, Wien.

Heckscher, Eli F. (1953), *A Survey of Economic Thought in Sweden 1875-1950*, **The Scandinavian Economic History Review**, Vol. 1, No. 1, pp. 105-125.

Hicks, John R. (1934; 1982), *A Review of Myrdal*, ch. 4, pp. 42-45, in: **Money, Interest & Wages: Collected Essays on Economic Theory, Volume II**, Basil Blackwell, Oxford.

Hicks, John. R & J. C. Gilbert (1934), *Review* (of **Beiträge zur Geldtheorie** ed. By F. A. von Hayek), Economica, n.s., Vol. 1, No. 4, November, pp. 479-486.

Hoover, Kevin. D (1956), *A Neowicksellian in a New Classical World: The Methodology of Michael Woodford's Interest and Prices*, **Journal of the History of Economic Thought**, Vol. 28, Number 2, June, pp. 143-149.

Kahn, Lord Richard (1975), **On Re-reading Keynes**, Fourth Keynes Lecture in Economics, The British Academy, Oxford University Press, Oxford.

Karve, D. G (1936), *Review* [of **The Theory of Monetary Policy** by B. P. Adarkar], **Indian Journal of Economics**, Vol. XVII, Issue 1, pp. 110-112.

Keynes, John Maynard (1930), **A Treatise on Money**, Volumes I & II, Macmillan and Company, Limited, London.

Keynes, John Maynard (1930; 1931), *Economic Possibilities for our Grandchildren*, pp. 358-374, in: **Essays in Persuasion**, Macmillan and Co., Limited, London.

Keynes, John Maynard (1935), *Letter to Bernard Shaw*, 1 January, 1935, pp. 492-3, in: **The Collected Writings of John Maynard Keynes, Vol. XIII, The General Theory and After: Part 1, Preparation**, Cambridge University Press for the Royal Economic Society, Cambridge.

Keynes, John Maynard (1936), **The General Theory of Employment, Interest and Money**, Macmillan And Co., Limited, London.

Keynes, John Maynard (1979), **The Collected Writings of John Maynard Keynes, Vol. XXIX - The General Theory and After: A Supplement**, Macmillan - Cambridge University Press, Cambridge.

Khatkhate, Deena (1988), *Obituary – An Economist Whose Present Was in the Past,* **Economic and Political Weekly**, Vol. XXIII, No. 41, Oct., 08, pp. 2093-2094.

Krishnamurty, J (2011), **Toward Development Economics: Indian Contributions 1900 – 1945**, Oxford University Press, India.

Laidler, David (1993), **Fabricating the Keynesian Revolution: Studies of the Inter-War Literature on Money, the Cycle, and Unemployment**, Cambridge University Press, Cambridge.

Lawlor, Michael. S (2006), **The Economics of Keynes in Historical Context: An Intellectual History of the General Theory**, Palgrave-Macmillan, Houndmills, Basingstoke.

Leijonhufvud, Axel (1968), **On Keynesian Economics and the Economics of Keynes: A Study in Monetary Theory**, Oxford University Press, New York.

Lindahl, Erik (1924), **Penningpolitikens Mål och Medel**, Förlagsaktiebolaget i Malmö Boktryckeri, Malmö.

Lindahl, Erik (1929), **Penningpolitikens Mål,** C. W. K. Gleerup, Lund. Lindahl, Erik (1929), Penningpolitikens Medel, C. W. K. Gleerup, Lund.

Lindahl, Erik (1930), **Penningpolitikens Medel,** C. W. K. Gleerup, Lund. Lindahl, Erik (1929), Penningpolitikens Medel, C. W. K. Gleerup, Lund.

Lokanathan, P. S (1938), *Mr. Harrod on the Trade Cycle*, **Indian Journal of Economics**, April, pp. 515-521.

Lucas, Robert. E. Jr., (1996), *Nobel Lecture: Money Neutrality*, **The Journal of Political Economy**, Vol. 104, No. 4, August, pp. 661-682.

Lundberg, Erik Filip (1937), **Studies in the Theory of Economic Expansion,** Kungliga Boktryckeriet, P. A. Norstedt & Söner, Stockholm.

Lundberg, Erik Filip (1996), **The Development of Swedish and Keynesian Macroeconomic Theory and its Impact on Economic Policy**, Cambridge University Press, Cambridge.

Macfie, Alec. L (1934), **Theories of the Trade Cycle**, Macmillan, London.

Meredith, H. Owen (1931), *Letters to Keynes, 22 November & 8 December*, in: **The Collected Writings of John Maynard Keynes, Vol. XIII, The General Theory and After: Part 1, Preparation**, pp. 267-8, Cambridge University Press for the Royal Economic Society, Cambridge.

Myrdal, Gunnar (1931), *Om penningteoretisk jämvikt. En studie över den "normala räntan" i Wicksells penninglära*, **Ekonomisk Tidskrift**, Årg. 33, häft 5/6, pp. 191-302.

Myrdal, Gunnar (1933), *Der Gleichgewichtsbegriff als Instrument der geldtheoretischen Analyse*, pp. 361- 488, in: **Beiträge zur Geldtheorie** edited by Friedrich A. Hayek, Springer-Verlag, Wien

Myrdal, Gunnar (1939), **Monetary Equilibrium**, William Hodge, London.

Patinkin, Don (1965; 1956; 1989), **Money, Interest, and Prices: An Integration of Monetary and Value Theory** (Second Edition – First Edition, 1956, Abridged Edition, 1989), Harper & Row, New York, NY.

Pigou, Arthur Cecil (1932), **The Economics of Welfare** (Fourth Edition), Macmillan And Co., Limited, London.

Ramsey, Frank P. (1928), *A Mathematical Theory of Saving*, **The Economic Journal**, Vol. 38, No. 192, December, pp. 543-549.

Robinson, Joan (1939), *Review* [of **Monetary Equilibrium** by Gunnar Myrdal], **The Economic Journal,** Vol. 49, September, pp. 493-495.

Sanger, C. P (1898), *Review* (of **Geldzins und Güterpreise**), **The Economic Journal**, Vol. 8, No. 31, September, pp. 384-386.

Shackle, George. E. L (1967), **The Years of High Theory: Invention & Tradition in Economic Thought, 1926 – 1939**, Cambridge University Press, Cambridge.

Shirras, G. Findlay (1935), *The Pareto Law and the Distribution of Income*, **The Economic Journal**, Vol. 45, December, pp. 663-681.

Sraffa, Piero (1932), *Dr. Hayek on Money and Capital*, **The Economic Journal,** Vol. 42, March, pp. 42-53.

Sraffa, Piero (1960), **Production of Commodities by Means of Commodities: Prelude to a Critique of Economic Theory**, Cambridge University Press, Cambridge.

Tappan Hollond, Marjorie (1936), *Review* [of **Principles and Problems of Federal Finance]**, **The Economic Journal**, Vol. 46, March, pp. 113-115.

Tharp, Lawrence (1970), *Columbia Radicals Fight for their Academic Freedom*, **U.R.P.E Newsletter**, Vol. 2, No. 4, December.

Thomas, Brinley (1936), **Monetary Policy and Crises: A Study of Swedish Experience**, George Routledge and Sons, Ltd., London.

Thornton, Henry (1802), **An Enquiry into the Nature and Effects of the Paper Credit of Great Britain,** J. Hatchard, Piccadilly and Messers F. & C. Rivington, St. Paul's Churchyard, London.

Woodford, Michael (2003), **Interest and Prices: Foundations of a Theory of Monetary Policy**, Princeton University Press, Princeton, NJ.

Wicksell, Knut (1893), **Über Wert, Kapital und Rente - nach den neueren nationalökonomischen Theorien**, Verlag von Gustav Fischer, Jena.

Wicksell, Knut (1898 a), *Penningräntans Inflytande På Varuprisen*, **Särtryck Ur Nationalekonomiska Föreningens Förhandlingar**, 14th April.

Wicksell, Knut (1898 b), **Geldzins und Güterpreise - Eine Studie über die den Tauschwert des Geldes bestimmenden Ursachen**, Gustav Fischer, Jena.

Wicksell, Knut (1923), *Realkapital och Kapitalränta*, **Ekonomisk Tidskrift**, råg. 25, häft 5/6, pp. 145-180.

Wicksell, Knut (1929), **Föreläsningar i Nationalekonomi: Teoretisk Nationalekonomi - Häft II** (Tredje Upplalagan), C. W. K.. Gleerups Förlag, Lund.

Åkerman, Gustaf (1923), **Realkapital und Kapitalzins: Heft I.** Centralryckeriet, Stockholm.

Åkerman, Gustaf (1924), **Realkapital und Kapitalzins: Heft II.** Centralryckeriet, Stockholm.