

# Introduction to “An Essay in Dynamic Theory”: 1938 Draft by Roy F. Harrod

Daniele Besomi

## Editorial Introduction

“Dear Roy, this is first-class stuff and exceptionally interesting. I think you are on a very fruitful line of analysis” (Keynes 1973, 321), Keynes commented after reading Harrod’s August 1938 draft of an “Essay in Dynamic Theory,” which Harrod sent him in the beginning of August 1938. Donald Moggridge, editor of volume 14 of Keynes’s *Collected Writings*, expressed his regret that the 1938 draft had not survived. But among Harrod’s papers, now collected at the Chiba University of Commerce in Ichikawa, Japan, a manuscript exists that I believe to be the original that Harrod sent to the typist, or a previous draft. In fact it is easy to locate in the manuscript all the passages that were the subject

Correspondence may be addressed to Mr. Daniele Besomi, c.p. 6, 6953 Lugaggia, Switzerland. The manuscript presented here belongs to the Harrod Papers held by Chiba University of Commerce in Ichikawa (Japan), which holds the copyright to Harrod’s manuscript. I am very grateful to the former president, Yasumasa Hayakawa, the librarian, and the personnel of the Chiba University of Commerce in Ichikawa for permission to reproduce this document and to quote at length from Harrod’s manuscripts, as well as for providing me with optimal conditions for carrying out my work. I should also like to thank Lady Harrod and Dominik Harrod for permission to quote Sir Roy Harrod’s words, and to thank King’s College, Cambridge, for allowing me to consult the Keynes Papers and to cite from Harrod’s unpublished letters to Keynes preserved there. I am grateful to the Swiss National Science Foundation for financial support for this research. I am also grateful to Donald Moggridge and two anonymous referees of this journal for helpful comments and suggestions on an earlier draft of the introduction and on the editing, and to Warren Young for pointing out an imprecision in one of the references. The usual disclaimers apply.

of discussion between Harrod and Keynes or that were mentioned by Marschak in an unpublished note entitled “Remarks to R. F. H.’s ‘Essay in Dynamic Theory’” (file V-113a, Harrod Papers). Moreover, we know with certitude the nature of the many changes Harrod introduced in two distinct stages, since he listed them to Keynes on both occasions; a quick comparison, therefore, shows that this manuscript was written prior to both subsequent versions and its content matches Keynes’s and Marschak’s comments.

The complete manuscript follows this introduction. The editorial footnotes indicate the main changes introduced and point out which of these originated from Keynes’s and Marschak’s comments. In fact, some sections of this manuscript coincide word for word with the article eventually published in the March 1939 issue of the *Economic Journal*, while other sections were altered in light of the comments Harrod received; two sections were added *ex novo*; and, other sections were deleted or replaced by others giving only a vague idea of the richness of the original analysis. Table 1 (which may be found at the end of Harrod 1996) enables the reader to see at a glance where the more substantial alterations were introduced and where the first version passed untouched or with only a few amendments in response to Keynes’s and Marschak’s criticisms. In sections 12 to 19 of the manuscript, the reader will find the application of dynamic tools to the trade cycle, of which only a sketch survived in the final version.

It is worth outlining a chronology of the main stages that led Harrod from his previous book on dynamics to the publication of the *Essay* in 1939. In September 1936, a few months after *The General Theory* appeared in book shops, Harrod published *The Trade Cycle*. Keynes read it only after publication, and on 31 March 1937 he sent Harrod some lecture notes on *The Trade Cycle*’s explanation of fluctuations and other miscellaneous notes on the book. From the debate that followed (published, together with the notes, in CW 14:150–79), it emerges that Keynes misunderstood Harrod’s main point. After receiving Harrod’s explanations, Keynes attributed his confusion to lack of clarity in the text itself:

I have undoubtedly misunderstood you and there is no question of an arithmetical slip. But the odd thing is that, having invented so interesting a theory, you should not have mentioned it in the book! For I do not see how I could possibly have understood what you

were driving at in the passage where I accuse you of an arithmetical slip. Indeed, I should doubt whether any reader who has not talked or corresponded with you could be aware that the whole of the last half of the book was intended to be in relation to a moving base of steady progress. (Keynes to Harrod, 12 April 1937; CW 14:170)

Harrod was particularly disappointed by Keynes’s inability to find “any application of the theory worth mentioning to the trade cycle” (173), while he maintained that his book “contains the essence or the germ of the theory of the trade cycle,” and promised he would have tried “to develop [his] ideas for a form suitable for publication” in light of Keynes’s reaction (Harrod to Keynes, 15 April 1937; CW 14:174). After some comments on Harrod’s theory,<sup>1</sup> Keynes concluded the correspondence by hoping Harrod would soon carry his ideas a stage further (Keynes to Harrod, 20 April 1937; CW 14:178).

More than a year elapsed before Harrod could communicate to Keynes that “there is another piece I have on the stocks which I thought of for the December number. . . . The piece in question is concerned with the fundamental dynamic equation (law of growth) which I think is now formulated as neatly as may be together with some explanation about definitions of saving & investment etc.” (Harrod to Keynes, 13 June 1938, Keynes Papers, file RES/1/2/123). A few weeks later, Harrod wrote to Robertson that he had “in his head, though not yet written,” his fundamental equation (Harrod to Robertson, 5 July 1938, Harrod Papers, file IV-990-1069d). The day after, he also told Keynes that he was working on the announced development: “I have now got my ‘dynamic’ theory, I think, into a much better form than I had it in my book. I hope to send you a short article quite soon” (Harrod to Keynes, 6 July 1938; CW 14:298). In the meantime, Harrod had just finished revising his presidential address to the economic section of the British Association (the methodological issues arising from Harrod’s paper were also discussed at some length with Keynes; see CW 14:295–305). Harrod already envisaged dynamic theory as relating to the “laws governing increase,” which need to be formulated in terms of “a system of fundamental equations using simplifying assumptions—for example, the frictionless surface, etc.—in which rates of increase will themselves figure as unknown terms” (Harrod 1938,

1. On the Harrod-Keynes correspondence related to *The Trade Cycle*, see Kregel 1980 and, for a different interpretation, Besomi 1995.

403).<sup>2</sup> When, on August 3, the first draft of the “Essay” was finished, Harrod wanted it published as soon as possible:

I have just finished writing my re-statement of the “dynamic” theory, which is, I think, a great improvement on my book. . . . It has gone off to the typist and ought to be ready to send off in 2 or 3 days. I should like it to appear as soon as you feel you can find some room for more by me (in December?) . . . as I have been throwing out hints in a number of places of the possibility of formulating a simple law of growth and I want to substantiate the claim. (Harrod to Keynes, in CW 14:301)<sup>3</sup>

The typescript was sent<sup>4</sup> on August 6, and Keynes acknowledged receipt of it on August 11 but expressed serious doubts about the possibility of including the paper in the December issue (CW 14:302). However, by 17 August he had “read it carefully,” and had sent Harrod detailed point-by-point comments (Keynes to Harrod, Harrod Papers, file II-85). There followed an intense exchange of letters, in which the authors debated some of the points raised by Keynes. On September 7, Harrod announced a first revision of his paper, which was sent to Keynes on September 14—with the accompanying letter listing the changes introduced—for which Keynes thanked him five days later (CW 14:336–39).

But Keynes was still not satisfied with the result:

You have got some extremely interesting ideas and materials in it, as I said before. But, reading it again, I feel even more strongly that, from

2. As early as September 1936, he presented a paper to a meeting organized by the Econometric Society in which he considered the main problem of dynamics to discuss “what rate of growth can continue to obtain, so long as the various surrounding circumstances, including the propensity to save, remain the same”; the “distinguishing feature of the dynamic theory will . . . be . . . that it will embody new terms in its fundamental equations, rate of growth, acceleration, de-celeration, etc.” (Harrod 1937, 86).

3. On the same day, Harrod also announced to Robertson that the article was “in the hands of the typist,” and that “it is jolly good” (Harrod to Robertson, Harrod Papers, file IV-990-1069d). After reporting Harrod’s excitement, Young (1989, 164) quotes what he presumes to be Harrod’s reply to Robertson’s “fundamental criticism” of his approach; but in reality, Robertson’s criticism was not directed against Harrod’s approach, both because he could not yet have seen the “Essay,” and because Harrod was referring to a letter by Robertson dated 23 July 1938, in which Robertson criticized the neo-Keynesian analysis (Robertson to Harrod, Harrod Papers, file IV-990-1069d).

4. In the postcard to Keynes accompanying the typescript dated 6 August 1938, Harrod wrote that he was “at the moment more interested in it than in [his] wretched Ad. Presidential” (Harrod to Keynes, Keynes Papers, file EJ 1/5).

the reader’s point of view, you have not done justice to them, and I doubt whether the ideas will have the full impact on the reader which they deserve. I still find the exposition half-baked and prolix. . . . I hope I am not too much influenced in saying this by the editorial preference for something short. (Keynes to Harrod, 19 September 1938, CW 14:339)

He then suggested to Harrod that he put the paper aside for a month or two and promised that if Harrod were still satisfied with it after that time it would go into print as it stood. But Keynes himself carried on with his criticism—which by this time was focused on the conditions for the validity of Harrod’s instability principle—so that the correspondence continued with the same intensity until Keynes’s final criticism, dated September 26. Harrod did not reply, and on 21 December 1938 he announced a second, drastic revision of the text, including the introduction of two new sections and the substantial rewriting of the second half of the text. The result of this process of reformulating eventually appeared in the March 1939 issue of the *Economic Journal*, except for a couple of misprints that were corrected in the June issue (377).

It is easy to appreciate the extent of the modifications the “Essay” went through in those few months, for Harrod himself listed them very carefully. In the first revision, the following changes were made:

I have inserted a paragraph about confidence.<sup>5</sup>

(i) I have adopted a number of your verbal amendments.

(ii) By the frequent addition of clauses and an extra section I have tried to make it clearer what I mean by the warranted rate.

(iii) I have inserted a paragraph to safeguard the reader against supposing the *C* has anything to do with capital as distinct from consumption goods.

(iv) I have put in some words to distinguish my use of *ex ante* from that of others.

(v) I have re-written some paragraphs towards the end to bring out more clearly my point about the relation of the normal warranted rate to the natural rate and its connection with questions of deflation and inflation. (Harrod to Keynes, 14 September 1938; CW 14:338)

5. This sentence is from Harrod’s letter of September 7, when he was still working on the revision.

The second revision was more drastic: “I have re-written the second half of this (from page 20 onwards) cutting out most of the old screed. I have slightly reduced the length. I have inserted paragraphs 10 and 13 to meet your point” (Harrod to Keynes, 21 December 1938; CW 14:350).

From the Harrod-Keynes correspondence it emerges quite clearly that Harrod considered the first series of changes only as verbal amendments, introduced to avoid misunderstandings by clarifying some passages of the text that were obscure. In fact, at first Harrod accepted without discussion some of Keynes’s suggestions, while he interpreted Keynes’s fundamental criticism as being due to a misinterpretation of his thesis. Keynes, in turn, accepted some of Harrod’s qualifications but did not abandon his line of attack. Only later, when the debate concentrated on the conditions to which Harrod’s proof of the instability proposition is subject, did Harrod feel compelled to introduce more substantial changes. Of course, Harrod’s attitude toward the modifications he introduced—and especially those he did *not* introduce—is of fundamental importance in the interpretation of his theoretical position as compared to some of the concepts that were at the core of *The General Theory* (such as investment, time, and expectation). These comparisons demonstrate how far apart Harrod’s and Keynes’s notions of dynamics were.<sup>6</sup>

The manuscript presented here belongs to the Harrod Papers held by Chiba University of Commerce in Ichikawa, Japan, and is located in file V-113. The draft is a manuscript in pen, with handwritten corrections, some of which are very extensive. It was originally on 26 leaves, numbered from 1–21, some inserted at a later stage, some written overleaf (numbered, for instance, 16a, 16b, and so on) for a total of 32 pages. Eventually a further leaf was added as a title page, describing the content as “Article on Economic Dynamics. E. J. 1939.” Where additions or substitutions of parts of text or footnotes occurred, and in case of possible doubts as to the use of lower-case or capital letters for variables, Harrod added pencil instructions—probably addressed to the typist. Harrod’s underlinings are rendered as italics; references and foreign words are not modernized, unless Harrod explicitly underlined book or journal titles.

6. I have dealt with this aspect of the Harrod-Keynes correspondence in Besomi 1995. The 1938 draft of the “Essay” seems to provide further support of the arguments I advanced there, as I argue in a separate note in this issue of *HOPE*.

Harrod’s own notes appear here as numbered footnotes, while the editor’s notes appear as lettered endnotes. The endnotes are not meant to provide a full collation of the first and final drafts of the “Essay”; they, therefore, only point out major alterations and note the changes introduced in order to meet Keynes’s or Marschak’s comments. However, to facilitate comparison between the first draft and the final version of Harrod’s “Essay,” table 1 is provided as an appendix, representing the concordances between the manuscript and the text of the March 1939 issue of the *Economic Journal*.

A few slips of the pen have been marked by [*sic*]. Some words could not be identified with certainty; these are marked by a question mark in brackets. During the the course of writing, Harrod rewrote entire blocks of sentences, especially in the middle of the manuscript. When the crossed out sections are substantive, they have been reported in the editor’s endnotes.

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