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**GENERAL THEORY IN THE LENS OF ITS FRENCH TRANSLATION:  
SOME ANALYTICAL DIFFICULTIES<sup>1</sup>**

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**1. INTRODUCTION**

There was never a second edition of *General Theory*. In a letter to Ralph Hawtrey of 31 August 1936, Keynes wrote that he was “thinking of producing in the course of the next year or so what might be called *footnotes* to my previous book, dealing with various criticisms and particular points which want carrying further.” (Keynes 1971-1989, XIV: 47; Keynes’s italics) The circumstances, however, did not allow him doing so, particularly his heart attack in early 1937 and World War II that started in Europe in September 1939. During this two-year period, three published articles (Keynes 1937a, 1937b, 1937c) and the material contained in Vol. XIV of his *Collected Writings* give indications about what these “footnotes” might have been.<sup>2</sup> Additional material from that period, hitherto unpublished, may be found in the correspondence exchanged between Keynes and the French translator of *General Theory*, Jean de Largentaye, during the preparation of the translation.<sup>3</sup> This correspondence extended from 31 January 1938 to 22 June 1939. The publication of the book was scheduled for 15 September 1939 but the outbreak of the war on 3 September stopped the process and it finally came out in the autumn of 1942, under the literally-translated title *Théorie Générale de l’Emploi, de l’Intérêt et de la Monnaie*.

This correspondence is composed of 16 letters from Largentaye to Keynes (13 are extant; 3 are mentioned in Keynes’s letters but not extant) and 13 letters from Keynes to Largentaye (all extant).<sup>4</sup> The interesting point in these letters is that they did not only concern

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<sup>1</sup> I thank Peter Jones, Patricia McGuire and Peter Monteith for granting me access to the *Keynes Papers* at King’s College, Cambridge (UK), and Jonathan Smith to the *Sraffa Papers* at Trinity College, Cambridge (UK). I also thank Jean de Largentaye’s children, Bertrand, Hélène, and Armand, for having provided official and private papers linked to their father’s activity in relation to the translation of *General Theory*. They should not however be held as responsible for the interpretation or the analysis contained in the paper.

<sup>2</sup> In 1997 G.C. Harcourt and P.A. Riach published *A ‘Second Edition’ of The General Theory* in two volumes (Harcourt and Riach 1997) which contained essays by a wide range of scholars about what Keynes could have written in these “footnotes”.

<sup>3</sup> The correspondence between Keynes and Largentaye is kept in the *Keynes Papers* at King’s College, Cambridge (UK), under the reference King’s/PP/JMK/GTE 3. This file contains the carbon copies of the letters sent by Keynes and the originals of the letters received by him. The originals of Keynes’s letters were deposited by the Largentaye family at King’s, and they are kept in file GTE 3A. In the present paper, unless otherwise stated, any reference to this crossed correspondence will be given as follows: author of the letter (JdL or JMK), date, numbering in GTE 3 file (I mentioned only the first number of the document; if it contains more than one page, each one is numbered successively in the King’s Archives’ classification). When a letter by Keynes is *not* addressed to Largentaye, the addressee is mentioned after JMK.

<sup>4</sup> Ten more letters were exchanged between Keynes and Largentaye (five authored by each of them) after the translation had been completed in June 1939. They extend from 12 May 1940 to 3 March 1943 and concern the

material and terminological aspects of the translation but also analytical issues raised by the book itself and pointed by the translator. This interest is all the more vivid since a third party was involved: Piero Sraffa. On receiving drafts of the translation, Keynes asked his advice, as testified by two letters of Keynes to Sraffa and two by Sraffa to Keynes. Sraffa even met Largentaye in Paris in January 1939 to discuss the matter. Sraffa's remarks can thus be put in the perspective of his evaluation of *General Theory* contained in the notes that have been found in his own copy of the book.

The present paper is mostly devoted to the study of some analytical difficulties raised in the correspondence between Keynes and Largentaye. Section 2 quickly describes this correspondence and the circumstances of Sraffa's involvement; it also evokes a disagreement between Keynes and his French translator about the kind of language that should be used in a book like *General Theory*.<sup>5</sup> Section 3 deals with precisions and improvements brought about by the correspondence, particularly on the treatment of entrepreneurs' profits and on the behaviour of lenders and borrowers in a financial crisis. Section 4 deals with an important amendment to Chapter 17, suggested by Largentaye and accepted by Keynes in the context of various critiques expressed elsewhere by Pigou, Hicks, and Sraffa. Section 5 concludes.

In what follows, the abbreviations are: JMK for John Maynard Keynes, JdL for Jean de Largentaye (the translator), *GT* for *The General Theory of Employment, Interest, and Money* (Keynes, 1936), and *TG* for the French edition *Théorie Générale de l'Emploi, de l'Intérêt et de la Monnaie* (Keynes, 1942).

## 2. THE FAMOUS ECONOMIST, THE PUBLIC OFFICER, AND THE SCHOLAR

### 2.1. Keynes's endorsement of Sraffa's evaluation of the translation

On 10 May 1938, Keynes wrote to Sraffa, asking his advice on two drafts of translation he had received from Largentaye: Chapter 11 ("The Marginal Efficiency of Capital") and a table of equivalence between the two languages for 29 terms used in *GT*. This request was apparently motivated by Keynes's first negative reaction:

"He [Largentaye] now sends me a specimen chapter and, at my suggestion, a table of equivalents for certain technical terms. At a first glance it seems to me that several of his terms are really dangerously wrong. Some of them because they do not seem the right technical equivalent; but other, which is more alarming,

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events (some of them of a political nature) which delayed the publication. In his last letter, dated 4 December 1942, Largentaye announced the publication and told Keynes that "the edition of 2000 issues seems to be already out of print. It is extremely difficult to find any copy at the booksellers. Herewith please find one." (JdL, 04/12/1942; 151) Keynes acknowledged reception of the volume three months later – which gives an idea of the length of the communications at the time, even through diplomatic channels (in that case Hugh Ellis-Rees, British representative in Madrid). In his answer, Keynes made a sadly ironical remark on occupied France: "It is indeed remarkable that the edition should have been so promptly sold out, – though I suppose there are a good many people in France to-day who have nothing better to do than to think about the future rather than the present." (JMK, 03/03/1943; 155)

<sup>5</sup> I have studied in details the historical context of this translation and the terminological problems it raised in two papers prepared for the EU program *Economic e-Translations into and from European Languages*; see Deleplace (2013a, 2013b).

because he has hopelessly misunderstood what I am driving at. I should be grateful for your general opinion.” (JMK to Sraffa, 10/05/38; 79)

Sraffa answered two days later. His judgment was devastating:

“I have read this carefully, comparing it with the original, and my conclusion is that this is a poor translator. It is quite clear that he does not know the subject, and plays for safety by being literal; the result is a lamentable French prose. On the other hand, he knows English well, and I have not noticed any important misunderstandings in the construction or in the ordinary language [...]: this is a really important point in his favour. But what is alarming is, as you say, his complete ignorance of the technical terms: he is obviously trying to translate them with the help of a dictionary or by the usage of business. He ought to learn them, by reading Marshall's *Principles in French*, Lerner's article in the *I.L.O. Review*, and Étienne Mantoux's *Review of the G.T. in Rev. d'Ec. Pol. (Nov.-Dec. 1937)*.” (Sraffa to JMK, 12/05/38; 80)<sup>6</sup>

Sraffa attached a glossary (“which may be useful to your translator”), made after Mantoux who “very sensibly, has frenchified [sic] your technical words – and it sounds quite well.” He also made “some comparisons between the two glossaries” and pointed “other mistakes” in the translation of Chapter 11. He then concluded:

“On the whole, I don't think you can allow him to go on like that. He ought a) to acquaint himself with the technical terms, and b) be under the supervision of a competent economist. Mantoux, who at various points of his article shows to be interested in the problem of rendering your terms in French, would seem very suitable.” (*ibid.*)

The matter was probably discussed orally by Keynes and Sraffa – who both belonged at the time to King's College – since, as mentioned at the top Sraffa “revised” his letter on 1<sup>st</sup> June. The most unpleasant aspects were crossed out and replaced (in Sraffa's hand in pencil) by new formulation more apt to be communicated to the translator. The corrected version was then typed (probably by Keynes's secretary); it now read:

“The translator knows English well, and I have not noticed any important misunderstandings in the construction or in the ordinary language [...]: this is a really important point in his favour. But obviously he is not acquainted with the technical terms: he seems to be trying to translate them with the help of a dictionary or by the usage of business. Yet most of these terms can be found in Marshall's *Principles in French*, Lerner's article in the *I.L.O. Review*, and Étienne Mantoux's *Review of the G.T. in Rev. d'Ec. Pol. (Nov.-Dec. 1937)*.” (Sraffa to Keynes, 01/06/38; 80)

The rest of the letter remained unchanged, with the exception of the conclusion which was simply deleted. In his own letter to Largentaye – to which the typescript of Sraffa's remarks was joined – Keynes, however, endorsed this conclusion, testifying to the confidence he placed in his friend's judgment and also to his own reservations about the translation:

“After I got your letter I was very unhappy about your selection of technical terms, which seems to me to be unsatisfactory or even erroneous in a good many cases. I submitted it therefore to an economist friend who

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<sup>6</sup> The 4th edition of Marshall's *Principles of Economics* was published in French in 1906 (Marshall, 1906). Lerner's review of *GT* was published in English and in French in the review of the International Labour Organisation (Lerner, 1936). Mantoux's review was published in the *Revue d'économie politique* (Mantoux, 1937). Etienne Mantoux (1913-1945) had been educated in England and he followed the teaching of Hayek at the London School of Economics. During WWII, he would study in Princeton where he wrote *The Carthaginian Peace or the Economic Consequences of Mr. Keynes*, a strong critique of Keynes's 1919 book against the Versailles Treaty. He died in combat in the last days of WWII and his book was published posthumously in 1946.

is much better acquainted with French than I am. As you will see from the copy of his letter which I enclose, he confirms my feeling and makes certain suggestions.

These, of course, only cover the points arising in the list you sent me and in the bit of translation. With a view to further precaution in the future I have two suggestions to make: In the first place I think you would do much better where I am using a term of my own to make a rather literal translation even if it is not good French. [...] In the second place it would, I believe, be very helpful if you could persuade M. Mantoux (who used to be a friend of mine in old days) to look through your technical terms, since his review of my book showed that he had a very satisfactory understanding of their significance.

At any rate I am clear that this matter needs very careful attention, since I am sure that a good many of the terms you have used would render many passages unintelligible or at least misleading to French readers.” (JMK, 02/06/38; 88)<sup>7</sup>

It would take other exchanges of letters between the author and the translator to overcome these initial reservations.

On 12 December 1938, Sraffa returned to Keynes the draft of Chapter 17 (“The Essential Properties of Interest and Money”) and the “new list of technical terms” he had received for advice. In his cover letter his judgment was more positive than seven months before, except for the French:

“On the whole it is remarkable how well he understands the English and the Economics: there are no howlers – apart from the green cheese [...]. He is also perfectly illiterate: his French is disgraceful – much on the same level as the ‘français de cuisine’ [kitchen French] of which King’s menus are an example. It is hopeless for you or me to try to improve on it by detailed criticism: we can’t teach him, and anyhow he can’t learn. Also, it is better not to discourage him at this stage, and till he has finished his job – which is the taking your book out of English. Then, it will be for the publisher, or for himself, to find a Frenchman who knows his own language and can put his Esperanto into French. That however is comparatively easy: there are many more people in France who can write well than there are who understand an economic argument. I have no doubt that, even apart from your intervention at a later stage, the publisher would not allow this sort of thing to go to the public.” (Sraffa to JMK, 12/12/38; 101)<sup>8</sup>

Largentaye’s “remarkable” understanding of “the Economics”, in Sraffa’s view, is illustrated by the fact that, in the two-and-half-page hand-written appendix on the translation of Chapter 17 attached by Sraffa to his letter, all the remarks were of a terminological character, and none analytical. This is all the more noticeable since, as Keynes had written previously to his translator, “you have certainly chosen as test the most difficult chapter of all to render” (JMK, 12/11/38; 97). Still more, Sraffa was in a good position to evaluate Largentaye’s understanding of Chapter 17, because he was at the origin of the concept of “own-rate of interest” developed by Keynes in that chapter (see Section 4 below).

As he had done for the previous evaluation, Keynes endorsed Sraffa’s suggestions, even against his own views:

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<sup>7</sup> Keynes was wrong about his friendship with Mantoux: the one he had known during the Peace Conference in 1919 was Paul Mantoux (1877-1956), the economic historian and the father of the reviewer of *GT*, Étienne. Largentaye suggested this filiation in his letter of 11 June 1938, a suggestion endorsed by Keynes in his answer on 17 June.

<sup>8</sup> In King’s College as in other Cambridge colleges, the menus of the High Table – the one reserved to academics – were (and still are today) written in French.

“[In the appendix] are my friend’s comments on your text and on my queries. In some cases, he has passed my queries without comment; sometimes he has confirmed them; and sometimes rejected them. He has also raised several new points of his own.” (JMK, 22/12/38; 107)

Keynes’s general opinion on Largentaye’s economic understanding and stylistic expression was also borrowed from Sraffa, and he paraphrased it in the plural, only changing the “français de cuisine” into “dog French” and making the critique more acceptable:

“Generally speaking, our impression is that in this difficult chapter you have been remarkably successful in understanding the meaning of the English and of the economic theory. As you will see from our comments, there are practically no definite mistakes, apart from a misunderstanding of the curious English comparison between the moon and green cheese. [...] On the other hand, in a matter where we cannot speak with equal authority we were not so clear that amendments may not prove advisable. It seemed to us that in the effort to obtain the precise meaning of the original, you had run the risk of producing a French version which was insufficiently idiomatic, and so a little bit in the nature of what English school-boys call “dog French” from the analogy of “dog Latin”, if you have a French equivalent for that. Once you were satisfied that the English meaning has been faithfully rendered into a sort of French, it might be helpful to reconsider the text from the more literary or stylistic point of view, getting some French friend, who is not so familiar with the English version as you are, to give you his opinion from that point of view.” (*ibid.*)<sup>9</sup>

One might be surprised by the harshness with which an Italian native and an English one judged the French written by a native of France, still more a high-ranking public officer accustomed to write official reports. But the examination of the draft translation of Chapter 17, returned by Keynes to its author and today kept by the Largentaye family, shows that Largentaye took their critical advice seriously. The 30 page-long typescript appears to have been heavily crossed-out in Largentaye’s blue-ink handwriting: there is not a single page without a modification, most of the pages exhibiting changes of words by dozens and whole sentences being rewritten even in the absence of any remark by Keynes or Sraffa. Moreover, of the 23 stylistic suggestions made by Sraffa in his note,<sup>10</sup> all but one were accepted by Largentaye, who for example adopted Sraffa’s translation of “own-rate of interest” into “taux d’intérêt spécifique” and the wording of a crucial conclusive sentence on the role of the money-rate of interest (Keynes 1942: 251).

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<sup>9</sup> The French equivalent of the famous metaphor of the “green cheese” was the only “howler” mentioned by Sraffa in his letter to Keynes, and his solution was to play literal: “By the way, I don’t know whether there is a French equivalent, but if there is, I am sure he [Largentaye] will not find it: the safest course is for you [Keynes] to suggest a pedestrian version which he can translate literally (‘when people want an impossible thing ...’).” (Sraffa to JMK, 12/12/38; 101) On this matter Keynes was pedagogical: “English children are told that the moon is made of green cheese, and from that various images can be made! Whether there is any French equivalent for this I have no idea. I was combining this notion with another English saying, by which to ask for the moon means to ask for an impossible thing. I was combining the ideas that the moon is an impossible thing, that it is made of green cheese, and that green cheese, like paper money, can be manufactured. Better, perhaps, to give up the attempt at a French equivalent and abandon the whole elaborate metaphor!” (JMK, 22/12/38; 107) Taking advantage of a similar expression in French for “to ask for the moon” (“demander la lune”), Largentaye used it in the French text (“Cela revient à dire que le chômage se développe parce qu’on demande la lune”; Keynes 1942: 252) and translated “green cheese” into “fromage”, providing in a translator’s footnote Keynes’s explanation of the link with the moon for which there was no equivalent in French (“En Angleterre on raconte aux enfants que la lune est un fromage”; *ibid.*).

<sup>10</sup> In five other cases Sraffa simply confirmed Largentaye’s choice against Keynes’s suggestion.

Keynes's and Sraffa's reservations about Largentaye's tests were however not only "literary or stylistic"; they stemmed from a divergence about what an accurate translation should be. This divergence appeared in full light in the choice of the French terms.

## 2.2. The choice of the French terms: "Suitable equivalents" or "everyday words"?

Keynes's preference for a translation as close as possible to the original is to be seen in his reluctance to accept the way Largentaye approached the problem of the "list of technical terms". Such a list was Keynes's suggestion, inspired by what had been done in the German edition:

"The most important task, I think, is to obtain suitable equivalents for my set of technical terms. My German translator took particular trouble about this and in fact supplied, at the end of the volume, a table of the equivalents between English and German of the terms he had adopted. I think it might be useful if you would let me have a list of your suggestions in this respect." (JMK, 09/04/38; 60)

A "Projet de table de correspondance entre le texte original et la version française de l'ouvrage de M. Keynes" came with Largentaye's letter of 8 May 1938. It included 29 words and expressions; to 12 of them Sraffa objected on 12 May. After Mantoux's article he suggested "global" for "aggregate" (instead of "collectif" or "total"), "propension à consommer" for "propensity to consume" (instead of "tendance à consommer"), "demande effective" for "effective demand" (instead of "demande réelle"), "désutilité" for "disutility" (instead of "importunité"), "anticipation" for "expectation" (instead of "prévision"), "investissement" for "investment" (instead of "placement" ou "capital"),<sup>11</sup> "préférence de liquidité" for "liquidity preference" (instead of "attrait de la liquidité"), "taux de rendement par rapport au coût" for "rate of return over cost" (instead of "rapport des recettes aux débours"). He also discarded "équivalent de travail" for "factor cost" (it "is absurd and wrong"), "prix de revient" for "prime cost" ("This is L.'s worst howler: the words mean 'cost price'"; in the typed version, "a serious misunderstanding" was substituted for "L.'s worst howler"), "momentané" for "short period" (it "is certainly wrong"), without suggesting another formulation.

After Keynes had sent him Sraffa's critiques and suggestions with his letter of 2 June 1938, Largentaye defended himself:

"From the remarks you have made I gather that I have not conceived this work in the spirit you wish. My main preoccupation, indeed, was to make the translation as easy to understand as possible for readers who are not students of political economy. That is why I have as far as possible made use of words belonging to everyday, or to business language. I even submitted several of these terms to a friend of mine who is a banker, and changed them until the translation appeared to him easy to understand. In the light of your remarks I see that this method has been prejudicial to the accuracy of the ideas expressed and to the logic of the reasoning. I will therefore abandon it and make a more literal translation, as you recommend, in particular when you are using terms of your own." (JdL, 11/06/38; 90)

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<sup>11</sup> Sraffa also discarded "réalisation" for "disinvestment", because "placement" and "réalisation" "have *only* the Stock Exchange sense of investment: M.[antoux] (and also Rist) use always investissement; why not follow them?" (Sraffa to JMK, 12/05/38; 80; Sraffa's italics)

Largentaye's "everyday" approach to the translation was clearly contradictory to the purpose of *GT*, as Keynes exposed it in the preface to the English edition:

"This book is chiefly addressed to my fellow economists. I hope that it will be intelligible to others. But its main purpose is to deal with difficult questions of theory, and only in the second place with the applications of this theory to practice. [...] The matters at issue are of an importance which cannot be exaggerated. But, if my explanations are right, it is my fellow economists, not the general public, whom I must first convince. At this stage of the argument the general public, though welcome at the debate, are only eavesdroppers." (Keynes 1936: xxi)<sup>12</sup>

In his hand-written answer to Largentaye's letter, Keynes insisted:

"The difficulty is that many of my concepts do not exactly correspond to any terms in current use; and there is great risk of suggesting the wrong nuances if the latter are used. It is important to explain the new terms very clearly. But I do not believe that it assists a clear understanding to use terms which are likely to carry to the reader an old-established association of meaning not quite the same as mine." (JMK, 17/06/38, underlined by JMK; JdL's archives)

"A new list of technical terms" was sent by Largentaye on 26 October 1938. It was introduced as follows:

"I have made out this list in approaching as much as possible the sense of the notions you utilize. According to your counsel, I took the advice of Mr. Mantoux, who after a thorough examination, told me that these terms seem to him the most appropriate to express your concepts into French." (JdL, 26/10/38; 92)

Three expressions were changed on 7 November after "several conversations with friends". Keynes reacted more positively: "At first sight I like very much better your new list of technical terms" (JMK, 12/11/38; 97); he wanted however consult Sraffa again. Meanwhile Largentaye had sent a new list on 14 November, and he would send another one on 23 November. This list was communicated by Keynes to Sraffa with the draft of the translation of Chapter 17. Sraffa returned "the French papers" to Keynes on 12 December, with the appreciative evaluation quoted above. Finally, "your table of equivalent terms" was sent back by Keynes to Largentaye, with the explanation: "the pencilled comments in the margin are my own. Pinned on to the table are my friend's [Sraffa] comments" (JMK, 22/12/38; 107). It was most probably discussed by Largentaye and Sraffa when they met in Paris in January 1939. Unfortunately, this annotated list is not extant today.

### 3. PRECISIONS AND IMPROVEMENTS ON *GENERAL THEORY*

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<sup>12</sup> The preface to the French edition, sent by Keynes to Largentaye on 21 February 1939, would reiterate this purpose, although with some qualification: "And this state of mind on my part is the explanation of certain faults in the book, in particular its controversial note in some passages, and its air of being addressed too much to the holders of a particular point of view and too little *ad urbem et orbem*. I was wanting to convince my own environment and did not address myself with sufficient directness to outside opinion. Now three years later, having grown accustomed to my new skin and having almost forgotten the smell of my old one, I should, if I were writing afresh, endeavor to free myself from this fault and state my own position in a more clear-cut manner." (JMK's English original, reproduced in Keynes, 1971-1989, Vol. VII: xxxi) It is clear that Keynes was not prepared to allow his French translator to adopt "a more clear-cut manner".



Although only two translated chapters (11 and 17) were submitted by Largentaye to Keynes, the correspondence contains examples of questions raised by the translator in other chapters. Some of them involved important issues, such as the treatment of entrepreneurs' profits or the behaviour of lenders and borrowers in a financial crisis; some others led simply to make particular points more precise.

### 3.1. The treatment of entrepreneurs' profits

This is a curious example of a change in the text produced by a misunderstanding between the author and the translator, without any practical consequence for the argument involved. In his letter of 26 October 1938, JdL raised a point concerning the following sentence:

“For if entrepreneurs offer employment on a scale which, if they could sell their output at the expected price, would provide the public with incomes out of which they would save more than the amount of current investment, entrepreneurs are bound to make a loss equal to the difference;” (Keynes 1936: 261-2; underlined by JdL)

JdL's remark was as follows:

“The text would be clearer if the incident proposition I underlined was suppressed, for the income or at least the money income of the public does not depend on the sale price of the products.” (JdL, 26/10/38; 92)

JMK answered:

“I have no particular objection to your suppressing the words you underline. Nevertheless I had a definite reason in my mind for inserting them. The point is that the entrepreneurs are themselves part of the public so that the incomes which they receive by selling their output at the expected price or otherwise have to come into the calculation. Your suppression of these words would be entirely justifiable if ‘the public’ excluded ‘the entrepreneurs’. Perhaps I am trying to say more in a single sentence than can conveniently be got in. What about your suggestion of suppressing the words you italicise and substituting for ‘the public’ – ‘the public other than the entrepreneurs’?” (JMK, 12/11/38; 97)

This suggestion was not adopted by JdL, who did delete “the incident proposition” but used a formulation which only implicitly excluded the entrepreneurs from the public:

“For if entrepreneurs supply the public enough employment to allow the said public draw from the incomes corresponding to that employment an amount of saving higher than current investment, they are forced to bear a loss equal to the difference.” (Keynes 1942: 276; my translation, GD)

The macroeconomic relation between the price of output, saving, investment and entrepreneurs' profits had been already analysed by JMK in his previous book *A Treatise on Money* (Keynes, 1930: 121-4). The clue was the distinction between “the normal remuneration of entrepreneurs”, which was part of “the earnings of the factors of production” (and consequently of the cost of production of output), and “windfall profits” (positive or negative) equal to the difference between “the actual sale proceeds” and the cost of production (*ibid*: 111-2). Let *WP* be the “windfall profits”, *E* the earnings of the factors of production (including “the normal remuneration of entrepreneurs”), *I* the aggregate level of investment and *S* the aggregate level of saving. Since the total sale proceeds are equal to the

sum of the proceeds on the sale of investment goods ( $I$ ) and those on the sale of consumption goods ( $E - S$ ), the following identity holds:

$$(1) \quad WP \equiv [I + (E - S)] - E \equiv I - S$$

Hence the “loss” born by the entrepreneurs ( $WP < 0$ ) is equal to the positive difference between aggregate saving and aggregate investment, provided it is understood that aggregate saving include savings by entrepreneurs on their “normal remuneration”.

This was not JdL’s understanding of the case, as testified by his remark above: “the money income of the public does not depend on the sale price of the products.” In JMK’s view, the “money income of the public” (“the normal remuneration of the entrepreneurs” included) is one and the same thing as the cost of production, i.e. “the expected price” of the output.<sup>13</sup> It is only if aggregate investment (determined independently) differs from aggregate saving that “the actual sale proceeds” differ from the expected cost-price and generate positive (or negative) “windfall profits” added to (or subtracted from) “the normal remuneration of the entrepreneurs”. Removing the incident proposition referring to “the expected price” of output amounted for JdL considering as sole “sale price of the products” the *actual* sale price, the whole earnings of the entrepreneurs being equal to the difference between this actual price and the cost of production. In other words, not only the “profits” in JMK’s sense (i.e. “windfalls”) were excluded from the cost of production, but also any “normal remuneration of the entrepreneurs”. Logically, JMK insisted that this implied removing the entrepreneurs from “the public” (i.e. income earners), and suggested to explicit that restriction: “What about your suggestion of suppressing the words you italicise and substituting for ‘the public’ – ‘the public other than the entrepreneurs’?”

Why did JMK “have no particular objection” to JdL’s suppression of the incident proposition, provided the exclusion of the entrepreneurs from “the public” be made explicit? It is easy to see that these combined changes left the main conclusion unaltered. Let  $\Pi$  be the profits of the entrepreneurs, defined as the difference between the actual sale price of output and the incomes  $E_P$  paid to the public (i.e. the factors of production, entrepreneurs excluded),  $S_P$  the savings of the public, and  $I$  the aggregate investment. By definition:

$$(2) \quad \Pi \equiv [I + (E_P - S_P)] - E_P \equiv I - S_P$$

The total profits of the entrepreneurs are now identically equal to the difference between aggregate investment and the savings of the public (entrepreneurs excluded), as in (1) the windfall profits were identically equal to the difference between aggregate investment and aggregate saving (entrepreneurs included).

JMK’s main argument in *GT* was however different from the one in the *Treatise*; the sentence quoted by JdL was followed by the conclusion: “... entrepreneurs are bound to make a loss equal to the difference; and this will be the case absolutely irrespective of money

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<sup>13</sup> “We propose to mean identically the same thing by the three expressions: (1) *the community’s money income*; (2) *the earnings of the factors of production*; and (3) *the cost of production*; and we reserve the term *profits* for the difference between the cost of production of the current output and its actual sale proceeds, so that profits are not part of the community’s income as thus defined.” (Keynes 1930: 111; JMK’s italics)

wages.” (*GT*: 261-2) This was the important point for JMK: unless a decline in money wages had a positive impact on investment – a possibility he denied later on in the chapter – it would not increase the profits of entrepreneurs and consequently would not induce them to increase the level of employment. This conclusion, which at the time of Keynes as today was of a crucial importance for the design of a policy aiming at lowering unemployment, derived from (2) as well as from (1), and it was not affected by a change in the conception of entrepreneurs’ earnings. One may thus understand why JMK accepted JdL’s suggested change, with a definitional qualification.

### 3.2. The behaviour of lenders and borrowers in a financial crisis

This is an example of an exchange of correspondence on a subject for which JdL justified his insistence in a dramatic way: “I apologise for troubling you with these considerations, but this passage is the only one in the entire book that I have not understood.” (JdL, 28/03/39; 127) And JMK had to confess: “Yes, you are right in thinking that I have got myself here into a muddle.” (JMK, 03/04/39; 129) The issue was a financial crisis described in Chapter 15 of *GT* as follows:

“The most striking examples of a complete breakdown of stability in the rate of interest, due to the liquidity function flattening out in one direction or the other, have occurred in very abnormal circumstances. In Russia and Central Europe after the war a currency crisis or flight from the currency was experienced, when no one could be induced to retain holdings either of money or of debts on any terms whatever, and even a high and rising rate of interest was unable to keep pace with the marginal efficiency of capital (especially of stocks of liquid goods) under the influence of the expectation of an ever greater fall in the value of money; whilst in the United States at certain dates in 1932 there was a crisis of the opposite kind – a financial crisis or crisis of liquidation, when scarcely anyone could be induced to part with holdings of money on any reasonable terms.” (Keynes 1936: 207-8)

JdL raised two points. One concerned the expression “in one direction or the other”: “Perhaps it would be well to indicate what directions are meant. I suppose it is the directions of the axes of the co-ordinates.” (JdL, 07/03/39; 120) JMK answered: “On page 207, perhaps the meaning would be made clearer if the words were added – ‘so as to be unsusceptible to changes in the rate of interest’.” (JMK, 13/03/39: 123) JdL felt that he had not been understood correctly:

“But what to me appears ambiguous is not the term ‘flattening out’ which, on the contrary, is very clear, but the expression ‘in one direction or the other’. Would it not be better to replace this expression by ‘in case of sharp rise or fall in the prices’?” (JdL, 28/03/39; 127)

JMK accepted the suggestion (JMK, 03/04/39; 129).

The other point raised by JdL was the suggestion to add “or debts” after “holdings of money” in the second case of crisis, since

“if the words ‘or debts’ are not added, the reader may believe that what is referred to is the transactions in money against debts which have been considered in the preceding paragraph.” (JdL, 07/03/39; 120)<sup>14</sup>

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<sup>14</sup> This “preceding paragraph” referred to the liquidity trap: “There is the possibility, for the reasons discussed above, that, after the rate of interest has fallen to a certain level, liquidity-preference may become virtually

JMK disagreed with the suggestion, because of the ambivalent nature of the word “debts”:

I am not quite sure here whether your addition makes it quite clear. My meaning is that, in the first case [as for Russia and Central Europe after the war] no-one would borrow, and in the second case [as for the United States in 1932] no-one would lend. But if one says ‘no-one can be induced to part with holdings of debts’, this is ambiguous, and might mean either that they were unwilling to lend or unwilling to borrow. I think your point could be made by writing [in the second case] ‘when scarcely anyone could be induced to part with holdings of money or to lend on any reasonable terms’.” (JMK, 13/03/39; 123; underlined by JMK)

In his next letter, JdL felt “obliged to revert to the last paragraph of page 207.” (JdL, 28/03/39; 127) After recalling his suggestion and JMK’s counter-suggestion, he wrote:

“In the light of these explanations I see that in the first place I had given an entirely wrong sense to this proposition. Unfortunately, I must confess that even now it seems still very obscure to me. For in the first case, i.e., the case of flight from the currency, it seems to me that, contrary to what is stated in the above sentence [in JMK’s letter] everybody wishes to borrow for the purpose of buying goods, and that no one is willing to lend. In the second case, i.e., the case of a financial crisis such as occurred in the United States in 1932, nobody will borrow because prices are falling, whereas everybody is prepared to lend provided good security is given. Is it not abstention on the part of borrowers that, in the second case, would make the rate of interest indeterminate? So that what should be stated is: ‘Scarcely anyone could be induced to borrow however low the rate of interest?’” (JdL, 28/03/39; 127)

JdL thus put JMK’s argument upside down, by completely reversing the expected behaviour of lenders and borrowers in each of the two cases of crisis. JMK accepted the critique:

“Yes, you are right in thinking that I have got myself here into a muddle. But it is not easy to put it right in a few words. It is due to the confusion between a state of affairs when people are unwilling to borrow money for the purpose of buying assets, and a state of affairs when they are anxious to borrow money for the purpose of hoarding and increased liquidity. The trouble is that in the U.S.A. in 1932 nobody wanted to borrow to buy assets, but there was a terrific demand to borrow for increased liquidity against possible and contingent commitments. Looking back, I expect that is why I omitted ‘debts’ in my original text. I suggest that the best way getting consistent is to return to the original text, on page 208, simply speaking of money, making no reference to debts at all. But perhaps I could meet your point and get the symmetry between the two cases by omitting the words ‘or of debts’ where I am speaking of Russia and Central Europe on page 207. We are then simply dealing with money in both cases, and can avoid going into the question of two possible purposes for borrowing, such as existed in the U.S.A. in 1932.” (JMK, 03/04/39; 129)

JMK thus acknowledged JdL’s point that agents might be reluctant to borrow in a situation of deflation, as in the United States in 1932, when borrowing was intended to finance the purchase of assets whose prices were expected to go on falling. But this reluctance went along with “a terrific demand to borrow for increased liquidity”, since agents caught in a liquidity-crisis were desperate to find cash. Rather than digging into that complication, JMK preferred to avoid it by simply returning to his original formulation, which – contrary to JdL’s suggestion – only referred to “holdings of money” and not to debts. Since JdL’s objection also

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absolute in the sense that almost everyone prefers cash to holding a debt which yields so low a rate of interest. In this event the monetary authority would have lost effective control over the rate of interest.” (Keynes 1936: 207; Keynes 1942: 222-3)

targeted the first case, JMK adopted the same treatment for it, deleting the word “or of debts” for alleged reasons of symmetry.

JdL agreed:

“As regards page 207 I agree with you that it will be preferable to eliminate the word ‘debts’ in the two sentences in question.” (JdL, 30/04/39; 132)

The French edition consequently adopted in the first case the translation of “induced to hold money” and in the second case the translation of “liquid holdings” (Keynes 1942: 223). It may however be regretted that this discussion between the author and the translator on such an important issue for the understanding of a financial crisis did not find its way in the French edition or in a subsequent English one.

### 3.3. Precisions on particular points

On some points JMK simply explained their meaning in response to a question by JdL. For example, in his letter of 26 October 1938, JdL asked about a sentence from Chapter 15 (Keynes 1936: 208) on the lender’s risk; JMK answered on 12 November, stressing the asymmetry of information:

“The point is that the lender has to charge a risk premium against possible default to the honest and dishonest alike. To the honest borrower, however, this is a pure increase of cost, since he has no intention to default. The discrepancy arises out of the fact that the risk in the mind of the lender is different from the risk in the mind of the borrower.” (JMK, 12/11/38; 97)

On other points JMK acknowledged some kind of obscurity in the original English and suggested precisions which, adopted by JdL, made the French translation clearer than the original English. An example is given in Chapter 20 with footnote 2 on p. 283. In his letter dated 8 May 1938, JdL confessed he did not understand how JMK passed from one equation to the other. JMK’s next letter provided the answer:

“As regards the second footnote on page 283 you have every excuse not to understand it. I telescoped the argument, and many readers have failed to follow it. The clue is to be found in the fact that the marginal product of labour is equal to the wage. But there is also a tiresome series of substitutions, and I enclose the argument in a fuller form on the attached sheet.” (JMK, 02/06/38; 88)

The hand-written “attached sheet” contained the relation of equality between the marginal product of labour and the wage, followed by four lines of mathematical “substitutions”. The footnote in the French edition (Keynes 1942: 299) reproduced these precisions.

There were also points on which JdL himself made suggestions or critiques as to the English text, JMK usually endorsing these remarks. In that case, the economic meaning of the English text was improved through the exchange of correspondence. For example, in a sentence which read “it will tend to increase the balance of trade” (Keynes 1936: 262), JdL suggested to substitute “improve” for “increase” (JdL, 26/10/38; 92); JMK answered: “Yes, you are right” (JMK, 12/11/38; 97). JdL proposed to replace the sentence “when the output of a given community increases (or decreases) because more (or less) employment is being

applied to its capital equipment” (Keynes 1936: 250) by “when the output of a given community increases (or decreases) because the employment in investment industries is increased (or diminished)” (JdL, 07/03/39; 120). JMK commented: “I have certainly adopted here a very obscure form of wording. Thank you for calling my attention to it. Your correction is a great improvement.” (JMK, 13/03/39; 123)

Finally there was a point concerning the history of economic thought. In the original English preface to the French edition, JMK wrote:

“It is the function of the rate of interest to preserve equilibrium, not between the demand and the supply of new capital goods, but between the demand and the supply of money, that is to say between the demand for *liquidity* and the means of satisfying this demand. I am here returning to the doctrine of the older, pre-nineteenth century economists. Montesquieu, for example, saw this truth with considerable clarity, – Montesquieu who was the real French equivalent of Adam Smith, the greatest of your economists, head and shoulders above the physiocrats in penetration, clear-headedness and good sense (which are the qualities an economist should have).” (Keynes 1971-1989, VII: xxxiv; JMK’s emphasis)

The draft of the translation of this preface is not extant, but a letter of JMK contains an interesting reaction:

“As regards your translation of my preface, I have no criticisms except on page 5, where you represent me as calling Montesquieu ‘l’égal français’ [the French equal] of Adam Smith. I did not mean to go so far as to suggest he was the equal of Adam Smith, at least so far as economics is concerned. (Taken as a whole, I would indeed reckon his work equal). I meant rather that, so far as economics was concerned, he was the equivalent of Adam Smith, that is to say, the comparable figure. How would it do to say ‘le complément français’, or something like that?” (JMK, 22/06/39; 136; underlined by JMK)

JdL then adopted the expression “... Montesquieu, le plus grand économiste français, celui qu’il est juste de comparer à Adam Smith, ...” (Keynes 1942: 12) [“... Montesquieu, the greatest French economist, the one who may rightly be compared to Adam Smith ...”].

#### 4. AN IMPORTANT AMENDMENT TO CHAPTER 17

On 7 March 1939, while the translation process was coming to an end, JdL sent JMK a letter suggesting a change in the wording of an important sentence in Chapter 17 and containing the first draft of the lexicon with three definitions of a concept used in that chapter: the own-rate of interest. The suggestion was explicitly accepted by JMK, who in addition raised no objection to the three definitions. It might be inferred that, notwithstanding terminological problems, the translation of “the most difficult chapter of all to render” (JMK, 12/11/38; 97) raised no analytical difficulty. The devil being often in the details, one should however ask two questions. First, did JMK’s acceptance of the suggested change prove it was innocuous? Second, was that change consistent with the lexical definitions proposed by JdL at the same time? Before asking these questions, it may be useful to recall the object of Chapter 17 of *General Theory* – which may explain why JdL devoted a particular attention to it – and to examine the relation between JdL’s suggestion and a criticism of Chapter 17 by Arthur Cecil Pigou, mentioned as the origin of that suggestion.

#### 4.1. The object of Chapter 17

After Chapter 11 (“The Marginal Efficiency of Capital”), Chapter 17 (“The Essential Properties of Interest and Money”) was the only other chapter of *General Theory* whose draft translation was submitted by JdL to its author. In Deleplace (2013a) I have shown why Chapter 11 may have produced “an illumination” when JdL discovered *General Theory*. His interest for Chapter 17, in spite of its complexity, is easy to understand: this chapter was meant by JMK as a development of the theory of the determination of the equilibrium level of aggregate investment contained in Chapter 11. This was announced by JMK at the beginning of Chapter 17:

“It seems, then, that the *rate of interest on money* plays a peculiar part in setting a limit to the level of employment, since it sets a standard to which the marginal efficiency of a capital-asset must attain if it is to be newly produced. That this should be so, is, at first sight, most perplexing.” (Keynes 1936: 222; Keynes 1942: 238; JMK’s emphasis)

The aim of Chapter 17 was then at lifting that perplexity. JMK started by introducing the notion of “own-rates of interest” (“as we may call them”; Keynes 1936: 223; Keynes 1942: 239), which were for commodities of the same nature as the rate of interest on money, and formulated the result he intended to establish as follows:

“This, we shall find, will lead us to the clue we are seeking. For it may be that it is the *greatest* of the own-rates of interest (as we may call them) which rules the roost (because it is the greatest of these rates that the marginal efficiency of a capital-asset must attain if it is to be newly produced); and that there are reasons why it is the money-rate of interest which is often the greatest (because, as we shall find, certain forces, which operate to reduce the own-rates of interest of other assets, do not operate in the case of money).” (Keynes 1936: 223-4; Keynes 1942: 239; JMK’s emphasis)

Consequently, the argument developed in Chapter 17 was in two parts:

1) The analysis of the adjustment process to the equilibrium level of aggregate investment, through the equalisation of the marginal efficiencies of all assets with the greatest of the own-rates of interest:

“As output increases, own-rates of interest decline to levels at which one asset after another falls below the standard of profitable production; – until, finally, one or more own-rates of interest remain at a level which is above that of the marginal efficiency of any asset whatever.” (Keynes 1936: 229; Keynes 1942: 245)

2) The analysis of the forces which make the rate of interest on money the greatest of all own-rates of interest:

“In attributing, therefore, a peculiar significance to the money-rate of interest, we have been tacitly assuming that the kind of money to which we are accustomed has some special characteristics which lead to its own-rate of interest in terms of itself as standard being more reluctant to fall as output increases than the own-rates of interest of any other assets in terms of themselves. Is this assumption justified? Reflection shows, I think, that the following peculiarities, which commonly characterise money as we know it, are capable of justifying it.” (Keynes 1936: 229-30; Keynes 1942: 246)

This argument was summed-up in the following way:

“Our conclusion can be stated in the most general form (taking the propensity to consume as given) as follows. No further increase in the rate of investment is possible when the greatest amongst the own-rates of own-interest of all available assets is equal to the greatest amongst the marginal efficiencies of all assets, measured in terms of the asset whose own-rate of own-interest is greatest.” (Keynes 1936: 236)

JMK thus considered that, to determine the equilibrium level of aggregate investment, one should rank the marginal efficiencies of all assets after having: a) measured them in terms of one common asset; b) which was the one having the greatest own-rate of interest. This “conclusion [...] in the most general form” was the object of JdL’s suggestion in his letter of 7 March 1939.

#### 4.2. From Pigou’s criticism to Largentaye’s suggestion

After having translated literally the “conclusion” above in the first draft sent on 26 October 1938, JdL came back to it four months later when he revised the translation of Chapter 17 on the basis of the remarks made by JMK and Sraffa. He then objected that any standard could be chosen, giving the same result as to the rate of investment:

“I notice that Professor Pigou (*Economica*, May 1936, p. 124) used this sentence to criticise the theory set forth in Chapter 17. Would it not be useful:

1. – To indicate more clearly that the own rates of interest are determined in the same standard of value?
2. – To leave out the restriction “measured in terms of the asset whose own rate of own interest is greatest”? What is being dealt with is, in fact, the most general form of the proposition. It seems that this would remain valid whatever be the standard of value selected.

The sentence would then read as follows: - ‘No further increase in the rate of investment is possible when the greatest amongst the own-rates of own-interest of all available assets, in terms of any standard of value, is equal to the greatest amongst the marginal efficiencies of all assets, in terms of the same standard’.” (JdL, 07/03/39; 120; underlined by JdL)

Since it was mentioned by JdL as the starting point of his suggestion, one should go back to Pigou’s article, which labelled the same sentence “a prose passage which cries out for quotation” (Pigou 1936: 124) and criticised it:

“Suppose that the money rate of interest is 5 per cent. and the wheat rate 4 per cent., that a quarter of wheat now costs a £, and that we are deliberating about whether or not to invest an  $r^{\text{th}}$  £. This  $r^{\text{th}}$  £, if invested, is expected to yield a series of returns  $Q_1, Q_2 \dots$  expressed in money, or a series  $R_1, R_2 \dots$  expressed in wheat. To obviate opportunities for arbitrage profit, the present value of the  $Q$  series at 5 per cent. must be the same as that of the  $R$  series at 4 per cent. Both present values alike must be  $\text{£}1 = 1$  quarter of wheat. It makes no difference whatever which standard of value is used. Mr. Keynes has forgotten that, if expected returns are to be discounted at the wheat rate instead of at the money rate, the returns themselves must be expressed, not as sums of money, but as sums of wheat. So soon as this is remembered, his problem, and with it his solution, vanishes in smoke.” (Pigou 1936: 125)

If Pigou was right, this criticism of JMK’s sentence did not only call for a change in its wording so as to explicit it “more clearly” – as JdL suggested –; it ruined it completely. There were however two slips in Pigou’s argument.

The first was that Chapter 17 aimed at analysing an *adjustment process to equilibrium*, while Pigou considered the properties of a *stationary equilibrium* (after all “opportunities for arbitrage profit” had been eliminated). JMK did not deny that, when the stationary-equilibrium level of aggregate investment was finally reached, all marginal efficiencies of



capital goods and all own-rates of interest of assets – including the rate of interest on money – were equal: it was precisely that property which prevented aggregate investment from increasing further and thus determined its equilibrium level. The issue was whether that equilibrium was reached through an adjustment process in which the rate of interest on money “rules the roost” – meaning that all marginal efficiencies equalised one after the other with the independently-determined money-rate of interest – or in which the money-rate of interest equalised to some kind of “natural” (i.e. real) rate of interest – as in Wicksell. This had been already the central point in the 1930-1932 debate between Keynes (after the publication of his *Treatise on Money*; Keynes, 1930), Friedrich Hayek (in *Prices and Production*; Hayek, 1931), and Piero Sraffa (in his *Economic Journal* article; Sraffa, 1932), during which Sraffa invented the notion of “commodity-rate of interest” taken up by Keynes in Chapter 17.

As a defender of the Classical approach, Pigou naturally adopted the view that the money-rate of interest had no precedence, and his insistence on the stationary-equilibrium position conveyed that view. Reversing that Classical causality from the real rate of interest (determined by the marginal productivity of capital) to the money-rate of interest, it was essential to JMK to show that the adjustment process to the equilibrium level of aggregate investment was constrained by the level of the money-rate of interest.

The second slip in Pigou’s argument concerned the notion of own-rate of interest itself. As testified by the above quotation (“This  $r^{\text{th}}$  £, if invested, is expected to yield a series of returns  $Q_1, Q_2 \dots$  expressed in money, or a series  $R_1, R_2 \dots$  expressed in wheat”), Pigou interpreted the own-rate of interest of an asset as its marginal efficiency, i.e. “that rate of discount which would make the present value of the series of annuities given by the returns expected from the capital-asset during its life just equal to its supply price.” (Keynes 1936: 135; Keynes 1942: 150) He observed that “it makes no difference whatever which standard of value is used” to calculate that rate, provided the expected returns and the supply price were measured in that standard. Not only JMK had *not* “forgotten that” but he wrote it explicitly in Chapter 17:

“Now each of these commodity standards offers us the same facility as money for measuring the marginal efficiency of capital. For we can take any commodity we choose, *e.g.* wheat; calculate the wheat-value of the prospective yields of any capital asset; and the rate of discount which makes the present value of this series of wheat annuities to the present supply of the asset in terms of wheat gives us the marginal efficiency of the asset in terms of wheat. [...] To illustrate this let us take the simplest case where wheat, one of the alternative standards, is expected to appreciate at a steady rate of  $a$  per cent. per annum in terms of money; the marginal efficiency of an asset, which is  $x$  per cent. in terms of money, will be  $x - a$  per cent. in terms of wheat. Since the marginal efficiencies of all capital-assets will be altered by the same amount, it follows that their order of magnitude will be the same irrespective of the standard which is selected.” (Keynes 1936: 224; Keynes 1942: 240)

In Pigou’s example, the marginal efficiency of the “ $r^{\text{th}}$  £, if invested”, is 5% in terms of money (“the money rate of interest”) and 4% in terms of wheat (“the wheat rate of interest”), but this “makes no difference” as to the equilibrium position. If then, contrary to what Pigou wrote, JMK agreed with him on the measurement of marginal efficiencies, where did the disagreement lie? Obviously in the fact that for JMK the notion of own-rate of interest of an asset was *distinct* from that of its marginal efficiency, and this distinction was essential

for the adjustment process leading to the equilibrium level of aggregate investment: how could the latter be determined through the equalisation of the marginal efficiencies of all assets, one after the other, with the greatest of the own-rates of interest – supposedly that of money – if both notions were one and the same thing?

That insistence on the fact that the marginal efficiency of capital and the rate of interest on money were determined independently from each other – so that aggregate investment stopped increasing when the former fell to the level of the latter – was already present in Chapter 11 (see Keynes 1936: 136-7; Keynes 1942: 151). In Chapter 17, with the money-rate of interest being now conceived as one among many own-rates of interest of assets, their distinction from marginal efficiencies – both as a matter of definition and determination – was central in the analysis of the adjustment process. As far as measurement was concerned, this distinction was as follows: while, as seen above, marginal efficiencies of various assets should be measured in a common standard (whatever it was), own-rates of interest of capital goods were to be measured in terms of themselves – i.e. each in terms of the corresponding good itself:

“Since we are taking each commodity in turn as the standard, the returns on each commodity must be reckoned in this context as being measured in terms of itself.” (Keynes 1936: 225; Keynes 1942: 241)

During the adjustment process, the comparison between the marginal efficiencies of various assets and any own-rate of interest thus implied that marginal efficiencies be measured in the standard in which the chosen own-rate of interest was itself measured:

“Now those assets of which the normal supply-price is less than the demand-price will be newly produced; and these will be those assets of which the marginal efficiency would be greater (on the basis of their normal supply-price) than the rate of interest (both being measured in the same standard of value whatever it is).” (Keynes 1936: 228; Keynes 1942: 244)

Finally, since the equilibrium level of aggregate investment was reached when the greatest of all marginal efficiencies had fallen to the level of the greatest of all own-rates of interest, the standard in which the latter was measured should be used to measure these marginal efficiencies. This was the meaning of the quotation criticised by Pigou and discussed by JdL, in which JMK called the own-rate of interest measured in terms of itself “the own-rate of own-interest” of an asset.

One would then expect that, on a point so essential in his argument, JMK would reject JdL’s suggestion of determining all own-rates of interest in *any* common standard. The answer by JMK to that suggestion was therefore rather surprising:

“In order to be quite sure what is right here, I should have to work through the whole of this difficult chapter again. At first sight, however, I admit that I do not see any objection to your proposed change. I feel that I probably had some reason for putting it in the way I did at the time, but at the moment I am not able to see what that reason was. I am, therefore, ready to accept your proposed amendment.” (JMK, 13/03/39; 123)

This “amendment” was consequently adopted in the French edition, which made explicit that “the own-rates of own-interest of all available assets” were “expressed in a given standard” and that the marginal efficiencies to which they were compared were “expressed in

the same standard” (Keynes 1942: 252-3; my translation), thus deleting Keynes’s original contention that this standard was “the asset whose own-rate of own-interest is greatest.” (Keynes 1936: 236)

Why then did JMK retreat from his “conclusion [...] in the most general form” and accept JdL’s suggestion which contradicted it? Probably his embarrassment arose from not feeling on solid ground to defend that conclusion as it was written.

#### 4.3. A previous discussion on two definitions of the own-rate of interest

The difficulty lied in the definition of the own-rate of interest. There were in fact two definitions, and their consistency had been a subject of private discussion when the English edition came out.

The quotation pinpointed by JdL was based on the *second* definition, given in *General Theory* on p. 226 (Keynes 1942: 242): “the total return expected from the ownership of an asset over a period is equal to its yield *minus* its carrying cost *plus* its liquidity-premium.” A *first* definition had been given on p. 223 (Keynes 1942: 239): the own-rate of interest of a commodity was calculated as the rate of interest on money *minus* the difference between the forward price and the spot price of that commodity; “this relationship” (*ibid*) was borrowed from Sraffa (1932), to which a footnote referred. Answering to a question raised by John Hicks (in Keynes 1971-1989, XIV: 74) about the relation between the demand for a commodity and its own-rate of interest, JMK had tried to clarify the relation between these two definitions:

“I am afraid that I have here misled you (just as I have misled Pigou in his review in *Economica*) by omitting a necessary qualification on page 223 of my book. In the passage near the top of page 223 I was not intending to do more than to give an example by which I would lead the reader on to the formal definition which I give a few pages later, on page 226. The accurate definition of rate of interest is on page 226. The illustration on page 223 requires a qualification which I have omitted. [...] I left it to the context to imply that I had in mind an investment commodity, i.e. a commodity of which there are stocks in existence in excess of current consumption.” (JMK to Hicks, 08/09/36; in Keynes, 1971-1989, XIV: 76)<sup>15</sup>

The answer by Hicks was as follows:

“I have been considering very carefully the definitions on p. 223 and p. 226, to which you referred in your last letter. I think I see the difference between them. But I am most puzzled to find you saying that 226 is the right definition, 223 the wrong. I should have thought it was the other way round. For surely one always understands the rate of interest to be a market phenomenon, not a subjective one; so that the *x*-rate of interest must be the rate of exchange of present *x* for future *x*, even if *x* is perishable.” (Hicks to JMK, 16/10/36; in Keynes, 1971-1989, XIV: 78)

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<sup>15</sup> Pigou’s article is the review of *General Theory* discussed above. The point on which JMK acknowledged having misled Pigou was thus the durable character of the commodities to which the notion of own-rate of interest applied. This was consistent with JMK’s second definition of that notion, based on the yields provided by the use of a capital good, but, as we will see, it was in no way implied by the first. In any case, this could not have misled Pigou, who, as seen above, had understood the own-rate of interest as the marginal efficiency of a capital good. No other reference by JMK to Pigou’s review of *General Theory* is extant.

No answer by JMK to that letter is extant; one may only conjecture the trouble felt by JMK. By stressing the yield provided by the use of an “investment commodity”, the second definition of the own-rate of interest made it resemble the marginal efficiency of capital, although with two differences: an element – the liquidity premium – was added to the yield to determine the own-rate of interest, and the latter was defined in terms of itself and not in a common standard. Both notions had however in common to be computed by the owner of the asset on the basis of expected returns – it was a “subjective rate” as put by Hicks.

Moreover, although there is no material evidence that this point was discussed with JMK, Sraffa himself – the inventor of the concept of “commodity-rate of interest” – had been critical of JMK’s use of that concept in Chapter 17, as testified by his manuscript notes found in his own copy of *General Theory*:

“What K.[eynes] ought to have spoken of throughout (e.g. [page] 229 [of *GT*] top) is *marg.[inal] efficiencies* of various articles, and not their rates of interest.” (*Sraffa Papers*, I 100<sup>11</sup>; Sraffa’s emphasis)

The fact that it was measured in terms of itself did not help:

“Sect. II. [of *GT*, Chapter 17] Entirely different definition of rates of interest. These are marginal productivities. Confusion of lumping two def.[initions] together in own rates of own interest” (*ibid*, I 100<sup>6</sup>; underlined by Sraffa)<sup>16</sup>

The suspicion that the own-rate of interest of a capital good was nothing else as its productivity had already been noticed by Dennis Robertson in his comments on a draft of Chapter 17.<sup>17</sup>

As mentioned above about Pigou, if the own-rate of interest was identical with the marginal efficiency or productivity of capital, there was no longer any adjustment mechanism through which the rate of interest on money constrained the equilibrium level of aggregate investment. The very object of Chapter 17 disappeared.

There was no such risk with the first definition of the own-rate of interest. It reflected the contango on the commodity traded on spot and forward markets – it was “a market phenomenon” as put by Hicks – and applied to any commodity so traded, “even [...] perishable” – contrary to JMK’s “qualification” (Sraffa also insisted on that point). JMK’s analysis was however substantially altered by such a definition. Since the own-rate of interest of a commodity was calculated on the basis of the money-rate of interest (minus the contango) it could not be considered independent of money, contrary to the second definition. Reciprocally, the money-rate of interest could no longer be considered as a particular case of own-rate of interest – supposedly the one that declined less than the others because of the peculiarities of money. The money-rate of interest still constrained the level of aggregate investment, but not because of those peculiarities – it did so because money was the

<sup>16</sup> For a discussion of Sraffa’s notes on *General Theory*, see Deleplace (2014).

<sup>17</sup> “What now seems to emerge is that, in spite of the disparagement of ‘productivity’ in the preceding chapter, your *generalised* theory of interest on p. 5 is an almost pure productivity theory. It is because wheat is productive in terms of itself that the ryot [in India] is able to offer an own-rate of interest on wheat borrowed to be repaid after the harvest.” (Robertson to JMK, 10/02/35, in Keynes, 1971-1989, XIII: 508-9; Robertson’s italics)

standard.<sup>18</sup> The damage done to Chapter 17 was less severe, but it obliged to reconstruct the adjustment process with a different view.<sup>19</sup>

JdL's suggestion about the formulation of the conclusion of Chapter 17 resurrected thus older analytical difficulties. His understanding of the own-rate of interest as being measured in a common standard of value (as were marginal efficiencies) was inspired by Pigou. That was not enough to trouble JMK, but brought back to the surface Hicks's and Sraffa's criticisms of the definition of the own-rate of interest in the sentence quoted – hence his alleged amnesia about the “reason for putting it in the way I did at the time”. This might explain why JMK downplayed his reservations about JdL's suggestion and accepted it.

An echo of these analytical difficulties is to be found in the lexicon of the French edition of *General Theory*, where JdL had to provide definitions matching quotations from the original English text. This raises the question of the consistency between the amendment to Chapter 17 suggested by JdL and the definitions of the own-rate of interest given in the lexicon.

#### 4.4. The own-rate of interest in the French text and in the lexicon

When the first draft of the translation of Chapter 17 was submitted by JdL to JMK on 26 October 1938, and transmitted by JMK to Sraffa, the appropriate French equivalents for “own-rate of interest” – the expression coined by JMK – and “commodity-rate of interest” – the one inherited by JMK from Sraffa (1932) – were already discussed. JdL had translated “own-rates of interest” literally (“taux propres de l'intérêt”). Sraffa suggested “taux d'intérêt spécifiques” [specific rates of interest], with the following comment: “‘Propres’ is moderately good, and literal; perhaps better ‘spécifique’, which however is different from the original.” This was adopted by JdL.

The translation of “commodity-rate of interest” was more controversial. Sraffa – who was the inventor of the concept – rejected JdL's translation into “taux d'intérêt d'une richesse” (“richesse” being the French for “wealth”) and argued for the literal “taux d'intérêt par marchandise” [commodity-rate of interest]: “‘Commodity’ should be transl. as ‘marchandise’ – or in any case something less abstract than ‘richesse’.” JdL resisted, adding in his handwriting on the note provided by Sraffa: “aciérie n'est pas une marchandise, terre n'est pas un produit” [a steel plant is not a commodity, a land is not a product]. This was only half-true: the “commodity-rate of interest” mentioned by JMK at the beginning of the chapter – based on the *first* definition of the own-rate of interest – obviously referred to goods produced, as might be expected in an enquiry about the determination of the level of aggregate investment; a steel plant was a commodity in that sense. Nevertheless, by keeping “richesse” every time the word “commodity” appeared in Chapter 17 of the published volume (or, alternatively, by translating “commodity-rate of interest” into “taux d'intérêt spécifique”, i.e. the translation of “own-rate of interest”), JdL was faithful to JMK who applied the *second* definition of the own-rate of interest to every form of wealth, including those with a very low elasticity of production, such as money and land (Keynes 1936: 241; Keynes 1942: 257-8).

<sup>18</sup> This would be later highlighted in Kaldor (1961).

<sup>19</sup> See Kaldor (1961), Deleplace and Lavialle (2002).

Here also, the translation made by JdL unveiled analytical difficulties, on which Keynes and Sraffa might be at variance.

In the first draft of the lexicon sent by JdL on 7 March 1939, three entries related to the own-rate of interest, none of them being later annotated by JMK or Sraffa. The definitive version of the lexicon thus repeated the same three entries, the only addition being the mention in parentheses of the original English expression (for reasons described in my paper on terminological difficulties).

A first entry reads “Le *taux d'intérêt* d'une richesse quelconque (own rate of interest), déterminé au moyen de cette richesse elle-même” (Keynes 1942: 406) [The *rate of interest* of any wealth, determined in terms of that wealth itself; JdL's emphasis]; the definition is derived from the “relationship” on p. 223 of *General Theory* and refers to the exchange between the quantities of a wealth contracted for forward and spot delivery. A second entry reads “Le *taux d'intérêt spécifique* d'une richesse, déterminé au moyen d'un étalon de valeur quelconque (own rate of interest in terms of a standart [sic] of value)” (*ibid.*) [The *specific rate of interest* of a wealth, determined in terms of any standard of value; JdL's emphasis]; the definition repeats the first one, the quantities contracted being replaced by values, “both values being expressed in terms of the chosen standard”. A third entry reads “Le *taux d'intérêt spécifique monétaire* (own rate of money interest) est le taux d'intérêt d'une richesse déterminé au moyen de la monnaie prise comme étalon de valeur” (*ibid.*) [The *monetary specific rate of interest* is the rate of interest of a wealth determined in terms of money as the standard of value; JdL's emphasis].

Two remarks can be made on these entries. First it is striking that the second entry mentions an English expression which is *not* in the original, where one finds either the own-rate of interest of an asset in terms of itself (labelled most often “own-rate of interest” and also “own-rate of own-interest” in the quotation discussed above) or the own-rate of interest in terms of money (labelled “own-rate of money-interest”), equal to the own-rate of interest *plus* “the expected percentage appreciation (or depreciation)” (Keynes 1936: 227; Keynes 1942: 243) of the asset in terms of money over the period. It is true that JMK himself had remarked that the own-rate of money-interest implied “taking money (which need only be a money of account for this purpose, and we could equally well take wheat) as our standard of measurement” (*ibid.*); the parenthesis allowed then JdL to consider that the own-rate of interest in terms of any standard of value was an intermediate step between the own-rate of interest in terms of the asset itself and the own-rate of money-interest. Moreover, as seen above, this expression was consistent with JdL's suggested change in the quotation he discussed in the same letter of 7 March 1939, i.e. the rewriting of the conclusion of Chapter 17 to specify that all own-rates of interest were determined in terms of any common standard of value.

The other remark is more puzzling: there is *no* reference in the lexicon to the *second* definition of the own-rate of interest contained in the text of Chapter 17 (as “the total return expected from the ownership of an asset over a period”; Keynes 1936: 226; Keynes 1942: 242). The three entries all refer to the *first* definition in terms of an exchange between forward

and spot contracts.<sup>20</sup> As a consequence, contrary to what is suggested by the substitution of the word “value” in the second entry for the word “quantity” in the first entry, there is no difference between the definitions contained in the two entries, since the forward “quantity” exchanged for the spot one (first entry) can only be computed on the basis of the forward “value” exchanged for the spot one, this “value” being either measured in terms of any standard (second entry) or in money (third entry). The calculus made by JMK when he introduced the first definition of the own-rate of interest on p. 223 (Keynes 1942: 239) made that clear, since “the wheat-rate of interest” was computed on the basis of forward and spot wheat-contracts denominated in pounds sterling. By the way, JdL implicitly acknowledged that the three entries of his lexicon were in fact one and the same (the only difference between the second and third coming from the choice of the standard), since he used in the text of Chapter 17 the French expression defined in the second entry (“taux d’intérêt spécifiques”) for the translation of “own-rates of interest” – the English expression added in parentheses to the first entry of the lexicon.

A surprising conclusion thus emerges: while JdL’s suggestion about the wording of an important sentence in Chapter 17 was based on the *second* definition of the own-rate of interest (as a return on an asset), his lexicon referred only to its *first* definition (as a relation between the spot and forward prices of a commodity). Although, as Sraffa had put it in a letter to Keynes after having read the translation of Chapter 17, “On the whole it is remarkable how well he [JdL] understands the English and the Economics”, Largentaye could not avoid doing the splits on a question which had given rise to theoretical criticism by sophisticated scholars and led Keynes himself to doubts on the exact meaning of what he had written.

## 5. CONCLUDING REMARKS

Returning to Largentaye the draft of the Translator’s Note asked by the French publisher, Keynes wrote in his accompanying letter:

“First of all, let me thank you sincerely for your comment. This, if I may say so, seems to be excellently done, and I have no material criticisms. I thank you for it.” (JMK, 22/06/39; 136)

The Translator’s Note was very appreciative of the book and focused on the differences between *General Theory* and what Largentaye called “traditional theory”. Keynes’s satisfaction as to the content of this note confirmed his positive judgment on the outcome of the translation process, which he had expressed in a previous letter as follows:

“What a heavy work this has been! I hope you have not felt overburdened by it. I much appreciate how much trouble you have taken, and the success with which you have tackled an awkward task.” (JMK, 03/04/39; 129)

This appreciation contrasted with Keynes’s (and Sraffa’s) reactions to the first drafts one year before. No doubt the exchanges of correspondence between the author and the

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<sup>20</sup> This may be the reason why Sraffa raised no objection to these entries in the lexicon. As noted above, his own conception of the “commodity-rate of interest” corresponded to the *first* definition of Keynes’s “own-rate of interest”, and he criticized the *second*, which in his view was not a rate of interest but a marginal productivity.

translator during the whole year taken by the translation process – complemented with Sraffa’s written and oral interventions – considerably improved its outcome. But there was not only that. The closely argued discussion about the appropriate translation of the technical terms led Largentaye to introduce under his own responsibility a pedagogical innovation finally accepted by Keynes: a “lexicon” which provided definitions of these terms with the mention of the English original and quotations from the text. Moreover, Largentaye’s critical remarks and suggestions as to the analytical content of the book allowed Keynes being more precise on some obscurities in *General Theory*, which were corrected in the French edition and could have been corrected also in a subsequent English one, had it existed.

Although outside circumstances due to the war much delayed the publication, the French translation offers thus a rare example of a true collaboration between an author and the translator of a book in economics.

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