

HARROD, KALDOR, AND THE IDEA OF THE ‘FOREIGN TRADE MULTIPLIER’

The Theory of Economics does not furnish a body of settled conclusions immediately applicable to policy. It is a method rather than a doctrine, an apparatus of mind, a technique of thinking, which helps its possessor to draw correct conclusions.

J.M. Keynes, from the “Introduction to the Series” of the Cambridge Economic Handbooks, in *International Economics*, May 1933

1. INTRODUCTION

It still seems that the merit of having introduced into economic literature the concept of ‘multiplier’ is under discussion¹. However, the concept of the ‘foreign trade multiplier’ is, by common consent, ascribed to Sir Roy Harrod, all the more because, in specialized literature, we often refer to ‘Harrod’s foreign trade multiplier’. For example, in the New Palgrave Dictionary, the entry ‘foreign trade multiplier’ states that

“the foreign trade multiplier appears in modern form in a textbook (Harrod, 1933) written three years before Keynes’s *General Theory*” [Coutts, (1987), 411].

More recently, McCombie and Thirlwall, in the Introduction of their book *Essays on Balance of Payments Constrained Growth*, wrote:

“It was Harrod, however, who first introduced explicitly the idea of the foreign trade multiplier (i.e. income adjustment as opposed to relative price adjustment) as the mechanism by which a country’s balance of payments is brought back into equilibrium in his book *International Economics*, published in 1933, which thus predates Keynes’s saving-investment multiplier for the closed economy (although not its precursors e.g. Kahn, 1931; Warming, 1932)” [McCombie and Thirlwall (2004), p. 7].

Given that the original edition of *International Economics* dates back to May 1933, there is no doubt that this book came three years

¹ See, for example, Darity and Young (1995); Diman (1997 and 2000); Ahiakpor (2000 and 2001).

before the publication of Keynes's *General Theory*². However, it seems strange that in the first edition neither the expression 'foreign trade multiplier', nor the term 'multiplier' were mentioned³. The latter appeared only in the revised and reset edition of January 1939, where Harrod used the expression 'the multiplier method' to define the total income as

"the product of the reciprocal of the proportion of income devoted to goods made abroad and the value of exports" [Harrod (1942), p. 123].

In the following four editions of *International Economics*⁴, the expression 'foreign trade multiplier' appeared only in Harrod's preface to the fourth edition (dated June 1957), where on page ix we can read:

"In the 1939 edition I set out (in Chapter 6) what I believe to have been the first statement of the doctrine of the 'foreign trade multiplier', which is now commonly accepted".

However, note that "now" refers to six years after the original edition of 1933.

How did Harrod's thoughts evolve during the four years before the first edition of his book⁵? Moreover, what happened during the six years between the original edition of *International Economics* and Harrod's *The Trade Cycle* of 1939⁶?

Thanks to the recent publication of *The Collected Interwar Papers*

² In fact, the first edition of the *General Theory* dates back to February 1936.

³ This fact was noticed by Phelps Brown, who in his Biographical Memoir of Harrod wrote: "*Implicit in his analysis throughout was the concept of the foreign trade multiplier. That concept was to be made explicit in The Trade Cycle (1936)*". See Phelps Brown (1980), p. 10.

⁴ First published in May 1933, Harrod's book was revised and reset four times in January 1939, in February 1942, in June 1957 and in November 1973. From the first to the last publication it was reprinted fourteen times. See Harrod (1973), p. III.

⁵ In a letter of 27th January 1927, John Maynard Keynes, as editor of the series *Cambridge Economic Handbooks*, suggested to a young and unwilling Roy Harrod to write a pocket handbook for students, of 50-55 thousand words, in which he summarized the essential topics of international economics. See Harrod (2003), Vol. I, letter 131, p. 85.

⁶ The sixtieth anniversary of Harrod's book *The Trade Cycle* was celebrated in a Conference held in Genoa in September 1996. For a selection of the papers presented in that Conference see Rampa *et al.* (1998).

and *Correspondence of Roy Harrod* by Daniele Besomi, and also to some interpretative essays written by Besomi on that extensive correspondence⁷, in the following section we will briefly reconstruct the evolution of Harrod's concept of 'foreign trade multiplier'. From that reconstruction we will clearly understand Harrod's conversion to the 'positive doctrine' of the *General Theory*, and the total absorption of his 'foreign trade multiplier' to the family of the Keynesian multipliers.

In the penultimate section, we will show how, thirty seven years after the first edition of *International Economics*, the idea of a 'foreign trade multiplier', capable of bringing the trade balance back to equilibrium (a characteristic that Harrod gave to it before his conversion), was rediscovered by Nicholas Kaldor, who made this his own idea. From then on, it became the focus around which the different attempts to formalize that process of cumulative causation, so important to Kaldor, rotated⁸, and on which are based the post-Keynesian balance of payments-constrained growth models, on which the debate is still in progress⁹.

2. HARROD'S CONVERSION TO THE 'POSITIVE DOCTRINE'

First flattered by Keynes' suggestion and following extensive correspondence with him about the need of 'an ample margin of time'¹⁰, Harrod formally committed himself to deliver his work in the summer of 1928. However, given that he felt he was not up to this task¹¹, but above all because he had suffered a nervous breakdown,

⁷ In particular, we refer to Besomi's works (1999, 2000, 2004 and 2005).

⁸ Nicholas Kaldor, in one of his last writings confirmed that "(The) process of cumulative causation is no doubt mainly responsible for growing differences, in productivity and real income per head, between rich and poor areas". See Kaldor (1986), p. 23. The first formalization of the process of cumulative causation on Kaldorian's lines is by Dixon and Thirlwall (1975). For recent attempts, see Boyer and Petit (1991), Boggio (1996) and De Benedictis (1998).

⁹ The essential references on this debate are in McCombie and Thirlwall (2004).

¹⁰ See Harrod (2003), letter 131, p. 86.

¹¹ In note 1 to letter 135 Besomi pointed out that "(i)n an autobiographical statement written late in summer 1928, Harrod wrote: 'Nearly two years ago I was commissioned to write a book in a good series. I found myself unequal to the task. I couldn't bring myself to concentrate on it'". See Harrod (2003), Vol. I, p. 87.

apparently due to his mother's poor health, he started working on the book only at the end of 1931 [Besomi (2005), p. 6]. The first proof of *International Economics* was delivered to Dennis H. Robertson, Assistant Editor of the series *Cambridge Economic Handbook*, in April 1932. From the first proof to the final version, delivered in April 1933, Harrod had an extensive and continuous correspondence with Kahn, Meade, Robertson and Keynes himself on different points of the book and the doubt arose whether it was 'suitable for the series'. From the various remarks on Harrod Keynes's own remark, one that stands out is the automatic mechanism to keep the balance of payments in equilibrium by means of output variations¹².

As a result, if Harrod had respected the deadline fixed in the contract signed in 1927, the subject of Chapter VI *The balance of Trade* would have surely been quite different from that in the original edition. However, it was only by the end of 1931 that Harrod knew the existence of that mechanism with which Kahn (1931) related investments to unemployment¹³, given that, on the 10th March 1932, he mentioned it in relation to a paper on the "Theory of Balance of Foreign Payments" presented to the Marshall Society, which gave rise, by the way, to some doubts¹⁴. According to this, we can understand why in the first edition of *International Economics* there is no reference to the concept of *multiplier*. As Besomi properly underlined,

"(i)n 1932 Harrod had grasped the analytical properties of Kahn's employment multiplier and was ready to apply it to foreign trade in the first edition of his book *International Economics* (but he) remained ignorant of the doctrine of effective demand until he read Keynes's *General Theory* in proof during the summer of 1935" [Besomi (2000), p. 348].

¹² Keynes' understanding of Harrod's self-regulating theory of the foreign balance was discussed in Besomi (2005), p. 95.

¹³ It should be pointed out that, referring to "Mr. Meade's relation", Kahn was able to deal with the "effects on a country's exports of a reduction of imports due to tariff". See Kahn (1931), p. 19, n. 1.

¹⁴ This paper has not been found. Anyway, the outline of it is in a letter by Kahn to Harrod [Harrod (2003), letter 229, p. 144-6], and in the minute to the Marshall Society in which Harrod's paper was summarized: "Mr. Harrod explained the way in which his theory of the balance of foreign payments differed from the orthodox theory. (...) He made much use of formulae as a cleaner way of presenting his arguments, which were nevertheless a trifle obscure. In the ensuing discussion the details of Mr Harrod's theory very much criticised, but his main arguments seem to have been accepted". See Besomi's comment, n. 1 to letter 229, in Harrod (2003), p. 146.

In fact, after criticisms were made of Chapter VI of the first edition, he decided to entirely rewrite it for the second edition published in January 1939. From then on, this chapter was no longer changed, and in the following editions, the existence of a 'foreign trade multiplier' different from the Keynesian multiplier was never mentioned¹⁵.

In the years following the first edition of Harrod's book – years in which, as it is well known, the *General Theory* was conceived –, and after having discussed at length with Kahn and Haberler the meaning and the scope of saving in the process of income determination, but, above all, after having read and commented the *General Theory* in proof in 1935 summer, Harrod convinced himself that

"the relation of the savings multiplier to the foreign trade multiplier" required a "radical reconstruction"¹⁶.

Subsequently, just after this radical reconstruction he came to the conclusion, explained later in *Trade Cycle*, that

"there are not two multipliers, but one"¹⁷.

Finally, after the publication of Robertson's note, showing that "Mr. Keynes' verbal exposition of the doctrine of the multiplier"¹⁸, and Harrod's re-exposition of his "elementary theory of the balance of payments in simplified condition"

¹⁵ In the preface to the second edition of *International Economics*, dated January 1939, the only one that appeared in all the successive editions of the book, Harrod wrote: "*In this revised edition Chapters VI-VIII have been completely rewritten. The theory of the balance of trade and the balance of payments has been treated more fully; and its relation to certain modern views regarding fluctuations in employment and the balance of saving and capital outlay at home expounded*". See Harrod (1939).

¹⁶ Harrod (1936), p. 149. Besomi (2000, p. 351) underlined that Harrod, till at least the end of Spring 1935, continued to think "*in terms of natural and market rates of interest, referring to equilibrium as equality of saving and investment, and having price rather than output adjustments in mind*". Harrod understood that the principle of the effective demand was responsible for the process of adjustment between two equilibrium positions of income only after having read Keynes's *General Theory* in proof, and after a long discussion with Kahn, Keynes and Robinson. See Besomi (1997, p. 181 and 2000, p. 371-373).

¹⁷ Ibidem, p. 149.

¹⁸ See Robertson (1939), pp. 354. In that note, Robertson referred to Keynes's pamphlet "The Means to Prosperity". See "The Collected Writing of John Maynard Keynes", vol. IX, *Essays in Persuasion*, Macmillan: London, pp. 335-366.

in *The Trade Cycle*¹⁹ were essentially the same, Harrod began a thorough and extensive correspondence with Robertson, about the characteristics of the foreign trade multiplier [Besomi (2004), p. 100]. Even though John Maynard Keynes took no part in that discussion, he expressed his doubts about how Harrod re-exposed in *The Trade Cycle* the automatic mechanism to bring to equilibrium the balance of payments²⁰. The exchange of letters with Robertson lasted until April 1945, when Robertson decided to give Harrod all their correspondence, inviting him to use the material for some work which never saw the light of day (or at least, there are no traces of it). Concluding his paper “On the Spread of the Idea of the Multiplier” Besomi wrote:

“In the *Trade Cycle* Harrod was thus finally able to recognise his foreign trade balancing mechanism as belonging to the family of the multipliers, and indeed he integrated it, with the investment multiplier and the accelerator, as one of the ‘dynamic determinants’ affecting the variation in aggregate income” [Besomi (2000), p. 371].

Therefore, as Maurizio Pugno (1992) correctly guessed²¹, the idea of a ‘foreign trade multiplier’ characterized by a mechanism for keeping the balance of payments in equilibrium, as opposed to the ‘Keynesian multiplier’ (in an open economy) – i.e. Harrod’s idea *before* his conversion to the ‘positive doctrine’ of the General Theory –, has to be ascribed to Nicholas Kaldor and not to Harrod. In fact Kaldor rediscovered Harrod’s idea in his influential *Lecture* on the case for regional policies, given to the *Scottish Economic Society* in February 1970, where he outlined in full the hypothesis on which Thirlwall (1978) developed his own balance of payments constrained growth theory, which was then approved by Kaldor²².

¹⁹ See Harrod (1936), pp. 149, 153-4.

²⁰ After having read in the first months of 1937 Harrod’s *Trade Cycle*, Keynes wrote to Robertson “that he did not understand Harrod’s equation, as re-expressed in the *Trade Cycle*”. See Besomi (2004), p. 7.

²¹ Checking the extension in an open economy of the warranted rate, Pugno pointed out how Harrod included in the formula of the warranted growth rate the ratio of exports on income (and not net exports), just to underline how he didn’t think anymore (at that moment) of the mechanism for keeping the balance of payments in equilibrium. See Pugno (1992), p. 194.

²² On the origin and the evolution of the balance of payments constrained growth theory, see Thirlwall’s (1995) autobiographical *Introduction*. Here Thirlwall asserted that, after Kaldor approved Dixon and Thirlwall (1975) formalization of his model sketched out in Kaldor (1970), “quite independently,

3. KALDOR'S REVIVAL OF THE IDEA OF THE FOREIGN TRADE MULTIPLIER

From 1965, Nicholas Kaldor re-entered academic life (though continuing to work as advisor to the Treasury) and his interest

"shifted from the trade cycle to economic growth" [Kaldor (1986), p. 17].

In this new phase, Kaldor decided to find out

"what kind of regularity can be detected in empirically observed phenomena and then tried to discover what particular testable hypotheses would be capable of explaining the association" [Kaldor (1978), p. XVII],

whereas in the past, his method of analysis mainly consisted in thinking

"by way of deductive reasoning from macro-economic axioms of a rather general character".

Thanks to his experience as special advisor on fiscal aspects to the Chancellor of the Exchequer, he was convinced that the continuous and important discrepancies in per capita income growth rates of the economies were due to mechanisms that were *endogenous* to the production process, more than to occasional factors. In search of such mechanisms, he first noticed

"an extraordinarily close correlation between the rate of growth of manufacturing output and the rate of growth of GDP" [Ibidem, p. XVIII],

which is the first of the three empirical rules that then became known as 'Kaldor's Laws'²³. Kaldor was convinced that the reason why some countries had higher growth rates in manufacturing output than others had to be traced back to the fact that

"the expansion of manufacturing output was limited by a labour-constraint which did not exist elsewhere" [Kaldor (1978, p. XIX)].

we both became interested at the same time in the Harrod (foreign) trade multiplier. (...) It was only when Kaldor wrote a letter to 'The Times' on the subject that my colleague, Charles Kennedy, referred me to Harrod's 'International Economics', published in 1933, and I realized that I had reinvented the wheel". See Thirlwall (1995), p. xviii-xix.

²³ Excellent and effective summaries of the wide literature on 'Kaldor's Laws' are in Thirlwall (1983) and (1987).

However, during a long discussion about the validity of his 'laws', he changed his mind, and became

"increasingly disillusioned with the efficacy of exchange rates changes as a balance of payments adjustment mechanism" [Thirlwall (1994), p. 75]²⁴.

At last, starting from the idea that from the point of view of a single economy the autonomous component of demand comes from the outside, Kaldor convinced himself that the rhythm of economic growth mainly depended on the growth of its exports.

The new ideas on the functioning of the manufacturing sector were presented, but without a mathematical formalization, in the above-mentioned Inaugural Lecture on the case for 'regional' policies²⁵ [Kaldor (1970)]. This can rightly be considered as the onset of the final phase of Kaldor's intellectual development. After having emphasised that growth must be demand rather than supply oriented, in that lecture he traced back the origin of the

"'regional' problem to the multiplier effects in terms of local production and employment which in turn will adjust imports to the change in exports; on certain assumptions, this adjustment will alone suffice to keep the trade flows in balance" [Kaldor (1970), p. 145-6].

The first time Kaldor revived 'the doctrine of the foreign trade multiplier' (however not mentioning Harrod), was in a paper written in 1972 (as a contribution to a volume in honour of Felipe Pazos and published in Spanish in 1976)²⁶, and then in his 1974 controversial Harvard lecture "What is Wrong with Economic Theory" [Kaldor (1975), p. 210]. He first quoted 'Harrod's foreign trade multiplier' in the *Introduction* to the fifth volume of *Collected Economic Essays*

²⁴ Kaldor himself understood that "*There is only one important matter on which the events of the 1970s caused me to change my mind. This concerns the relative importance of price (or cost?) competition, as against other 'non price' factors, such as superiority of design or quality, length and reliability of delivery dates, after-sales service, etc. Exchange rate adjustments operate mainly on cost and prices, and despite vast changes in relative exchange rates – in real, and not just in nominal terms – there was little effect on the pattern of trade in manufacturing*". See Kaldor (1986), p. 25.

²⁵ As Kaldor properly underlined, "*the term 'regional' is applied to different countries (or even groups of countries) or different areas within the same country*". See Kaldor (1970), p. 140.

²⁶ See Kaldor (1977), p. 193, note.

written in October 1977²⁷. After having referred to the question of de-industrialization – a topic widely debated in the United Kingdom at the end of 1970s, on which Kaldor had written a brief note (Kaldor, 1979) – he stated in this introduction:

“the relevant ‘multiplier’ which economic management needs to manipulate is not the Keynesian ‘savings-investment’ multiplier, but Harrod’s ‘foreign trade multiplier’ ” [Kaldor (1977a), p. XXIV²⁸].

Moreover, referring to Harrod’s original edition of *International Economics* of 1933, and being unaware of Harrod’s correspondence, he wrote in the introduction that the idea of the foreign trade multiplier

“preceded Keynes’ multiplier theory by three years”,

stressing the rigid assumptions under which Harrod’s foreign trade multiplier would have been valid²⁹.

Kaldor dealt, for the last time, with the concept of ‘Harrod’s foreign trade multiplier’ in an essay from 1981 about the role of increasing returns in economic growth, in which he restated:

“It was Harrod, not Keynes, who put forward the idea (in 1933) that the level of fluctuations of industrial output (or rather the output of industrial countries) is to be explained by the principle of the ‘foreign trade multiplier’, which at the same time provides the mechanism for keeping the balance of payments in equilibrium” [Kaldor (1981), p. 601].

²⁷ See Kaldor (1978), p. xxix. It is worth to notice that Kaldor’s contribution on regional policies was then reprinted in this essays collection. Strangely, except “*The Case for Regional Policies*”, all the essays of that collection have been reproduced in Italian in “*Equilibrio, distruzione e crescita*”, by Ferdinando Targetti for Einaudi, Turin 1984. However, we know that, thanks to the permission of Kaldor’s literary executor Professor Tony Thirlwall, Kaldor’s 1970 essay was translated into Italian in the degree thesis in Languages of Dr. Stefania Capra, discussed at the University of Genoa in the academic year 2007-08.

²⁸ As Pasinetti recently reminded us, “*The Introductions to the eight volumes (of the) – which Kaldor had to write – are illuminating and precious to anybody interested in following the evolution of his economic thought. The whole set will remain a rich source of ideas for years to come*”. See Pasinetti (2007), p. 126.

²⁹ “*The basic assumption needed to validate the Harrod-multiplier – wrote Kaldor – is that the price-elasticities of both exports and imports are small, relatively to the income elasticities – i.e., that changes in the (domestic or foreign) level of income are a far more important cause of changes in exports or imports than changes in relative price*”. See Kaldor (1977), p. xxiv, n. 1.

Based essentially on the three ideas of ‘Hicks’ super-multiplier’, ‘Harrod’s foreign trade multiplier’, and ‘Verdoorn’s Law’, the latter reflecting the importance of increasing return to scale, Kaldor’s theory was conceived as a model, for the very first time – although lacking in the concept of foreign restrictions to growth –, by Tony Thirlwall in a lecture given in 1973 to the British Association for the Advance of Science of Canterbury [Thirlwall (1974)]. However, it was only after Thirlwall and Dixon’s formalization [Dixon and Thirlwall (1975)], that the attention of the students was drawn to the cumulative causation growth models [McCombie (2002)].

Finally, in 1982, Thirlwall perceived that the growth theory based on the need to keep the foreign trade in balance – i.e. the theory he worked out in the meantime³⁰ –, could have been interpreted as the ‘dynamic’ version of Harrod’s foreign trade multiplier. Yet now, the story we wish to tell digresses to the more general topic of ‘why output growth rates differ between countries’, a subject that is beyond the scope of this paper. In any case, it is fair to conclude this brief overview of Kaldor’s revival of the idea of Harrod’s foreign trade multiplier by quoting John King, one of Kaldor’s last biographers:

“He (Kaldor) did supply a large set of rich and provocative ideas, positive as well as negative, to be used in the construction of an alternative economics of growth” [King (2010), p. 165].

4. CONCLUSION

If our reconstruction of the evolution that brought Harrod first to assimilate and then to be converted to the Keynesian theory of the income multiplier is correct, ‘Harrod’s foreign trade multiplier’, as outlined in the ‘simplified conditions’ that appear in Chapter VI of *International Economics*, would only have had the purpose of recognizing the level of income (not necessarily of equilibrium with respect to the effective demand) consistent with the balance of payments’ equilibrium. On the other hand, the question if income

³⁰ Thirlwall’s article “The balance of payments constraint as an explanation of international growth rate differences” appeared for the first time in 1978 in Italian in the review *Moneta e Credito*. The same article was published the year after in the n. 128 of the English edition of that review. See Thirlwall (1978 and 1979). For a complete essays collection on this theory see McCombie and Thirlwall (2004).

multiplier allows us to bring back to equilibrium the balance of payments concerns the conditions that assure the stability of the process leading to equilibrium. The point is that when Harrod re-examined this question in the *Trade Cycle*, he did it only to keep his distance from the theory held in the first edition of *International Economics*.

In conclusion, the whole question of 'Harrod's foreign trade multiplier' reminds us of the renaissance of 'Verdoorn's law'. Formerly highlighted in an article published in 1949, this 'law' became well known only after its rehabilitation by Kaldor in 1966 (and in fact from then on it is known as the 'Verdoorn-Kaldor law'). In that case, taking part in the discussion that followed its rehabilitation, Petrus Johannes Verdoorn expressed his doubts about the range and the general validity of his former idea [Verdoorn (1980)]³¹. Likewise, the debate following Kaldor's rehabilitation of 'Harrod's foreign trade multiplier' focuses on an idea that Roy Harrod had already long distanced himself from.

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³¹ The essential references on the evolution and discussion of the 'Verdoorn's law', are in the essays collected by McCombie *et al.* (2002).

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ABSTRACT

Many authors, inspired by the so-called 'post-Keynesian' theories, focused their attention on the idea of the 'Harrod's foreign trade multiplier' which is different from the traditional open market Keynesian multiplier. This idea, re-discovered by Nicholas Kaldor, is a topical subject in the current debate on the so-called Thirlwall's Law, that he considered as the 'dynamic' version of that multiplier. In the light of the different editions of *International Economics* and of the precious papers collected in the recent publication of the *Collected Interwar Papers and Correspondence of Roy Harrod* edited by Daniele Besomi, we notice how Harrod kept his distance from that idea: after a long discussion with Kahn, Robertson, Meade and Keynes, he denied the existence of an automatic mechanism to adjust the balance of payments, as maintained in the Kaldorian tradition.

Keywords: Harrod, Kaldor, Growth Theories, Foreign Trade Multiplier
JEL Classification: B2, F4

RIASSUNTO

Harrod, Kaldor e l'idea dell'esistenza di un "moltiplicatore del commercio estero"

L'idea dell'esistenza di un "moltiplicatore del commercio estero di Harrod" distinto dal tradizionale moltiplicatore keynesiano di mercato aperto è da tempo oggetto di attenzione da parte di numerosi autori che si ispirano al filone di pensiero cosiddetto "post-keynesiano". Riscoperta da Nicholas Kaldor, quell'idea è tornata di attualità nell'ambito del dibattito sulla cosiddetta "legge di Thirlwall", che il suo stesso ideatore considera la versione "dinamica" del "moltiplicatore del commercio estero di Harrod". Alla luce delle varie edizioni di *International Economics* e della preziosa documentazione contenuta nella recente edizione dei *Collected Interwar Papers and Correspondence of Roy Harrod (CIPC)* curata da Daniele Besomi, emerge chiaramente come, alla fine di una lunga discussione che ha visto impegnati Kahn, Robertson, Meade e lo stesso Keynes, diversamente da quanto si sostiene nella tradizione kaldoriana, Harrod abbia preso le distanze dalla sua idea originaria.