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Attilio da Empoli (1904-48) is a relatively unknown Italian economist who for various reasons, included a premature death, is not recognized as an innovative scholar. One of the main preoccupations of da Empoli’s scientific research was to analyze and refine the concept of equilibrium. In the paper I review two main attempts in this direction elaborated in books and papers mostly in Italian (or in a not easily accessible book). The first concerns the introduction of the concept of ultramarginal cost to complement Marshall’s analysis. I show that da Empoli is a forerunner of several concepts to be introduced later, such as kinked demand curve, entry preventing price, limit price, etc. In particular I compare da Empoli’s analysis with Sylos Labini-Modigliani’s theory. After this work da Empoli continued his research and, in the context of a discussion about the theory of international trade, came across a difficulty with the Marshallian analysis of short and long periods. In the second part of the paper I review the discussion that took place in the Rivista Italiana di Scienze Economiche stressing three aspects. First, the analysis was not confined to the comparison of two equilibrium positions (as traditionally made in the pure theory of trade) but it was investigated how the costs that the economy incurs in moving from free trade to autarky may modify some traditional results. Secondly, a link can be established between the concept of ultramarginal cost and the analysis of “costi intermedi” put forward by Borgatta and Mazzei. Thirdly, the analysis of those costs calls into question the problem of time and the different definitions of equilibrium according to the temporal dimension involved. Da Empoli spotted a contradiction in the definitions of short run equilibrium that Marshall gave in his Principles and, on the basis also of the most recent literature on the subject, an interpretation of his position that leads to a rejection of the concept of long run stationary equilibrium will be proposed.

KEYWORDS: competition, equilibrium, ultramarginal cost, limit price

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Around WWI economic theory had reached a unified corpus of propositions centred around the neoclassical theory of value and distribution under the assumption of perfect competition. Leaving aside the differences between general (Leon Walras and Vilfredo Pareto) and partial (Alfred Marshall) equilibrium approaches, the price of a factor, say labour, was in equilibrium equal to its marginal productivity and marginal disutility and the price of a good equal to the marginal cost and marginal utility. Perfect competition was an ideal state of affairs. The analysis of market forms different from perfect competition (save for monopoly) was in its infancy. There was also a general agreement about the temporal articulation of the concept of equilibrium according to Marshall’s Principles.

After WWI the situation changed and a critical analysis of market forms developed together with an innovative approach to dynamics (the so-called years of high theory). Against this background we can insert Attilio da Empoli (1904-1948) (hence AdE) an extremely innovative economist who has not been recognized as such for various reasons, including a premature death.

In what follows I will concentrate my analysis on two aspects of his thought (respectively in part I and II): the new concept of ultramarginal cost and the analysis of the temporal articulation of the economic process.

AdE was a very precocious scholar: when 22, before getting the university degree in Law, he published two volumes, *Teoria dell’incidenza delle imposte e Riflessioni sull’equilibrio economico. Teoria del duplice costo di produzione. Parte Prima* that earned him “libera docenza” (Habilitation) in Public Finance in 1926. After his long visit in the USA financed by the Rockefeller Foundation, in 1931 AdE published *Theory of Economic Equilibrium. A Study of Marginal and Ultramarginal Phenomena* that, although hurriedly completed, is his last word on the competition analysis based on ultramarginal cost. Another innovative aspect of AdE’s thought can be found in a long essay published in 1942 *Studi sulla teoria del commercio internazionale. I costi intermedi e l’equilibrio internazionale* where, taking as a point of departure a discussion about free trade and autarky, he developed a critical analysis of Marshall’s (hence M.) equilibria delineating an original vision of the economic process through real time. In the following I will not deal with his works on Public Finance matters.

I. ULTRAMARGINAL COST AND COMPETITION THEORY

The section is divided into two parts. One dealing with the analysis of the concept of ultramarginal cost including some important implications, the other with an exposition of further aspects of AdE’s theory and a brief evaluation of his position. My interest in the work of AdE springs from the
observation that many Italian scholars of the period between the two great wars were researchers who placed themselves at the frontier of economic speculation. An example can be found in the work of Giulio La Volpe (1936) who first elaborated a model based on the concept of temporary equilibrium. Another example is without doubt AdE with his work on the analysis of the competitive process.

There are probably still others. Therefore the historical query is that of trying to understand why these innovative contributions were never recognised as such while on the contrary other contributions made by Italian authors were (e.g. in the theory of public finance, discovered and put to good use by James Buchanan). The reason, as we will see, lies in the fact that AdE’s analyses (as well as La Volpe's) were ahead of his (their) time and advancing lines of thought that would have not been followed by the critics/developers of the neoclassical approach until the postwar period.

I.1 AN OUTLINE OF HIS APPROACH

In the following pages I will offer a synthetic, rational reconstruction of the concept of ultramarginal cost. An operation which is useful and at the same time difficult due to the asystematic character of AdE’s writings. There is in this bright economist the tendency to insert in a disorder fashion hints, observations and remarks which at times conceal the main argument.1

The starting point of his analysis is that the cost function (the long run one, as we would say today) of a firm is not differentiable, actually is not even continuous. The author evidently thinks that it is obvious.2 Indeed, if we pause to think about it, the hypothesis of differentiability should be in need of a justification.3

As Lawrence Boland (1992: chap. 2&3) has cogently argued the Principle of Continuity is the most fundamental principle of M.’s approach. It is this very principle that supplies the basis on which the Principle of Substitution can be fruitfully used. According to the perceptive reconstruction by Boland, M. is extremely careful in describing the instances where the Principle of Continuity can be applied. Therefore in his criticism AdE by showing important situations where the Principle of Continuity cannot be applied goes at the very heart of M.’s construction.

It is not difficult today to hint at such a justification on the basis of the discontinuities (technological and/or organizational) deriving from the features of the plants used in industrial production. The offer of a firm cannot be considered as deriving from many plants, perfectly divisible, as implicit in the traditional theory. (“It is not possible for producers to increase or decrease the size of their concern by infinitesimal quantities”. Again: “We have seen how in general the output can be increased by quantities represented by one or more successive curves of production” [1931, p. 182, emphasis mine])4. In particular AdE maintains that within a given
concern the (average and marginal) costs decrease up to the level of full capacity and that marginal cost will rise (sharply) only when the equipment is used near full capacity.5

The main point of his approach, is that, for a correct theory of equilibrium prices, it is not enough to examine marginal phenomena.6 One must also take into account ultramarginal phenomena [1931, pp. 21-26; 1926, pp. 44-46]. Traditional theory does not seem sufficiently “exact” to him (1926, Prefazione) since the theory of costs of production analyses only one part of the relevant elements [1926, p. 41].

The ultramarginal cost is that cost which one should bear if the production expanded beyond the quantity which is normally produced. This quantity cannot be considered infinitesimal: it is a finite amount. Or in a slightly different form one can express the idea as (1931, p. 22): “ultramarginal production (...) consists of that minimum quantity of commodities which would be produced under best advantage at a given period if the production could be increased”.

To illustrate AdE’s theory in a simple way, consider the case of an industry with rising costs: the ultramarginal cost is higher than the marginal cost. Likewise ultramarginal production can be defined as the one carried out at ultramarginal cost, and can be external, (“that of firms which would come into existence, if condition were more favourable”) and internal, (“that which corresponds to firms already in existence which could work towards expansion”) [1931, p. 22]7. Ultramarginal production is, therefore (by definition) always potential or latent production and can become actual, if the market conditions allow it. The entrepreneur stops at the point of maximum profit since ultramarginal production is not advantageous.8

Such point of maximum profit may, or may not, coincide with that of minimum cost. If it coincides, the concern reaches the absolute economic dimension, as AdE states, otherwise it will have the relative dimension [1926, pp. 35-6; 1931, p. 24]. This can be superior or inferior to the absolute. Nevertheless, for the sake of simplicity, I assume that the firm has reached the absolute economic dimension.9

The consideration of potential production (whether internal or external) implies that the equilibrium price (called normal value in the 1926 book) is not necessarily equal to the marginal cost, as in the traditional theory and moreover is not a point, but is represented by an interval. The limits of the latter are represented by the minimum cost and the ultramarginal cost: for example point A in the diagram where the two curves represent the two cost curves of two plants.

To be a bit more precise, the superior extreme of the interval generally is not equal to the ultramarginal cost, but can be even higher (see point B in the diagram) depending on the level of ultramarginal utility in relation to the cost of the ultramarginal production. The increase in production that would result if the ultramarginal quantity were placed on the market, would cause a decrease in the marginal utility for the consumers (this new level is denominated by AdE
ultramarginal utility) and consequently (in general) a drop in the price at which the ultramarginal product could be sold.\textsuperscript{10}

It is immediate to see, then, how equilibrium prices can be different in two firms when the marginal costs are the same, provided that the ultramarginal costs are different. The consideration of marginal cost alone is therefore insufficient.

Such an approach is very similar in spirit and in the conclusions to the theories of limit price which flourish in the post-war period, e.g. Paolo Sylos Labini (1957) and Joseph Bain (1956). Indeed AdE himself uses the term in his 1926 work.

The excess of the price above the marginal cost which exists in equilibrium can obviously be denominated rent and according to AdE is an intrinsic characteristic of the equilibrium position. It is also worth noting that according to him the proposed theory cannot determine the price of equilibrium, but points out only the interval within which it can be found.\textsuperscript{11}

This in extreme synthesis is AdE’s approach which, as can be seen, is original and realistic. In the final section I will come back to the justification for this evaluation.

Such an approach remains valid (here is the reason for the title of the paper) even in situations of increasing or constant returns, for firms that have not reached the absolute dimension, etc.\textsuperscript{12}

It may be useful to notice how in the case of an industry with increasing returns, the price of equilibrium is to be found between the marginal cost and a value, higher than the ultramarginal
cost, which is not economic because of the decrease of marginal utility which results when the
amount produced is increased. Therefore provided that marginal utility is higher than the marginal
cost, equilibrium price can exceed marginal cost as no one can profitably enter the market.

This situation of perfect competition with the meaning that today we attribute to this term, is to be
considered only a limiting case, states AdE, and not the description of actual market situations. It
corresponds to what Antoine Augustin Cournot called unlimited competition.\textsuperscript{13}

In the last part of AdE (1931) he applies his approach to the theory of international trade and to the
determination of factor prices, labour in particular. Referring to this last point AdE, after some very
interesting remarks on population dynamics\textsuperscript{14}, assumes that the curve of value marginal
productivity of labour decreases by steps. This sets an interval of values within which the
equilibrium price of labour will be. In general it will be inferior to the value of marginal
productivity and above the ultramarginal productivity in value (that is, keeping in mind the change
in prices that follows after an expansion of the demand for the factor).

I think therefore that AdE’s approach should have a place in the debate in the 20’s on M.’s theory of
firm and on the definition of the degree of competition. Such a link is made explicit in the 1931
book, which unlike the 1926 work, presents a discussion of the contemporaneous literature.
However save for Joan Robinson (1933) review in the \textit{Economic Journal} the economic literature
did not take notice of his work which was really innovative, not being concentrated on product
differentiation. If one adds that his work in English was published with a local publisher, one can
understand why AdE lacked a widespread recognition failing to make an impact on
contemporaneous scholars.

1.2 AN EVALUATION

In concluding this section I would like to advance a few considerations prompted by AdE’s works.

When da Empoli elaborated his approach he was very young and came from Southern Italy (a
backward part of the country): nevertheless he had a good perception of the actual economy of his
time. This led him to refuse hypotheses of convenience\textsuperscript{15} such as considering variations in
production as infinitesimal when they were actually finite. Simplifying hypotheses are acceptable
only if they do not lead to relevant errors. This is not the case, argues AdE, and intends to show
with his work that in the analysis of competition the hypothesis of a differentiable cost function is
misleading and must be discarded.

According to AdE each enterprise is defined by the quality and the characteristics of the
entrepreneur [1926, pp. 33-4]. In the context of defining the concept of enterprise his references
[1931, p. 130] to Frank Knight are also interesting. If the entrepreneurship factor is therefore
important, then, we can reconstruct the author’s line of thinking, the general situation is that of
increasing costs [1926, p. 17; 1931, pp. 15-9]. Particularly, AdE refers [1926, pp. 27-8] to the difficulties in management and organisation which grow as the dimension of the firm increases.

In a tentative way, we could summarise the vision of economic reality implicit in AdE as follows. In agriculture (and mining) there is something that approaches unlimited competition and we are in a regime of increasing costs because of scarcity of natural resources. In industry, though there is a phase of decreasing costs, the tendency toward rising costs ends up by affirming itself (because the entrepreneurial factor is scarce).\(^{16}\) To correctly analyze the equilibrium price, the ultramarginal cost is relevant in both cases.

Nevertheless, in many instances the market is restricted so the decreasing part of the cost curve becomes important.\(^ {17}\) Then, the decrease in price linked to ultramarginal production assumes great importance. This decrease is not due so much to the diversification of the product as to the discontinuity of the concerns and therefore to the relevance of the dimension of the firm.\(^ {18}\)

How could one label AdE’s approach? It stems from classical analysis at least to the extent that the entry of new concerns, or the competition of the already existing concerns, is crucial to determine equilibrium. On one hand traditional, marginalist analysis turned its attention to actual effects only and not to potential or latent ones.

From another point of view one could say that the author extends the traditional analysis encompassing ultramarginal phenomena in addition to marginal and inframarginal ones. This position that includes both classical and neoclassical insights must not astound too much. It is well known both that M. maintained that he had come to his own personal synthesis between the classical and the neoclassical theory, and that the debates of the 20’s were held entirely within M.’s theoretical context.\(^ {19}\)

The extension of the analysis to the determination of the price of productive factors, particularly of labour, is extremely interesting. AdE maintains that generally the wage is lower than the marginal productivity of labour and higher than the ultramarginal value. This, in other words, means that in equilibrium there are extra profits (or more precisely, rents). That is, looking at it from another viewpoint, there is labour exploitation. In other words, rent is not a disequilibrium or transitory or a short term (as in Edward Chamberlin’s analysis) phenomenon: it is also present in a perfectly static equilibrium.
II THE TEMPORAL ARTICULATION OF THE CONCEPT OF EQUILIBRIUM

II.1 THE BACKGROUND

In the second part I will examine the long essay AdE published in 1942 in a debate between Gino Borgatta (1939) and Jacopo Mazzei (1939,1940) on the policy implications that can be inferred from comparative cost theory. His argument (although on the whole favourable to the position held by Mazzei) goes well beyond the controversy and examines rather deeply M.’s theory of equilibrium.

The innovative aspect lies in the criticism of the way in which M. develops his different concepts of equilibrium in relation to their temporal articulation and AdE’s arguments reflect a vision of the economic process as a process that flows in real, chronological time.

More precisely there are two main points that deserve a discussion. First AdE elaborates a new concept of equilibrium, intermediate between the short and long run equilibria devised by M. In so doing AdE pinpoints a few inconsistencies in M.’s treatment. Second, what is the relation between this new elaboration and his previous analysis of the equilibrium based on the concept of ultramarginal cost?

The debate originated as a consequence of the statement by Mazzei that the theory of comparative cost does not necessarily lead to favour free trade over autarky. The reason being that in many actual circumstances there exist intermediate costs that can change the recommendation of abandoning autarky for free trade. In fact David Ricardo and John Stuart Mill had always referred to long run cost and prices and never concerned with the actual costs of switching from one situation to another (intermediate costs). These costs derive from the dismissal of certain productive sectors in moving from autarky to free trade (as would have been the case in Italy in those years) and, in the opposite movement, from the start up costs of new sectors.

These costs can be so relevant, it was argued, to reverse in certain cases the benefits expected from the change. Part of the discussion between Mazzei and Borgatta was on the relatively secondary question of whether these costs are higher and/or more relevant in the case of change from autarky to free trade or viceversa.

Let now move on to the more interesting part of AdE’s analysis. According to him it is necessary to separate between historical (chronological) and operational (logical) time, according to Gaffard & Quere (2004) terminology.

Indeed it is a main tenet of AdE that one thing is the analysis of the different forces that work in the economy and for which it is possible to differentiate between, temporary, short, long and secular
equilibrium; a totally different one is how these forces act in economic reality, namely in accordance to chronological time.

Therefore AdE criticizes M. when the latter argues that it is not possible to separate between short and long run: this is a conceptual distinction that can be made. In fact in the actual flow of events, phenomena do happen in a slow way and are therefore characterized by intermediate periods. AdE builds a personal terminology: when he discusses the forces that in the operational time affect equilibrium he uses the concept of long run (short run) equilibrium, whereas he employs the words fast, slow and very slow developments to describe how these forces act in chronological time.

Within the debate he argues that for these actual processes to develop, time is needed and this cannot be ignored in the context of a recommendation towards free trade. More precisely he refers to the fact that a process of disinvestment of capital and labour in one productive line that has to shrink takes a very long time as it is affected also by the resistance of entrepreneurs to abandon one sector in favour of another.23

As a consequence in the move from autarky to free trade there are two important phenomena: the first (well known but often overlooked) is redistribution between wages and profits and the second is the presence of significant intermediate costs that ought not to be neglected. Therefore the classical theory of comparative advantage need to be qualified when used as a guide to actual policy measures.24

This approach has a certain similarity with the criticism of the traditional theory of price determination mentioned in Part I, the latter failing to take into consideration a phenomenon (ultramarginal cost) that according to AdE has great relevance.

II.2 TWO CRITICISMS OF MARSHALL

Let see how AdE criticizes some aspects of M.’s distinction between short and long run equilibrium.

In scrutinizing M.’s treatment of such a distinction AdE pinpoints a significant ambiguity in the characterization of the short period. In some passages (Principles: v,v,6) the latter is defined with respect to a given stock of capital and labour: the assumed increase in demand firstly causes an increase in price, then induces an increase in the use intensity of the various factors of production. In other passages (Principles: v,v,4) M. states that in the short run capital and labour can be shifted away from other sectors to be employed in the sector where the demand increase has appeared.

In this second characterization, as in the first, the total amount of capital and labour does not alter, although its composition does. AdE is unable to reconcile these two descriptions which are indeed different from each other.25
In any case the (short run) normal price is that price that is just sufficient to induce the actual production level and is lower (1942, p. 68) than the one that immediately follows the demand increase.

At this point AdE (1942, p. 75) subscribes to the Marshallian taxonomy (*Principles: v,v,6-8*) that is wholly appropriate to the theoretical inquiry: we are in the short run when *no* production mean has adapted to new level of demand, we are in the long run when *all* the production means have adapted. Therefore it is apparent that between short and long run there are intermediate periods during which each different mean of production adapts to new level in demand.

Here we can find the justification for intermediate costs that are precisely those costs that are incurred in moving from short to long period which is defined by the complete adaptation of the means of production to new level (this by the way implies that means of production will eventually be produced at the minimum cost (1942, p. 60,70).

Let me remind you that Peter Diamond (1994, pp. 15-7) in his Churchill Lectures, that have unfortunately passed unnoticed, argues that a correct formalization of an economic process that flow in chronological time must explicitly include a period which is intermediate between short and long, exactly what M. neglects.

In advancing the new concept of intermediate period AdE thinks he spotted another problem in M.’s exposition. Is the increase in demand a temporary or a permanent one? It is obvious, AdE argues, that only in the second case (but not in the first) does the adaptation mechanism that moves the economy from the short to the long period work. According to AdE’s reading, M. mixes the two situations up and it is clear that the price increase will differ in the two cases, AdE adds.

On this point let me disagree with AdE (1942, pp. 83-4). To be fair M. does separate the permanent from the temporary increase. However in the examples that M. adduces to illustrate his approach he refers to different chronological time, from two years to several years and yet he is always aware of the difference between these two examples from the case of permanent change (*during a whole generation: Principles: v,v,4*). And correctly M. draws different conclusions from the two cases. In the temporary it can happen that capital and labour shifts from one sector to the other, provided this can happen rather quickly; in the permanent one the forces that will change capital and labour to match the new level in demand start operate and will enable the economy to produce the new demand level at the lowest cost.

It remains to be seen if a change that last for several years can be considered to be transitory, but M. is inclined to think that a (logical) long period is long also from the chronological viewpoint. Indeed M.’s conception is rooted in the representation of the economy as something moved by permanent forces that advance until the new long period equilibrium is finally reached. It appears to me that with his critical remarks AdE expresses his strong doubts about the heuristic validity of M.’s approach.
I must now recall that according to the careful and thoughtful analysis by Boland the two concepts of time are also present in M., chronological time in Book IV and logical time in Book V. Moreover Boland (1992: Chap. 2&3) argues that far from being in contradiction the two concepts are both necessary (complementary) for M.'s strategy of explanation of economic phenomena. It is only successive authors that induced us to pay more attention to Book V than to the whole Marshallian construction. It seems to me however that even Boland (1992, pp. 27-32) finds some difficulty in reconciling the two aspects in M.'s thought.

Be that as it may, AdE actually thought that the two aspects refer to different levels of analysis and cannot easily be reconciled.

On the contrary in my opinion here it emerges a wider theory than M.'s. AdE dissolves the passage from short to long run in several intermediate periods. In each of these, normal prices come into being, prices that are adequate to that particular mean of production that has adapted. This implicitly assumes that means of production are not complementary. In any case AdE (1942, p. 78) maintains that even if several different means of production will adapt simultaneously this will happen step by step (a prefiguration of the stock adjustment principle) and therefore we can envisage again different intermediate periods depending on how far the process of adaptation has progressed. Normal prices so arrived at could be defined as quasi short normal prices, semi long normal prices and quasi long normal prices if they are respectively nearer to the short or to the long run (1942, p. 77).

In the process of getting to the new long period AdE observes that even when all the means of production have adapted and therefore we are no longer in the intermediate period, still there will occur some time before the production can be organized on the new basis (a production lag): then we will have prenormal long run prices (1942, p. 72). And needless to say this argument applies also to the move from one intermediate period to the next one so that there will be prenormal intermediate prices (1942, p. 76) that will be located between the normal short run price and the normal price of each intermediate period!

In this respect he was applying what according to Boland's (1992, pp. 39-45) perceptive analysis is one of the cornerstone of M.'s approach, namely the Principle of Continuity. As we will see however AdE draws different conclusions from M.'s.

Finally there is one more point. AdE criticizes M. for assuming that in general the adjustment implies less productive means of production (like the less fertile lands in Ricardo). He argues that in reality very often (1942, p. 73) the higher price paid for a factor entails a higher productivity so that the real cost does not increase. However this criticism would not be a valid one, had the economy departed from a long run equilibrium where all the economies had been exploited. This had not certainly escaped AdE’s mind and indeed he was implicitly arguing as if the long run had never been attained.
Which are the consequences of these criticisms for the free trade/autarky debate? The presence of intermediate costs can make the passage to free trade no longer beneficial.

There are a few illuminating observations by AdE on the difficulty of moving from one situation to another and how these costs would be lower when the economy is growing fast (1942, p. 38). Therefore cyclical and structural conditions affect the level of intermediate costs and possibly the actual path does affect the final point (1942, p. 92).

The above argument is once again independent of the decreasing/increasing costs debate. Indeed AdE examines all possible cases (1942, pp. 93-4) and concludes that, even with constant costs, the (chronological) time needed to move from the short run to the medium and then to long run can alter the convenience to specialize in one sector or in another.

II.3 RELATIONS WITH HIS PREVIOUS WORK AND AN EVALUATION

Let me make a personal observation at this point. As hinted at, AdE’s approach to theory of price determination that I examined in Part I, could be extremely relevant here. Even abstracting from the presence of intermediate costs, the move from autarky to free trade could entail a higher ultramarginal cost so that the assumed specialization (on the basis of comparative cost) could no longer be appropriate.

In fact AdE does refer to his previously elaborated theory. In a footnote (1942, p. 72) he observes that his theory has been elaborated for the long run but could well be adapted to the short run. In my opinion this reformulation is hardly acceptable as in his approach to the ultramarginal cost AdE has in mind the entry of a new firm or the activation of a new plant, both phenomena being of a long run nature.

In addition one could be induced to believe that there are different approaches in AdE in the two topics that we have analyzed. His theory of the price determination appears to be in contrast to the traditional Marshallian analysis, whereas the second could be seen as an extension of M.’s dictum “Natura non facit saltum”. But this need strong qualifications.

There is a passage that is illuminating and that I quote here (1942, p. 71, my translation):

“If these are the conditions of employment for the factors that have been taken away from other uses, and the exceptional level of demand lasts for one year or two (..) it is very probable that the normal price (for a short period) is not reached at all (..).

On the contrary if we assume that the increase in demand is lasting, it can happen that the normal price is not reached before the so called short period is overcome by the new production of means of production; or it can happen that the time that precedes the reaching of this level is much longer.
than the period needed until the short run can be considered to be over for the influx of new means of production (...)"

This passage, it seems to me, appears to reject the validity of the Marshallian long run equilibrium in favour of an approach that emphasizes the fluidity of the economic process, its non predetermined nature within which we certainly (from a logical point view) can separate ultra short, short, medium (with sub cases), long, secular equilibria, that succeed one another. This conceptualization, however, should not lead us to derive univocal conclusion on the evolution of the economic system in chronological time and therefore on the cogency of policy prescriptions based on the long run comparisons (such are those derived from the theory of comparative cost). So what is important is the process in real time rather than the long run equilibrium to which although via different paths the economy moves. I think that Boland (1992, p. 28) too is rather skeptical of the heuristic value of the long run equilibrium construct (although from a different perspective).

In other words it does not exist a long period to which the economic system tends after having experienced disturbances.

III. FINAL OBSERVATIONS

As a synthetic evaluation one can define AdE’s approach as both innovative and realistic.

Indeed AdE pays an extremely acute attention to the actual forms of economic life in his time and as a consequence introduces new concepts and approaches meant to be ingredients of an adequate interpretation of actual economic systems.

In his first work AdE (1926) offers a criticism of the implied equality in equilibrium between marginal cost and price in the traditional analysis and introduces the concept of ultramarginal cost as a significant correction to the traditional analysis that overlooks the ubiquitous presence of discontinuous cost curves. Therefore equilibrium is associated with rents. A price different from marginal cost characterizes a non Pareto efficient allocation that could be in principle improved upon by external action.

In his work on comparative costs AdE (1942) offers another criticism of M. who neglects to complete his analysis of the temporal articulation of equilibrium. In so doing it appears as AdE arrives at depriving of heuristic value one of the major construct of M.’s analysis, namely the concept and relevance of long run equilibrium. AdE appears to be in favour of an approach that highlights the non predetermined evolution of the economic system with the consequence that the final point, if any, is dependent on the actual path. The relevance of policy prescriptions based on
the comparison of long run equilibria is to be considered with caution and not adhered to without a proper analysis of the actual situation. The economic role of the State is not derived from Keynesian analysis but is determined by the need to favour those adjustments of the economy after structural changes have occurred.
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An example is given from an observation (not fully developed) which anticipates Baumol’s approach based on exit barriers (1931, p. 143). There is also a remark (1931, p. 109) similar to the argument put forward in a famous article by Sweezy (1939).

He was heavily influenced by Clark (1923, p. 1) who defines overhead costs as “unused powers of production” and includes in his definition both physical capital (plants) and human capital (labour). Clark however does not draw any diagram in his lengthy book. The latter work is full of insights that have been neglected for many years.

That this point is essential to his approach one can see from the answer that AdE gives to Amoroso (1929) who on the contrary took for granted the differentiability of such function (1931, p. 140).

When only the date appears the quotation is from one of AdE’s works.

This form of the cost curve, that is, with a decreasing tendency up to the level of full capacity is the one made famous in Andrews’s work (1949); the highly rising part of the curve of marginal costs after full capacity is exactly the point which will be at the centre of Kalecki’s theory of the reverse L cost curve.

Even if he admits (1931, p. 23), on the basis of Fasiani’s review (1927), that there were hints in previous Italian authors.

Actually it would be more exact to speak of concerns rather than firms, but let us follow the author in his use.

As is well known maximisation with an additional fixed cost and the consideration of capacity does not always result in a complete utilization of total capacity (old and new).

Robinson [1933, p. 668] is right in arguing (contra AdE) that when the number of firms is fixed, it is not possible in general that firms produce at the minimum average cost.

To be noted in passing that in AdE there is an extension of the ultramarginal concept from the point of view of production to that of utility, and not vice versa, as held by Sraffa (1925) with reference to the birth of the concept of marginal utility within the marginalist theory.

May a critical note be allowed at this point. The consideration of the curve of marginal revenue would have greatly reduced such indeterminacy keeping at the same time the result of the presence of the rent in equilibrium. But it is also worth noting that AdE does not employ this concept and the curve that can be derived from it. The latter, with the name of “increment of aggregate demand curve” had been proposed by Harrod (1930) in the issue of the Economic Journal following the one containing the Symposium “Increasing Returns and the Representative Firm” which AdE (1931) widely quotes. Actually, as often happens in his case, he feels such concept [1931, p. 134] but does not elaborate upon it. It must be observed that the paternity of this concept is not fully clear. Austin Robinson in Szemberg (1992, p. 210) attributes it to Gifford, one of this students. See also Shackle (1967: chapter IV).

He extends the analysis to spatially separated markets for the same commodity and to a multiplicity of goods [1931, pp. 161-5].

Here AdE makes an interesting comment [1931, p.139] on the difficulty of having a purely competitive equilibrium in the presence of constant costs. In fact, if the demand curve is horizontal there is no ultramarginal production which is not advantageous and there is not “any limit to an increase in production”.

Population decreases when the level of education increases, even if income is the same and, ceteris paribus, grows when income increases.

In AdE [1931: Preface] he states, in arguing with Pareto, that Science must go forward and this means overcoming difficulties, not hiding them. It is surprising that he did not mention M.’s and his Principle of Continuity in this context.
Based on a comprehensive assessment of AdE’s work this seems to me the real reason for the establishment of increasing costs and not “the tendency of natural resources towards increasing costs”, as Robinson states [1933, p. 667] in her review.

Along these lines (1926: chapter V) there are interesting pages on the relationship between market size and market structure (in particular the relative role of big and small enterprise is analysed at length).

I think Robinson’s [1933, p. 667] comment is inaccurate as she fails to notice that, precisely because the number of sellers is small, entry can be prevented.

It was not however without references to the Austrian theory of opportunity cost [1931, pp. 130-2; pp. 167-72].

Borgatta (1939) objects that these costs will be temporary and therefore will not invalidate the theory.

In passing let me notice (but I will not develop this point) that in the discussion there are a few loose arguments that makes some statements vague and imprecise.

Boland (1992, pp. 35-6) however rejects the validity of such a distinction.

As is well known from cycle theory, depression can last considerably because capacity can be reduced by non replacing obsolete machines, which sets a limit to the speed of adjustment. Similar considerations are developed in Diamond (1994, p.15).

For their relevance and/or duration these intermediate costs, AdE (1942, p. 41) notices, need to be undertaken or sustained by the action of the State: subsidies, tariffs, tax rebates, etc. AdE comes back to this point in his conclusive remarks (1942, p. 94) stressing that actions by the State are required also in the passage from autarky to free trade.

To be sure the possibility that other means of production could be shifted to different sectors appears only when M. refers to the fish industry and could be due to the specific example. This explanation however is not convincing as AdE (1942, p. 55) himself remarks.

To be sure AdE (1931, p. 15) himself thought along these lines.

To be precise Boland (1992, p. 26) argues that this would not be a problem of explanation but a problem of verifying or refuting one’s explanation. But I can see little practical difference among the two.