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The Marshallian Tradition of Industrial Economics in Oxford: 1940s – 1970s

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Preliminary version

Browsing through Oxford students' economics reading lists during the inter-war period; it rapidly becomes apparent that Marshall's theory formed a key part of economics syllabi at the time. It seems highly likely that Marshall's *Principles of Economics* prevailed as the dominant theory of industry and of competition during these two decades. However, the *Principles of Economics* also left Marshall's research programme unfinished and open to misunderstandings. In this context, the first aim of the paper is to provide a better understanding of one of the different interpretations of Marshall's theory, ideas, and methodology which prevailed in Oxford during the period 1947-1979. The choice of the specific context of Oxford University and of this particular time period merit further comments.

The history of Post-Marshallian thought in Cambridge at that time has been widely studied, especially in relation with the contributions dedicated to the works of A. Pigou, D. Robertson, P. Sraffa or J. Robinson,. By contrast, Marshall's influence at Oxford has drawn much less attention. Among the few significant works, Professor Lee covered the Post-Marshallian period in Oxford until 1940. This paper however does not only consider Marshall's legacy. It also constitutes an attempt to fill a gap in the Post-War history of *Industrial Economics*[1].

From this standpoint, the second purpose of this paper is to show that the developments of post-Marshallian ideas in Oxford gave birth to a new discipline in economic theory. For this reason, the paper seeks to emphasis the point of coincidence between, on the one hand, the increasing interest in Marshall's theory and its interpretations and, on the other, the emergence of Industrial Economics.

In accordance with its main purpose, this contribution falls into three main parts structured chronologically. The first part [1947-1952] describes the increasing interest of Oxford Economists in firms and industry related interests before the emergence of Industrial Economics, as reflected by the creation in 1952 by Philip Andrews of the *Journal of Industrial Economics*. The second part of the paper deals with the birth and the evolution of Industrial Economics in Oxford between 1952 and 1968. This period is

[1] The definition of industrial economics issues used in this contribution is rather standard and conventional. It will be assumed that it is a domain of research which deals with the firm, its internal organisation, and at a bigger scale, linking those firm's issues with the structure of industry.

associated with many substantial theoretical and empirical developments of the discipline. The last part of this paper concerns the period 1968 to 1979, a time when Hay and Morris published a standard textbook popularising Industrial Economics in Economics, and gave to this discipline a greater independence from Marshallian analysis.

This paper is the result of a work on two main sources of archives. The first source is the result of several interviews given to us by some students and tutors who worked in Oxford on the theory of the firm and industry in the period 1940s-1970s. Exclusive copies of unpublished papers[2] (especially from the Nuffield graduate seminar in industrial economics) dealing with the theory of industry were also used. Second, my work is also based on the Andrews and Brunner's archives located at the LSE and on the exploration of economic Journals related to the theory of Industries, such as the *Oxford Economic Papers* and the *Journal of Industrial Economics*.

I. Industrial Economics in Oxford: The process of emergence [1947-1952]:

The first part of our contribution describes the increasing attention of Oxford Economists in firms and industry related interests before the emergence of Industrial Economics, as reflected by the creation in 1952 by Philip Andrews of the *Journal of Industrial Economics*. In this section, the analysis focuses on two significant events that we take to have contributed to the birth of Industrial Economics in Oxford.

The first event determines the historical starting point of our work. As we already mentioned in the introductive part of the contribution, the Post-War history of the Oxford Economists Research Group [1947-1965], has not been – to our knowledge – extensively studied by the literature. If Prof. Lee's contribution to the history of the OERG is covering mainly the period before 1940, the Andrews and Brunner's archives at the LSE only report some of the answers given by the businessmen after the War, without any discussion or details of the internal organisation of the meetings. The only relevant source we were able to find has been provided to us by Prof. David Stout. These are reports of the last meetings of the group, some correspondence between the members and David Stout's own oral recollections.

[2] These archives were given to me by David Stout, 16th February 2006.

The OERG was a group of enthusiastic Oxford economists, created in 1936[3] who sought a broader empirical framework to economic theory. The group gathered people of diverse interests and backgrounds, with a common focus on various parts of economic theory, and in particular a developing interest in competition and prices. The OERG's studies basically consisted of sets of inquiries or research projects which were based upon questionnaires. These questionnaires, which 'defined the scope of the discussion'[4], were sent in advance and then based on after-dinner interviews with businessmen who were invited to come to Oxford for dinner and spare an evening answering the members' questions. Harrod used to bring the guest to dinner in Christ Church, then on his rooms where the Group would have gathered, and they had intensive discussion and questioning from about 8.30 pm until the small hours of the morning. All the businessmen were promised complete confidentiality[5].

Where it appears very difficult in the pre-War period to find a common theme uniting the disparate members of the OERG [who are listed in the *Appendix 1*], the Oxford Group can still be seen as a first step towards a long controversy between the empiricists who based their theories on empirical generalizations and the proponents of the marginal analysis, who explained the economic world by deductive systems[6]. Before the War, the Group was full of intellectual vitality, after having published series of articles in the *Oxford Economic Papers*. However, during the duration of hostilities the group became inactive, mainly due to the dispersion of its members.

It will only be in 1947 that the Group is formed again. According to P.W.S. Andrews, the secretary of the Group at that time,

> 'After the interruption of the War years the Research Group resumed activities in 1947. The inquiry which it then took up differed from those undertaken before the War in that it was not so closely related to theoretical issues in economics. The subject of industrial productivity, however, was of very great contemporary interest, and it was decided to

[3] For further details on the conditions of emergence of the OERG, see Besomi [1998], and Lee, Young [1993]

[4] Letter from Henderson to Harrod, February 1935, in Besomi (2003).

[5] It appears clear in one of the "background memorandum" of the group: "The strictest confidentiality is invariably observed, members having signed an undertaking never to say or to write anything which might identify a visitor or his company. The success of the Group's work has depended, of course, upon the confidence our visitors have that they can speak freely." [David Stout's archives, background memorandum, 1960].

[6] For further details on this comment, see. Arena L. [2006]

> seek businessmen's opinions on some aspects of the problem.' [Andrews and Brunner, 1950: 1]

Roy Harrod took the chair and, in accordance with the new line of research of the Group, the intake of new members comprised in the main a number of prominent industrial economists: Philip Andrews, Elizabeth Brunner, Eric Hargreaves, Lady Margaret Hall, or John Jewkes [The *Annex 2* constitutes a list of the Post-War members of the OERG].

Philip Andrews became the new secretary of the group and was assisted by Elizabeth Brunner. Harrod described Andrews as a man with a large knowledge of the world of industry. He remarks:

> 'By this time Andrews had become, not merely the Secretary, but the organizer of our work. I relapsed into the rather passive role of Chairman of the meetings. Andrews' knowledge of the world of industry, by that time very extensive, was valuable in enabling him to get hold of the people, whose experience would be most relevant to our enquiries.' [Harrod, 1971: 7]

This new direction of interests with the group reflected the importance it began to attach to the analysis of industry and its need for a new theoretical framework in which to understand it. According to our main archival source, between 1950 and the end of the Oxford Economists' Research group, four main themes had been studied by the members. These themes were clearly oriented towards industrial economics issues. The first one was the pricing policy of exporters when the exchange rate altered. The members of the Group also studied the relationships between firms. The third theme referred to business investment and sources of growth enquiry. One of the last inquiries was mainly based on the provision of finance for industry. Many representatives from the world of finance were invited.

In 1964, the group started to question its relevance. Some notes taken by David Stout - who was the current Chairman of the Group - mentioned some possible reforms which could render the meetings more attractive for the audience. One of the ideas was particularly to change the schedule and to move the meetings every Monday instead of every Tuesday (when the Hicks Group was used to gather as well). The reasons of the decreasing popularity of the Group were not easy to understand. Some of them had been envisaged in a letter written by George Richardson (current secretary in 1964) to David

Stout. The following is said:

> 'At the most recent meeting, held earlier this term, only seven members of the Group arrived, including in any case two office holders. (…). The causes of this may be any one or more of the following. The topic is of too narrow interest. The speakers are not good even on this topic. We are all simply too busy to attend (I myself was out four nights that week). Or the whole concept of the Group and its methods is now obsolete. And perhaps there are other causes as well. I myself am convinced strongly of the two last of the above four, am prepared to believe the first, but would contest the second. Nonetheless, whatever, the cause, the result is clear to see.'[7]

The group last met in 1965, after having enquired on the theme of Forecasts and Business Decisions.

Interestingly enough, the shift between the content of the first diversified and non-unified topics in 1936 and the industries orientation of the last ones, seem quite significant for our preoccupations. If the topics of the discussions before the war were concerned with the theory of the firm, and competition, they were also dealing with broader questions, such as macroeconomics or international economics issues. By contrast, the enquiries developed after 1947 expressed significant rising interests into economics of industries matters.

The second illustration of the birth of Industrial Economics in Oxford, coincides with post-Marshallian developments, and is reflected in two major publications by Philip Andrews of *Manufacturing Business* in 1949 and by Philip Andrews and Thomas Wilson of *Oxford Studies in the Price Mechanism* in 1951. Our analysis mainly focuses on the Marshallian orientation of *Manufacturing Business*, since *Oxford Studies in the price Mechanism* is mainly the publication of a series of papers written before the War in the context of the OERG, and is therefore an expression of the pre-war activity mainly organised around the contribution of Hall and Hitch.

As Andrews pointed out, *Manufacturing Business* expressed an essentially Marshallian analysis both in its conclusions and in its methodology. This remark deserves further comments on Marshall' theory and its legacy.

[7] David Stout's archives, letter from George Richardson to David Stout, 3rd March 1964.

Manufacturing Business was written in 1949 in a very specific context. It constituted on the one hand, a reaction to the well-known Cambridge Cost Controversies of the 1920s-30s and was, on the other, to a large extent a continuation of the famous Hall and Hitch's empirical developments published in 1939. If the Cost Controversies questioned the theoretical meaning of Marshall's work, and especially Pigou's specific interpretation, Hall and Hitch followed a more empirical critique and tried to show that the assumption of short run profit maximization which underlies Pigou's interpretation, clearly contradicted the pricing practices of businessmen. They exposed the famous 'full-cost principle'[8], which emerged from one of the first enquiries into actual business practice made by theorists. *Manufacturing Business* was essentially written against this background.

Hence, the first objective of the book was to illustrate the combination of both deductive and inductive approaches, and to emphasise their complementarities. This aim has emerged in accordance with the Marshallian approach, as it was concerned with getting closer to the real manufacturing world. Basically, Marshall saw economics to be a science with a double nature. On the one hand and as for any other discipline, he believed that economics had to be a "theoretical" or a purely abstract science, mainly built upon assumptions and postulates. On the other hand, he considered economics as a way of improving the human condition in society, taking into account the "applied", and "wider" aspect of economics. Therefore, Marshall tried to render economics closer to reality and did not want to transform economics into a pure empirical science.

Also, in accordance with Marshall's empirical and inductive preoccupations, Andrews' *Manufacturing Business* was largely concerned with the complex facts of business life, analysed through a detailed investigation of specific firms and industries. As it is emphasised in its introduction, the book used therefore an approach based on observed industrial complexity at the expense of elementary mathematical formalism, such as Alfred Marshall expressed it through his particular view of economics and its specific interpretation of Marshall.

> 'During the last twenty years, we have indeed wandered far from the viewpoint of Alfred Marshall, and I should like to suggest the need for a

[8] Typically, the company would make an ex-ante estimate of average cost, as determined by some notion of its 'normal' output, and then add to it one or more percentage margins – the 'mark-up'.

re-appraisal of his great achievement as a practical economist […]. It seems possible that, we modern economists have been far too much concerned to give a consistent Marshallian theory, and have tried too much to explain Marshall in a higher critical way than to achieve a better description of the facts of Industrial Economics'. [p. XVII]

However, it would be misleading to argue that Andrews' investigations only resulted from the observation of the reality of industrial markets. In the next paragraph, we will argue that Andrews' results emerged firstly from a general theoretical argument. The publication of his book in 1949, illustrated therefore his use of a Marshallian approach in the realm of industrial economics, deliberately replacing the normative by a more empirical interpretation of Marshall.

Nevertheless, if Hall's and Hitch's contribution was purely empirical and based on surveys of business pricing practices, Andrews tried to develop some analytical foundations of their empirical results. Put differently, this highlights the combination of inductive and deductive approach in Andrews's contribution which revealed the contrast with Hall and Hitch's development 10 years earlier. In fact, Andrews was strongly in favour of an integrative approach, combining the full cost principle (reshaped as « normal cost ») with a revival of the Marshallian framework and tools. To support his argument, Andrews used diagrams including long run costs curves. His developments were therefore analytically based. His main idea was that in his analysis of the short run, Marshall could be clearly interpreted with the help of marginal tools [9]. His analysis of the long period was however considered to be incompatible with these tools and their individual foundations. In this context, some years after the publication of *Manufacturing Business,* Andrews wrote:

> 'As I interpret Marshall, the root cause of his treatment of long run supply at the level of the individual firm is that he thinks of falling, rising or constant cost as being equally conceivable conditions in what he wishes to analyse as competitive industries and – as so many passages show – he thinks of manufacturing industry as typically showing falling average costs as expanded outputs are maintained in the long run.' [Andrews' lecture notes IV, 2 December 1968, LSE archives: 2]

[9] All firms faced rising marginal cost curves and balanced the marginal cost of output against the given marginal revenue of market price.

Andrews' interpretation of Marshall therefore emphasizes the existence of long run supply curves including economies of scale. According to Andrews, and by definition, the expansion of the scale of the firm in the long run cannot be founded on a marginal approach only admitting increasing average costs in the long run. This is why, some paragraphs later, Andrews refused to interpret Marshall's analysis of the market long-run supply with marginal tools:

> 'To put matter in nutshell – Marshall refused to derived from price of competitive market, simple marginal revenue function of firm for any questions relating to the expansion of the scale of the firm.' [Ibid: 3]

Andrews' expression of normal costs in the long run is strongly influenced by Marshall's analysis of the long period. This interpretation of those normal cost curves in the long-run borrowed the concept of representative firm from Marshall. Once again, Andrews gave a particular interpretation of the Marshallian representative firm. By contrast with the marginal interpretation of the representative firm which considered this concept as an equilibrium firm, Andrews considered it as a firm which represents the reality of industry. He expressed his argument as follows:

> 'This [concept of representative firm] was his new semi-historical concept which he brought into his analysis. In Book IV, Ch. XIII, p. 317 when he refers to long period, he talks about <u>normal</u> expenses of production and says that for these we must refer to the representative firm not to any particular competitive firm.' [Ibid: 3]

Andrews then quotes Marshall and puts the emphasis on the incompatibility between his theory and its marginal interpretation:

> 'In Book V, Ch. XIII, sect. 2, p. 459, he [Marsall] says: "we cannot then regard the conditions of supply of an individual producer as typical of those which govern the general supply in a market" and calls again on the 'device' of the representative firm and if you turn to p.460 you find him talking about a whole change in a business – e.g. adding a new line as the marginal cost "on which we fix our eyes".' [Ibid: 3]

Hence, Andrews refused to read Marshall's contribution to economics as a 'static marginalist equilibrium theory'[10] extended to the long run analysis. According to him, Marshall's representative firm is an industrial concept and 'in effect he [Marshall] is

[10] [SMET]. This is the way Andrews referred to the marginalist approach, in his lecture notes.

saying that we must refer the industrial supply curve to industrial conditions and not disaggregate it to purport to get long run marginal cost curves for individual businesses' [Ibid: 4].

For all these reasons [use of inductive and deductive approach, nature of the long run supply curves, and concept of the representative firm], Andrews' particular interpretation of Marshall represented a strong theoretical foundation to *Manufacturing Business*. In this sense, the Andrewsian approach of industrial issues can be seen as comprehensive enough, rendering his methodology and his concepts very much compatible.

II. Industrial Economics in Oxford: The substantial developments [1952-1968]:

The second part of the paper deals with the birth and the evolution of Industrial Economics in Oxford between 1952 and 1968, when Philip Andrews and Elizabeth Brunner (two of the most prominent proponents of Industrial Economics) left Oxford to join Lancaster University. This period saw many substantial theoretical and empirical developments of the discipline, mainly Marshallian oriented. This argument is supported by three major outcomes, namely the creation of the *Journal of Industrial Economics,* the increasing weight of industrial economics lectures in the Oxford teaching, and the organisation of a weekly seminar in the Economics of Industry.

The foundation of the *Journal of Industrial Economics* in 1952 by Philip Andrews is chosen as the starting point of this analysis. As a response to the major vague of interests in empirical studies of industries referred to in the last section of this work, the *Journal* first constituted a clarification of industrial economics as a proper established discipline. As Elizabeth Brunner mentioned in her abbreviated notes for a talk given to the Frank Friday Group about 'The training of academic industrial economists', one of the aims of the *Journal* was to establish a new discipline, not only based upon industrial facts, but mainly supported by general theoretical assertions:

> 'Then in 1952 he founded the Journal of Industrial Economics. Did not mean just the old economics of industries. The new term for a new subject was not established then as it is now […] searching about whether we could use the term and not be misunderstood. It is very definitely not just an 'applied' subject. The heart of it is the study of the individual business unit and the decision-making process –

> investment, pricing, etc. – and also of course the relationships between businesses which brings in the study of industrial structure, restrictive practices and environment generally.' [Elizabeth Brunner, *'The training of academic industrial economists'*, Talk to Frank Friday Group, not dated, but estimated in 1961, Andrews and Brunner archives, Box 529: 1-2.]

From this standpoint, the *Journal of Industrial Economics* reflects the emergence of industrial economics as a well established subject. In the same talk to the one quoted above, in the 1960s, Elizabeth Brunner, notes the birth of the discipline in England, as a result of the creation of the *Journal*:

> 'Now the subject is so well established that one tends to think it has always been in existence. But I remember our diffidence at the beginning of the Journal, and our joy when we got a letter out of the blue from a University which started 'I am an industrial economist'. Now I see that Nottingham for instance has changed the name of Professor Well's department to the Department of Industrial Economics.' [Ibid: 2]

The first issues of the *Journal* were strongly concerned with industrial issues, often supported by industrial case studies. For instance, the first article of the first issue written by Mason is mainly interested by the specific case of the raw products industry in the US[11]'. In the same issue, Fred Stones wrote his 'Price Policy in a Nationally Administered Industry', and Robert Shone made a contribution to 'Steel Price Policy'. Business decisions – particularly studied by Frank Friday in the first issue with his paper on 'The Problem of Business Forecastings' are also a central issue in the preoccupations of the *Journal*. Interestingly enough, Andrews' contribution to the first issue confirmed the Marshallian orientation of his contribution exposed in the previous section. In fact, according to him, the inductive approach cannot be sufficient by itself:

> "A theory should, strictly, be judged by its results and not by its assumptions, for it is a mistaken view of scientific procedure to imagine that this demands that assumptions must be 'realistic'. Where realism is required is in the conclusions, and at that level, a better name for the quality in question is 'validity'. The validity of a theory is entirely a matter of the extent to which it is a better predicting instrument than any alternative theory." [Andrews, 1952: 73]

[11] Mason's contribution was entitled 'An American View of Raw Materials Problems: The Report of the President's Materials Policy Commission'.

Hence, in accordance with Marshall's view, a 'good' theory has to be built upon three successive steps, driven firstly by a theoretical part and then by an empirical component. First of all, the theorist needs to assume some hypotheses in order to construct a model. As the author argued above, these assumptions do not need to be realistic, but rather more to fit with the theoretical elements involved– assuming the existence of perfect information can be one of those, for instance. Then, from these assumptions, the economist can draw a theoretical core of the problem which will lead to his conclusions. Finally, the empirical part is used to confront the results - or what is often called the predictions - found accordingly to the hypotheses with the reality. This component of the reasoning gets the statistical and empirical work involved. The economist will take a significant statistical sample of the reality and see whether it is compatible with the conclusions drawn by the theoretical model. If it is not, the hypotheses will be reformulated until the moment when the new conclusions finally fit with the reality. This explanation confirms therefore the idea that there is no need for the assumptions to be realistic.

Therefore, if the first issue of the *Journal of Industrial Economics* defined the purpose of industrial economics as a new discipline, it also gave this new discipline a particular methodology, strongly influenced by the work of Marshall. Interestingly enough, the orientation of the *Journal* after the death of Andrews and Brunner – who took the board after the death of her colleague – became less Marshallian [according to Andrew's interpretation] over time and increasingly marginal.

The second significant indicator of the increasing influence of industrial economics can be found in the organisation of the university lectures of the time.

To support our argument, we produced here our own data set from the Oxford University lecture lists in the field of economics, categorised by titles, fellows, teachers, terms and years the lectures ran. The archival source of our work can be found in the various issues of the *Oxford University Gazette*. This journal constitutes the official and authorised journal of record of the University of Oxford. Its weekly issues, from September to July, throughout the academic year have been published since 1870 and only put online since

1990. The *Gazette* provides its reader information regarding Oxford University, such as lists of events and lectures, the official announcements, the newly appointed professors, or the available vacancies. Our dataset covers a time period of 17 years from 1951 (Michaelmas Term) to 1968 (Trinity Term).

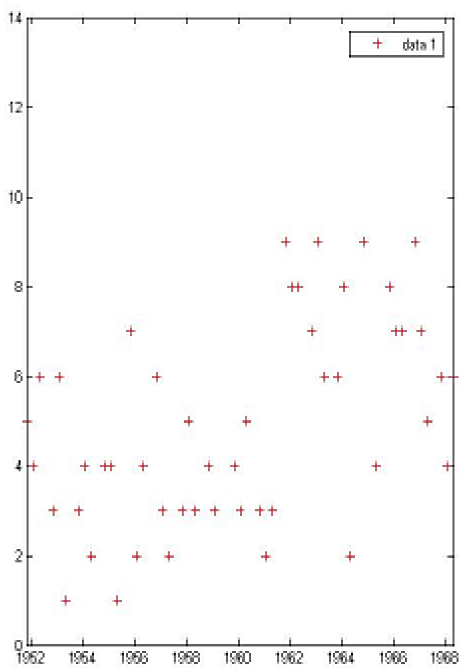
The lecture lists correspond to the lectures and seminars given to the students in economics (undergraduate and graduate students). The undergraduate students were reading for PPE, and the graduate students were mainly B.Phil. students in economics. In Hilary Term 1966, the B.Phil. in Engineering Science and Economics was created. This new degree and its corresponding lectures have also been included in the data set. We have categorised each lecture course and seminar by assigning each course a JEL code; the system used by the *Journal of Economic Literature*. This classification consists of 19 main categories (A,B,C etc), each of which has a certain number of sub-categories (A1,A2,A3 etc) (each of these is further divided into sub-sub-categories A11, A12 A13 etc). Our study only considers the first two levels of categorisation (the A1, A2, A3 level)[12].

Once the dataset was established we made an index file in excel in which we listed all the existing undergraduate and graduate economics lectures between 1951 and 1968 [one term after another] and their corresponding JEL code. We can note here that even if a lecture's title evolved in time (eg: the B.Phil (graduate) seminar titled "Applied Economics: Economics of Industries" from MT 1956 to TT 1958 changed to the seminar entitled "Economics of Industries" from MT 1958 to TT 1967), this will not cause problems as the database tracks any name changes. Considering the very large amount of data (446 titles of lectures and seminars) in the dataset, it appeared very difficult to analyse them. Therefore, we wrote some software using *Matlab* to read in the dataset and the index file and process the data. The user then simply needs to enter a JEL code or a collection of codes. The software looks up every course corresponding to the specified JEL codes and counts and plots the number and percentage of courses corresponding to

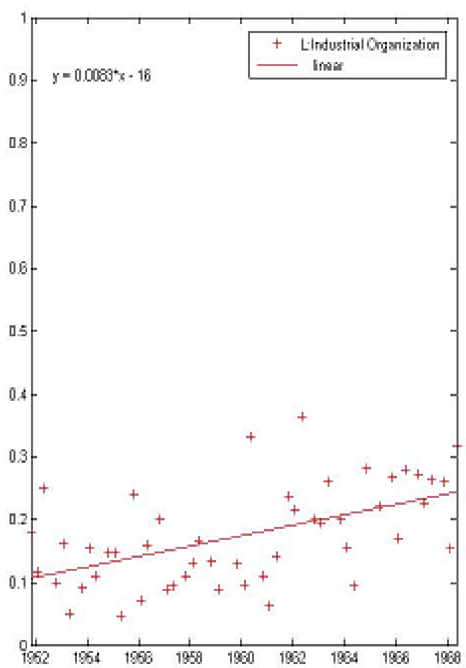
[12] For example, if we are interested in the lectures about the theory of the firm, they can either be categorised within the category D2 (where D is "microeconomics", and D2 is "production and organizations") when we refer to the traditional microeconomics theory of the firm, or within the category L1 or L2 (where L is "Industrial Organization", L1 is "Market Structure, Firm Strategy and Market Performance", and L2 "Firm Objectives, Organization and Behaviour"), when we refer to the theory of the firm according to Andrew's definition.

the desired codes against time. The software also allows the user to implement other investigations as the search for the distinction between graduate and undergraduate courses. Finally, the software can also fit a polynomial or linear function to the data, as an illustration of our results.

For our purpose, we focus here on the ‘L’ category of the JEL classification, which corresponds to the ‘Industrial Organization’ discipline. The following graph illustrates the increasing weight of industrial organisation in the Oxford courses between 1952 and 1968, at both undergraduate and graduate levels.



a) Absolute values of courses classified in the category ‘L’.



b) Relative values (in percentage) of courses classified in the category ‘L’, comparatively to other courses.

Two complementary results could be drawn from the above graph. The first one refers to the graph a) and makes clear that an increasing amount of fellows are teaching industrial organisation related topics in the Oxford context. More precisely, on the period 1952-1956, the amount of courses organised around industrial organisation never exceeded 6 lectures per term. Where in Hilary Term 1956, 7 lectures in industrial organisation has been introduced, the following period, i.e. until Hilary Term 1962, never goes further 6 lectures per term. Between 1962 and 1968, industrial organisation lectures reach the amount of 9 per term. Even more significantly, the graph b) plots the percentage of industrial organisation lectures and seminars to the rest of the lectures taught in the Economics faculty. When, in 1962, industrial organisation represented 10 % of the entire taught lectures and seminars in Oxford economics, the discipline reached 25% of it in 1968.

The substantial theoretical and empirical developments in industrial economics during the period 1952-1968 are also illustrated by the organisation of a weekly graduate seminar in the Economics of Industry[13]. This section is supported by the archives given to us by Professor David Stout.

The B.Phil in Economics has only been created after the War[14], and offered originally students to choose one compulsory theoretical and one compulsory applied economic paper. Two advanced papers could then be chosen in addition to the compulsory ones, but were mainly traditional topics, such as international trade or statistics [Brunner, *'The training of academic industrial economists'*: 1-2.]. Those seminars gave a new chance for the B.Phil students to become more specialised in the topics they were really interested in. One of the senior and the most popular seminars among students was the graduate seminar in applied economics. It was a two years course. The first sessions of the seminar did not seem to be very attractive, and 'made a very shaky start […] with only 2 people apart from seniors at the first meeting'[15]. However, the attendants rapidly grew to 12 members. Later, in the Oxford Economics Papers' supplement in honour of Sir Hubert Henderson, Worswick qualified this seminar as 'the most popular of the numerous

[13] These archives were given to me by David Stout, 16th February 2006

[14] As Elizabeth Brunner rightly pointed out, 'there was no formal teaching of graduates at Oxford until after the War. Until 1947, if you wanted to read a higher degree you wrote a thesis and submitted it for either a B.Litt. [2 years, research report] or a D.Phil. [up to 4 years, originality and worthy of publication]. […] After the War, it became clear that graduate work at oxford was going to be greatly expanded. People were demanding to find some organization. […] And Oxford introduced a new graduate degree, the B.Phil., equivalent to the B.Litt. in standing but to be taken by examination not thesis and to be taught for by class instruction. B.Phil. for 2 years (exceptionally 1) primarily for Philosophy, Economics and History.' [Elizabeth Brunner, *'The training of academic industrial economists'*, Talk to Frank Friday Group, not dated, but estimated in 1961: 2]

[15] Brunner, *'The training of academic industrial economists'*, 1961 : 3.

graduate classes started after the war primarily to meet the needs of those studying for the new degree of Bachelor of Philosophy.'[16]

It was run by Sir Hubert Henderson, Sir Henry Clay, Frank Burchardt and Philip Andrews. The seminar used to meet every Monday at 5pm at the Oxford institute of Statistics[17] and covered a very wide field, not only the firm and industries but a lot of national income, employment, and macro-economic topics. Henderson's role in the seminar was central[18]. When he died, Worswick took his place, which conducted the seminar to be split in two parts. According to Elizabeth Brunner, this split was mainly the result of (…):

> '(…) Pure personality reasons. Balogh wanted to take over the discussions of public policy, the budget and so on; Worswick wanted to run his own class on economic theory; Burchardt was off for a year in Geneva.' [Brunner, *"The training of academic industrial economists":* 3].

Therefore, in 1956, it was agreed that the seminar in applied economics split in two. Balogh was in charge of the public policy and budget angle. Andrews took the economics of industries part. Each speciality became a year's course only and both seminars were each held at the same time.

Andrews became the economics of industry seminar's chairman in 1957, re-organizing it as a specialised seminar in industrial economics. In a letter to one of the businessmen he invited at the early beginning of the seminar, he wrote:

> "There was some left-wing manoeuvring in the summer which gave me a chance, much to their surprise, to convert the seminar into something much more systematic and I think offering better value." [Letter from PWS. Andrews to David Liston, The Metal Box Company, 10/01/1957]

Andrews was running the seminar with Elizabeth Brunner, Eric Hargreaves, and Dr. Burchardt who was the Director of the Institute of Statistics. In his obituary for EB, Wilson remarks:

> 'Together they made a good team. Philip was imaginative and creative, immensely vigorous but also impatient and unruly. Although by no

[16] Worswick, 1953: 66.
[17] Letter from PWS. Andrews to David Liston, The Metal Box Company, 10/01/1957, Andrews and Brunner's archives: Box 529
[18] At the time, Henderson was not only popular within the undergraduate community, but (…) 'was even greater upon research students. Smaller in number, of course, he met them in the less formal climate of a seminar. Here Henderson could relax and above all, discuss.' [Worswick, 1953:66]

> means lacking – need it be said – in the capacity for imaginative insight Elizabeth had a more disciplined approach.'[19]

The sessions of this new seminar used to take place in Nuffield every Monday at 5pm. The entry was limited to twelve members, all graduates interested in the economics of the firm and the economics of industry. The first term of the session the group had no visitor and get to know one other by reading literature bearing on practice in industry and discussing practical evidence on particular topics going on to discuss their implication for theory. For the remaining two terms of the year, the seminar invited visitors in order to help the group from their own practical experience. The proceedings were opened by a graduate member of the seminar reading a short paper on questions which the economist wanted to know, setting them against the background of generally accepted theory. The organization of the sessions was very different to the other seminars of the time. As E. Brunner remarked:

> 'The course of other seminars is that someone reads a lengthy paper, the senior members then hold forth, and there is no real discussion. We have aimed at short papers and real discussions'.[20]

Then, the guest was first asked to give a brief description of his business and its products, to thereafter comment on the paper from the point of view of his experience and a discussion followed. Different Oxfordshire businessmen used to speak at this seminar every week. On the same grounds as for the OERG, all the businessmen were promised complete confidentiality[21].

The topics of the seminar were diverse. For example, in Michalemas Term 1958, five main enquiries, in line with the purpose of industrial economics, were studied: 'The behaviour of costs', 'the competitive process', 'barriers to new competition', 'innovation' and 'restrictive trade practices'. In later terms, those theoretical analyses were completed by the discourse of a 'practical guest', such as: 'Businessman who had marketed an

[19] Wilson, 1983, p.ii.
[20] "The training of academic industrial economists", Brunner, E., Talk to Frank Friday Group, not dated, but estimated in 1961, Andrews and Brunner's archives: Box 529.
[21] 'I would particularly stress the undertaking of confidentiality which all our members sign', letter sent to a businessman, to Mr. Lines, Chairman of Lines Bros. Ltd., London, Andrews and Brunner's archives, Box 259.

innovation', 'pricing policies for different sort of products', 'businessman on deciding the scale of a plant', and 'cotton industry after giving up price fixing' [Brunner, *'The training of academic industrial economists'*: 5]. A list of questions to businessmen on pricing is given in the *Appendix 3.* From this standpoint, comments could be made about the Marshallian orientation of the seminar, which do not differ from those we already formulated. It is clear from the investigation of those questions that the empirical background of Andrews' seminar has been firstly based on mainly theoretical arguments. The organisation of the seminar was implemented during the first term around theoretical discussions, in order to give more sense to the scope of the questionnaires, which were sent in the following terms.

However, as for the *Journal of Industrial Economics*, the seminar in the Economics of Industry shifted from a Marshallian analysis of Industrial Economics issues to some more standard developments. When Andrews and Brunner left Oxford in 1968, David Stout became in charge of the seminar but left Oxford in the early 1970s and lost touch with its organisation in 1974. Then, Derek Morris became its organizer and reoriented the topics in a different direction. For instance, glancing at the Michaelmas term 1974 programme of the seminar, the 7 weeks of the term were structured as follows: 1) The principles and significance of company accounts, 2) the profit maximising hypothesis[22], 3) Price formation, 4) Game theory and oligopoly, 5) mergers and concentration, 6) the organisational structure of the modern corporation, and 7) Multinational Corporations.[23]

According to the reading lists accompanying the title of each week's topic, further comments can be made on this programme. First of all, there is not a single reference to any of Marshall's works, which expresses a great independence from any Marshallian influence. Second, the emergence of game theory gave rise to an alternative theory of oligopoly, which did not exist when Andrews was still in Oxford. Last but not least, we

[22] The reading list for Week 2 indicates references to Berle and Means, Marris, Williamson, as contributions to the extensions of the profit maximising hypothesis, without referring at all to Hall and Hitch or to any work made by the OERG.

[23] As a comparison with the first topics of the seminar, the program for MT 1957 was much more concerned with Industrial Economics as defined by Philip Andrews: 1) Profits in accountancy and in economic theory, 2) Empirical cost functions and their theoretical implications, 3) Competition and the condition of entry, 4) Competition and the structure of markets, 5) The growth of the firm and the concentration of industry, 6) Oligopolies.

can also notice an entire week dedicated to the internal structure of the firm (week 6), which is the result of the development of business studies at the time.
Those remarks will lead to the next and last section of our contribution, which deals with the period covering 1968 to 1979.

III. Industrial Economics in Oxford: A new orientation [1968-1979]:

The last part of this paper is concerned with the period 1968 to 1979. This period is too close to the present time to cope with the last stage of development of industrial economics in a systematic way. For this reason, the analysis will rather focus on what we consider to be two crucial significant events for our preoccupations: (i) the publication of the first edition of *Industrial Economics, Theory and Evidence* by Donald Hay and Derek Morris in 1979, (ii) the creation of the B.Phil. in management studies in Oxford University, in 1970.

The publication of the first edition of Hay and Morris' textbook on Industrial Economics gives an interesting indication of the decreasing influence of the Oxford Marshallian approach to the firm and especially of the contribution of Philip Andrews. This conclusion is entirely confirmed, if we compare this edition with the second one which was published in 1991, with a slightly different title (*Industrial Economics and Organisation, Theory and Evidence*).
Thus, the first edition of *Industrial Economics* only refers twice to Andrews and Brunner's normal cost theory. The first reference appears in a chapter dedicated to 'pricing behaviour' in which *Manufacturing Business* is only mentioned for its empirical evidence on pricing. The book is presented prevalently as a series of empirical investigations which support the validity of the cost-pricing principle and tries to incorporate it to a theory of competition. It is clear, however, that in the authors' minds, Andrews' book only constitutes a new evidence to support the old Hall and Hitch's article on pricing. This article itself is mentioned in relation with the problem of uncertainty. The basic model of the chapter is a monopolistic price model and Hall and Hitch's contribution is only considered in so far as its incorporation of uncertainty in

pricing decisions could be able to change the results of the model. The conclusions drawn by the chapter stress that the monopolistic price model is not generally undermined by empirical studies involving uncertainty. Hall and Hitch's article is also mentioned in relation with the introduction of the kinked demand curve by Sweezy in America in 1939. This mention appears in a chapter dedicated to market behaviour and to its competitive or cooperative nature. The chapter focuses on the theory of oligopolistic markets and introduces very primitive versions of game theory. The kinked demand curve theory is considered to be too simple to catch oligopolistic interdependence in pricing. It is therefore easy to conclude from the first edition of the book that the mention to Andrews is really very limited. This first edition is a standard textbook in which industrial economics is described as a field in which debates and controversies are prevailing. It tries to offer the students a kind of synthetic view of the different approaches. As far as Marshall is concerned, the book appears to be very cautious. The author of the *Principles* is essentially mentioned in the historical introduction of the book. The authors stressed that Post-Marshallians lost a part of Marshall's message in dedicating too much work to pure empirical studies. Finally, they indicated their support to an approach of industrial organisation which would again combine empirical and theoretical aspects, as Marshall did.

The second edition of Hay and Morris' textbook confirms our comments. Andrews is mentioned as little as in the first edition, and for the same reasons. The major difference lies in the fact that Andrews' *Manufacturing Business* is now only considered among various empirical contributions, its theoretical developments being completely neglected.

Marshall is also mentioned, in a way which does not differ from the first edition. The main difference between both successive editions lies in the fact that debates and controversies decreased in the field of industrial organisation between 1979 and 1991, mainly because of the substantial rise and increasing domination of the applications of game theory to the realm of the theory of imperfect competition and strategic interaction.

More than ten years before the publication of Hay and Morris' textbook, the creation of the B.Phil. in Management Studies already represented a turning point in the Oxford Marshallian approach to industrial economics and especially of the contribution of Philip

Andrews. The B.Phil. in management studies was firstly introduced in 1967 [Oxford University Gazette, 1967[24]], after many years of discussions and negotiations among the different members of the economics faculty. However, we were able to find some unpublished documents from 1966 in the Andrews and Brunner's archives which concern a controversy between on the one hand, Norman Leyland – main investigator of the project who was in favour of a rejoinder between industrial economics and business studies - and Philip Andrews, on the other, who refused to be associated to this new discipline. The 24th January 1966, Philip Andrews, Elizabeth Brunner, David Stout and Lady Margaret Hall jointly commented on the 'proposed use of the economics B.Phil. paper in economics of industries in the management studies B.Phil.' [Andrews and Brunner's archives, LSE, Box 258]. The authors of these comments suggested that 'the paper [in Economics of Industry] as at present taught is not likely to be a suitable regular option for Management Studies candidates, and that to caster for an extension of its use in that way would be likely to damage the work at present being done in the existing seminar' and gave different reasons supporting this idea [e.g. lack of knowledge in economics from students in Management Studies[25], confidence issues with businessmen which could arise from the introduction of new people, general incompatibility between the aims of the B.Phil. in Management Studies and the purpose of the Seminar, library related issues, and so on].

If we exclude personal reasons[26] mainly concerned with the quality of the relationship between Andrews and Leyland at the time, alternative explanations of this strong protest about including the economics of industry paper in the B.Phil. in Management Studies could be drawn. If Andrews made clear at several occasions in his correspondence that he

[24] Oxford University Gazette, 24 May 1967: In the category 'Students for the Degree of Bachelor of Philosophy': Early, S.* (Brasenose), M.66-T.70, Mr. McCrone, Economics. (15 March 1967). * New admission (…) becomes (…) Students for the Degree of Bachelor of Philosophy: Early, S. (Brasenose), M.66-T.70, Mr. Dempster, **Management Studies**.

Interestingly enough, Andrew Glyn was the first D.Phil. student in management studies in Oxford (topic: company finance, supervised by Mr. Wright).

[25] Argument supported by the following sentence: 'The membership has generally included only men of fairly good quality as economists'.

[26] In a letter [26/01/1966] to N. Leyland, PWS. Andrews argued that 'as chairman (and, I suppose, founder) of the economics of industries seminar, no doubt I shall be credited with a corresponding degree of responsibility for what we did'. [Andrews and Brunner's archives, LSE, Box 258: 1].

was not opposed to the developments of Management Studies in Oxford[27], his arguments could still be analysed as a real fear regarding the future orientation of Industrial economics in Oxford. From this standpoint, he wrote:

> 'I have not found Oxford – or Nuffield – a very happy place to do my work, but it is here that I have been called to do it and have done the best I can not only to do my own work but to extend my activities constructively wherever they seemed likely to suit my community. […] At the same time, as with the Journal of Industrial Economics, I have taken on wider responsibilities and most recently I have been very moved by the interest taken in Elizabeth Brunner's and my work by certain foreign Universities[28]; there we have been received as full colleagues and have found nuclei of active people working in our field with sympathetic aims […].' [Letter from PWS Andrews to N. Leyland, [26.01.1966], LSE archives, Box 258: 3]

This quotation confirms the idea that Andrews' academic position was very precarious. He struggled, ultimately unsuccessfully, to maintain his highly contested academic position in Oxford. He fell out with Nuffield College[29] and was probably very aware of the possible decline of the tradition of industrial economics in Oxford he aimed to establish during more than ten years. At the same time, he could not accept the alliance between industrial economics and management studies as a solution to his issues, mainly for methodological reasons.

When seven years before, Elizabeth Brunner described the birth of industrial economics in Oxford she already stressed the risk for industrial economics to be confused with management studies:

> 'Let us hope that the name [of Industrial Economics] does not become too popular and dwindle into a synonym for management studies' [Elizabeth Brunner, *'The training of academic industrial economists'*, Talk to Frank Friday Group, not dated, but estimated in 1961: 1-2].

Elizabeth Brunner expressed her will to avoid the confusion between industrial economics and management studies, particularly because she considered, according to

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[27] '[…] But that does not mean that I am to be treated as a person hostile to management education.' [Ibid: 4].
[28] Andrews probably mainly referred here to US Universities with which he had various cooperations, especially through his good contacts with Professor Bela Gold.
[29] Interview with Maurice Scott in Nuffield, June 2004.

Andrews's formulation, that industrial economics was not an 'applied' subject, and was mainly drawn from general theoretical statements, as Marshall described it as well. The outcome of the controversy between Norman Leyland and Philip Andrews only emerged in 1970, a couple of years after Andrews left Oxford University. The process is not made clear by the archival material we have access to. The only information[30] we have is that the paper in industrial economics did become part of the B.Phil. in management studies in 1970. In the first four years, economics and management students both had the same exam questions. It is only in 1974, that students from both B.Phil. degrees had different questions.

The integration of the graduate seminar into the management studies syllabus constituted therefore the second event which emphasized the greater independence of industrial economics form a Marshallian interpretation formulated by Philip Andrews.

Conclusion:

The exploration of the various archives, of the interviews we conducted and of the literature we reviewed have lead us to three main concluding remarks.

First, a specific interpretation of Marshallian microeconomics existed in the University of Oxford after the Second World War until the end of the 1960s. This interpretation was dominated by the character of Philip Andrews. Andrews animated a group of colleagues and teachers, made empirical research and wrote several books and articles in order to maintain and extend the Marshallian tradition in Oxford from the end of the 1930s to the end of the 1960s. Even if Andrews' interpretation of Marshallian microeconomics included a deductive part which the author explicitly emphasised, empirical preoccupations played in fact the main role, and led to build a specific applied research methodology. This is why, a large part of our contribution has been dedicated to the meetings of the OERG, the graduate seminars that Andrews organised and the creation of the *Journal of Industrial Economics*. In spite of all his efforts, and even if Andrews certainly exerted some substantial influence on some of his students and colleagues, he never succeeded to create his proper school of (Marshallian) economics.

[30] See in particular the Oxford exam papers in the B.Phil. in management studies [1970-1974]

Secondly, Andrews did not only develop some interpretations of Marshallian microeconomics. He also contributed to the emergence of the discipline of industrial economics and organisation in Oxford. From this standpoint, his activity appears to be certainly a success. However, the paradox lies in the fact that this success also meant the progressive decline of the Marshallian tradition in Oxford. From an outside perspective, one could think that Andrews' increasing interest for industrial economics and organisation contributed to the decrease of the influence of the Marshallian approach. The specificity of Andrews' conception of Industrial Economics indeed came from his main interests in firms and industries, which is in line with his Marshallian orientation. This specificity probably explains the fact that the type of industrial economics defended by Andrews entered very quickly in competition with the various mainstream approaches, which focused on markets, more than on firms and industries.

Last, the two previous concluding remarks have explained why in the field of industrial economics, as well as in the framework of post-Marshallian economic analysis, Andrews never exerted a direct influence which could have given birth to a genuine new approach shared by disciples. His influence certainly existed, but it is more spread than direct.

Appendix :

Appendix 1: OERG early members:

Names	Years in the Group	Research interests	Relevant and Selected works	Reasons of departure
Allen W.M. (Balliol)	(1936-1948)	Monetary Economics and Applied Economics		Became Advisor and Executive Director, Bank of England (1950-1970)
Bowley Marian (OIS)	(1936-1937)	Industrial economics, esp. focused on building material industries	*Innovations in Building Materials*, 1960, London: Duckworth	Became too busy with her inquiries in the building material industries
Bretherton R.F. (Whadam)	(1936-1939)	Macroeconomics, esp. focused on Public Finance / Book with Burchardt in the 1950s	A list of the Macro-lepidoptera of the Oxford district', *Proc.Rep.Ashmol.nat.Hist.Soc.Oxf.* 1939, pp.25-70.	
Brown Arthur.Joseph, (Hertford)	(1936-1939)	Industrial Economist, Applied Economics and Statistics	*Industrialization and Trade: The Changing World pattern and the Position of Britain,* 1943, London: Royal Institute of International Affairs	
Burchardt Frank (All Souls)	(1936-1958)	Applied Economics and Statistics - Director of the OIS (1940-1958)	*Public investment and the trade cycle in Great Britain* (with R. F. Bretherton, and R. S. G. Rutherford), 1941, Oxford : Clarendon Press.	
Hall Robert (Lord) (Trinity)	(1936-1947)	Macroeconomics, esp. focused on the consumption and pricing theory	Price Theory and Business Behaviour' (with Hitch C.), *Oxford Economic Papers,* n°2 (May 1939), p. 12-45.	
Harrod Roy, (Sir), (ChristChurch)	(1936-1965)	Macroeconomics, esp. focused on the business cycle theory	'Price and Cost in Entrepreneur's policy', *Oxford Economic Papers,* n°2 (May 1939), p. 1-11.	Never left the Group

Henderson Hubert D (All Souls)	(1936-1950)	Applied economics and statistics	*The population problem : the experts and the public* (with T. H. Marshall, A. M. Carr-Saunders, R. R. Kuczynski and Arnold Plant), 1938, London : G. Allen & Unwin.	
Hitch Charles (Queen's)	(1936-1939)	Macroeconomics, esp. focused on the pricing theory	Price Theory and Business Behaviour' (with Hall R.), *Oxford Economic Papers*, n°2 (May 1939), p. 12-45.	
Hugh-Jones E.M., (Keble)	(1936-1955)	Industrial Economics and History	*An American experiment* (with E.A. Radice), 1936, London ; H. Milford : Oxford University Press.	
Marschak Jacob (OIS)	(1936-1939)	Applied Economics and Statistics - Director of the OIS (1935-1939)	*Economic aspects of atomic power; an exploratory study* (with S. H. Schurr), 1950, Princeton University Press	
Meade James, (Hertford)	(1936-1937)	International Economics	"A Sumary to Replies to Questions on Effects of Interest Rates", (with P. Andrews), *Oxford Economic Papers*, n°1 (Oct. 1938), pp. 14-31.	Became member (1938-1940) and Director (1940-1947) of the Economic Section of the League of Nations
Opie Redvers (Magdalen/New)	(1936-1964)	International Economics	"A British View of Postwar Trade", *American Economic Review*, (33)1, (March 1943), pp. 322-331.	
Phelps-Brown Henry (Sir) (New)	(1936-1947)	Labour Economics and History	*The framework of the pricing system*, 1936, London : Chapman & Hall.	Became professor of Economics of Labour at the London School of Economics (1947-1968)
Radice E.A.	(1936- ?)	Monetary Economics, Macroeconomics esp. focused on savings issues.	Savings in Great Britain, 1922-1935 : an analysis of the causes of variations in savings, 1939, Oxford University Press	
Sayers Richard.S.	(1936-1947)	British Monetary Economics	*Modern Banking,* 1938, London: Oxford University Press, H. Milford	Became the Cassel Professor of Economics at the London School of Economics (1947-1968)

Shackle G.L.S., (OIS)	(1936-1939)	Macroeconomics, esp. focused on the theory of uncertainty and the business cycle theory	*Expectations, investment, and income*, 1938, London : Oxford University Press, H. Milford.	

Appendix 2: OERG Post-War members:

Names	Years in the Group	Research interests
Andrews PWS (Nuffield)	(1937-1960)	Industrial Economics, esp. focused on the theory of the firm
Brunner Elizabeth (Nuffield)	(1948-1960)	Industrial Economics, esp. focused on the theory of the firm
Burchardt Frank (All Souls)	(1936-1959)	Applied Economics and Statistics - Director of the OIS (1940-1958)
Champernowne David (OIS)	(1948-1959)	Macroeconomics, esp. focused on unemployment issues
Chester, D.N. (nuffield)	(1948-1949)	Politics esp. focused on unemployment issues
Clay Henry (Nuffield)	(1948-1950)	Macroeconomics, esp. focused on unemployment issues
Hall Margaret (Lady)	(1948-1962)	Industrial Economics
Hargreaves Eric (Oriel)	(1948-1959)	Industrial Economics
Harrod Roy, (Sir) (ChristChurch)	(1935-1965)	Macroeconomics, esp. focused on the business cycle theory
Henderson Hubert D. (All Souls)	(1935-1950)	Marshallian economist/ applied economist/ good statistician
Hugh-Jones E.M., (Keble)	(1935-1955)	Industrial Economics and History
Jewkes J.,	(1950-1959)	Industrial Economics
Leyland N.H. (Brasenose)	(1950-1965)	Industrial Economics - founder of Templeton College
MacDougall G.D.A. (Sir) (Nuffield)	(1950-1959)	Macroeconomics, esp. focused on the trade cycle theory
Ward-Perkins C.N.	(1950-1959)	Economic History
Wilson Thomas	(1950-1959)	Industrial Economics, esp. focused on the pricing policy

Appendix 3 : Question list for guest (Hilary Term 1962)

CONFIDENTIAL
TO INDIVIDUAL
MEMBERS OF
THE SEMINAR.

SEMINAR IN ECONOMICS OF INDUSTRIES
HILARY TERM, 1962

Revised list of detailed questions on pricing

I. Information about products and marketing structure:

1. What products do you make?
2. How many competitors do you have in each line and how important are they in relation to your firm?
3. Do you think it would be easy or difficult for another firm to start making your products?
4. Have market conditions been favourable or unfavourable for your products in the last few years?
5. What channels and methods of distribution do you use?

II. Marketing policy for established products:

6. At what level of management are pricing decisions taken? What comes up to your level?
7. Do you have periodic reviews of your prices in general?
8. Have you any general policies about prices?
9. Do you charge different prices to different customers?
10. Why and when do you change prices?
11. How far is the pricing of a product affected by changes in its sales?
12. How far are you prices affected by what your competitors do?
13. Is there price leadership over any of your products?
14. What "collusion" is there in your industry?
15. Do you look closely at your share of the market?
16. How is your policy affected by (a) changes in wages and (b) changes in raw material prices?
17. Is your policy affected by general conditions of inflation or depression in the industry as a whole?

III. Marketing policy for new products:

18. Has your firm introduced any new products in the last few years?
19. Were they completely new or just new to your firm?

20. How did you decide what price to charge in each of these cases?
21. Did you set a price higher, lower or equal to the price you intended to charge when a market for the product was established?

22. Have we failed to ask about some aspect of price or marketing policy which you consider important?

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