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From Economics of the Firm to Business Studies at Oxford: An Intellectual History (1890s-1990s)

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From Economics of the Firm to Business Studies at Oxford: An Intellectual History (1890s-1990s)

A Thesis submitted in fulfilment of the requirements for the award of the degree of

DOCTOR OF PHILOSOPHY

THE UNIVERSITY OF OXFORD

Lise Arena

Oriel College

2011

To Anna Maricic who, twenty years ago, was concerned with the Marshallian foundations of Industrial Economics,

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In writing this thesis, I owe a debt of gratitude to very many people, not least because of the manifold interactions – with interviewees, archivists, and of course, supervisors and advisors – that have marked the progress of my thesis.

My first and greatest gratitude is to Jane Humphries who persistently encouraged me as well as extended great wisdom and guidance to me throughout my studies at Oxford University. Starting with her supervision of my M.Sc. thesis, and subsequently throughout my doctoral research, Jane has very generously, unsparingly and unfailingly expended time, advice and support to facilitate and guide my research efforts.

The topic of this D.Phil thesis gradually evolved out of my M.Sc. thesis in the Department of Economic and Social History. This had addressed post-Marshallian approaches to the firm and competition with particular emphasis on a comparative analysis of the contributions by Joan Robinson, Elizabeth Brunner and Edith Penrose. Initially, Avner Offer encouraged me to continue in the direction of intellectual history rather than the more specific focus on the history of (post-Marshallian) economic analysis adopted in my M.Sc. thesis. He also very helpfully suggested I contact Nicholas Dimsdale as a joint supervisor. Many very fruitful and productive discussions with Nicholas Dimsdale eventually led me to concentrate my research interest on the evolution of industrial economics at the University of Oxford specifically, and also facilitated my access to a number of interviewees whose involvement with the emergence of management studies at Oxford University, in turn, gave rise to chapter 6 of this thesis. I am immensely grateful to Nicholas Dimsdale for his interest in and engagement with my thesis, as well as for extremely valuable suggestions that helped to focus my research and that drew my attention to numerous aspects and implications of my work which might otherwise have escaped my full appreciation. Over and above her role as my thesis supervisor, Jane Humphries also was very helpful and supportive in helping me deal with the sometimes complex multi-disciplinary aspects of my thesis topic and by ensuring that, despite the inherently inter-disciplinary aspects of my work, I did not loose sight of the importance of developing a consistent framework from the perspective of historical analysis and intellectual history.

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In March 2008, I was invited to contribute to the International Workshop "*Marshall and Marshallians on Industrial Economics*" at Hitosubashi University in Tokyo. This opportunity greatly helped me to develop and improve chapter 3 of the thesis, for which I am very grateful. Suggestions from scholars such as Roger Backhouse, Simon Cooke, Tamotsu Nishizawa and Tiziano Raffaelli were very helpful, indeed, and I would like to thank them for their interest in my work at such an early stage of its development, and Simon Cooke, Tamotsu Nishizawa and Tiziano Raffaelli, in particular, for having included my chapter in their edited conference volume on *Marshall and Marshallians on Industrial Economics*, Routledge (2011).

Donald Hay and Derek Morris were instrumental in providing me with very valuable insights into, and on overview of, what industrial economics amounted to in Oxford at certain points in time, and how it evolved over the years. Their comments and discussion were of great value for chapter 4.

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Despite the aid of all these people any errors contained within the thesis are entirely my own. On a more personal note, I am immensely grateful to my father for being who he is and for having given me initial curiosity in History.

ABSTRACT

This thesis is concerned with the institutional, intellectual and socio-cultural history of the emergence and evolution of three academic subject areas at the University of Oxford, UK: industrial economics, economic theories of the firm and management studies. It charts and evaluates the gradual and, at times, conflictual process of their institutionalisation at Oxford, from the end of the 19th to the end of the 20th century, through the analysis of the evolution of teaching and research in economics and management fuelled by struggles for intellectual ascendency and power in these disciplinary developments.

This research aims to answer two main questions asked in the Oxford context: How have the practical concerns of the organisation of industries, firms and business come to attract academic attention and gained access to academic institutions? How has the nature of the institution influenced the theoretical and methodological orientation of these new academic subject areas?

The institutionalisation of the economics of the firm and of industries, as well as of management studies was obstructed by hostility within universities towards these new subject areas, which were seen as being either too applied or too vocational. The rise of these subject areas is a result of a combination of external factors such as the need for universities to tackle real world problems, constraints in external funding and the need to attract private financial backing. These subject areas emerged through a series of power struggles and personality clashes. Whereas management studies have become ever more applied, the economics of the firm has become a triumph of formalism, with mathematical models favoured over empirical studies.

In particular, the theory of the firm has taken a unique orientation in Oxford due to the Oxford Economists Research Group and the empirical approach to the firm as a reaction against the theory of imperfect competition popularised at Cambridge in the 1930s. The methodology (the use of questionnaires sent to businessmen) was at the time specific to Oxford. The Oxford theory of the firm was also strongly influenced by George Richardson and Harald Malmgren who focused on information and knowledge inside a firm and unwittingly contributed to a deeper understanding of the concrete organization of firms. Industrial economics was also shaped by Oxford institutions. The B.Phil. seminar on the economics of industries and the *Journal of Industrial Economics*, both introduced by Philip Andrews in the 1950s, exemplify the applied orientation of the discipline based on an empirical methodology. Andrews' influence later waned with the rise of industrial organization exported from the United States and based on the use of game theory as its main tool of analysis. Finally, management studies in Oxford emerged from a combination of confusion, personal antagonism, vested interests and Oxford's way of building new disciplines on existing ones. To a large extent, its current multidisciplinary orientation has not been consciously constructed, but arose from a shortage of suitable resources, as well as the ambivalence of the university about management education.

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INTRODUCTION

This thesis is concerned with the institutional, intellectual and socio-cultural history of the emergence and evolution of three academic subject areas at the University of Oxford, UK: industrial economics, economic theories of the firm and management studies. It charts and evaluates the gradual and, at times, conflictual process of their institutionalisation at Oxford, from the end of the 19th to the end of the 20th century, through the analysis of the evolution of teaching and research in economics and management fuelled by struggles for intellectual ascendency and power in these disciplinary developments.

In the case of economic and management studies of industry and firms, their development took place with the advent of privatization and liberalisation policies and a related rising interest in university-industry liaisons. This, however, has remained largely policy-driven and little focused on wider disciplinary or institutional developments. More importantly, the period from the end of the 19th century, characterised by the end of the Industrial Revolution, the rise of mature market-economies as well as by the emergence of industrial economics and a more pronounced academic interest in the management of firms, to the end of the 20th century, marked not only by the rise of free-market globalisation, but also by that of game theory as the dominant approach to industry and firm studies, remains largely unchartered territory as regards an inter-disciplinary perspective on the gradual institutionalisation of economic theories of the firm and of industry, and the emergence of management studies as a separate academic discipline.

Strictly speaking, there was no theory of firms, industries and management in Britain until the formation of economics as a separate discipline from philosophy in the last quarter of the nineteenth century. While the use of political economy as a subject goes

back to the eighteenth century, the idea that economics as a subject should be taught to all students was a novel one, and no precedents existed for organising such an enterprise. It was not until the publication of Alfred Marshall's *Principles of Economics* in 1890 that industrial economics gained an assured place in British economics curricular for another half-century. My thesis aims at understanding this relatively late emergence of the economics and management of the firm and industries in an academic context, considering the roles of researchers, their interactions, career aspirations, power struggles and personality clashes as well as the institutional context.

Towards the end of the 19th century, a fast changing economic and business environment posed challenges to the heritage of classical political economy, developed mostly in the context of late 18th and early 19th century industrial revolutions across Western Europe. The geographical expansion of industrial capitalism, the emergence of new markets, new forms of industrial and firm organisation and new relationships between private and public sectors all paved the way for the gradual appearance of these specialised areas of research. Their scope and contents differed from institution to institution, and while industrial economics as well as the economic theory of the firm have developed into (growing) sub-disciplines of economics, management studies eventually emerged as a separate academic discipline. Yet, the methodological and conceptual boundaries between these three subject areas remain fluid, giving rise to both confusion and, at time, also conflict over the definition of their core purposes and subject areas. A subsidiary aim of my thesis is, therefore, to provide a framework within which such differences can be reconciled.

Industrial economics is usually defined as the study of the structure of markets, the economic performance of industries, the behaviour of both and the manner in which they interact. Industrial economics did not emerge as a separate research and subject area until the inter-war period in the United-States, and the 1950s in England[1]. Embryonic forms of industrial economics can be found in earlier economic theories, with the earliest example in the UK probably dating with the publication of the *Economics of Industry* by Alfred and Mary Paley Marshall. Four decades later, a number of U.S. economists, including Knight (1921) and Clark (1922), had succeeded in introducing main concepts, such as specific forms of imperfect competition and the role of uncertainty and risk in the context of innovation.

While industrial economics focuses on the aggregate analysis of sectors and industries, the *theory of the firm* is primarily concerned with the internal organisation of firms and firm behaviour. Until the end of the 19th century, questions relating to firm organisation were subsumed to the theory of prices and value and were, at best, addressed at the sector- or industry-level of analysis[2]: firms were 'empty boxes' governed by cost curves. The concept of the internal organisation of a firm remained neglected, in particular once Pigou's highly abstract neoclassical approach to the firm effectively eliminated the Marshallian concern with the actual business firm[3]. In a well-known survey of the theory of the firm, Kenneth Boulding (1942) attributed early developments in the theory of the

[1] As Hay and Morris remarked in their internationally known textbook on the subject, "people have been interested in the economic behaviour and performance of industries since the beginning of the industrial revolution, but the delineation of a specific area of economics under the title of industrial economics is a phenomenon of the last forty years" (Hay, Morris, 1979: 3).
[2] Marshall, Marshall, 1879.
[3] Clapham, 1922; Pigou, Robertson, 1924; Sraffa, Robertson, 1924.

firm to "extensive transformations" in the basic theory of value in the 1930s[4]. At the same time, empirical studies increasingly concerned with the separation of ownership from management[5], highlighted the separate existence of firms from markets, and the importance of their internal forms of organisation for overall economic performance.

The definition of *business and management studies* that emerged as a recognised academic discipline in its own right only after World War II, is even more problematic. According to Michael Earl's *Perspectives on Management*, "early theorists described and specified management as planning, organizing, and controlling (and variants thereof), whilst later workers chose to describe and explain what it is that managers actually do"[6]. Rumelt, Schendel and Teece (1998) provide a fairly precise description of the core objective of management studies. They argue that strategic management is grounded in practice and does not "like parts of economics, attract scholars because of the elegance of its theoretical underpinnings"[7]. In their view, management studies exist to "codify, teach and expand what is known about the skilled performance or roles and tasks" arising in the selection of a firm's goals, its choice of products and services to offer, the design of its organisational structure and the coordination of human, financial, technological and natural resources necessary for the existence of firms[8].

In general terms, any undertaking to explore the history of industry, firm and management studies needs to address two principal research questions: first, how have the

[4] Chamberlin, 1933; Robinson, 1933. According to Boulding, "these volumes mark the explicit recognition of the theory of the firm as an integral division of economic analysis upon which rests the whole fabric of equilibrium theory" (Boulding, 1942: 791).
[5] Berle, Means, 1932.
[6] Earl, 1983: 1.
[7] Rumelt, Schendel, Teece, 1998: 154.
[8] *Ibid*.

practical concerns of the organisation of industries, firms and business come to attract academic attention and gained access to academic institutions? And second, how has the nature of the institution influenced the theoretical and methodological orientation of these new academic subject areas? In approaching these questions, and in line with existing research on the institutional development and co-existence of these three subject areas, the thesis adopts a three-fold conceptual perspective. To begin with, the contemporary *history of economic and management thought* provides a wide range of historical accounts of the evolution of economic knowledge[9]. In Warren J. Samuels' view, the history of economic thought must be understood as a branch of intellectual history since ideas and the development of economic thought evolve and have meaning in the context of specific intellectual milieus within which they tend to assume the status of facts.[10]. A core objective of my thesis is to re-constitute, and thus better understand, the intellectual system that shaped scientific ideas[11] within the three mentioned subject areas, through the biographies of individuals[12] and groups[13]. So far, the history of management thought is a much less well developed than its economic counterpart. Despite increasing efforts being made to understand and establish management as a rigorous academic discipline concerned with systematic activities rather than a rule-of-thumb approach to decision-making[14], contributions to the history of management thought often consider the concept

[9] Shackle, 1967; Schumpeter, 1954; Blaug, 1992; Béraud, Faccarello, 2000; Backhouse, 2002.
[10] According to Samuels: "[i]t may be called conceptual frame, paradigm, milieu, intellectual or cognitive system [...], but whatever the terminology [...], the lesson is the same. It is the received and taught general view of [...] the place of the economy, and the character of the economic problem which influences the work of economists and historians of economic thought, whether they be Marxist, neoclassicist, post-Keynesian [...]", (Samuels, 1974: 310-311).
[11] As argued by Weintraub and Forget, "individuals express their lives in science, and their science is an expression of their lives" (Weintraub, Forget, 2007: 1).
[12] Backhouse, 2007.
[13] Coleman, 2007.
[14] Brech, Thomson, Wilson, 2010.

of "thought" as "described in instrumental terms and thereby reduced to a generalized form of practice"[15].

A second prism, through which to approach the mentioned research questions, is that of *institutional history.*[16] This is mostly concerned with the history of science *per se*[17] and with the way in which institutions shape the nature of scientific enquiry. In this view, the evolution of complex institutions, such as universities, is mostly not due to planned and rational action, but largely the result of "a process in which practices which had first been adopted [...] were preserved because they enabled the group in which they had arisen to prevail over others"[18]. Little attention has been paid to universities as institutions, and even less attention to economics and management departments as organisations that develop, sponsor and diffuse theories of industry, firms and business. It is, however, often maintained that educational institutions convey the image of a set of unexpected properties of "less rationalized and less tightly related clusters of events"[19]. To a large extent, academic history is a branch of institutional history[20].

Finally, and to a lesser extent, *cultural history* also can shed some light on the development and evolution of the study of industry, firms and business in 20th century England. Generally speaking, cultural historians would argue that scientific ideas do not develop in isolation from the social, cultural and political milieu in which they evolve. Through the recording and interpretation of past events, cultural history differs from

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[15] Howell, 1995: 41.
[16] Veblen, 1957; Weber, 1961; Hayek, 1973.
[17] Kohlstedt, 1985. Broadly speaking, this tradition assumes that "institutions provide the basic structure by which human beings throughout history have created order and attempted to reduce uncertainty in exchange" North, 1990/2009: 118.
[18] Hayek, 1973: 9.
[19] *Ibid:* 3.
[20] A critical mass of scholars is required for ideas to develop and this was only achieved through an institution of some description.

intellectual history. Cultural history deals with the social representation of human groups considered within their geographical and historical environment and is supported by visual and non-written or non-verbal forms of evidence[21]. The purpose of intellectual history is much more limited as it is mainly based on written and verbal forms of evidence and is concerned with the study of biographies, bibliographies, social contexts of creation and innovation of the thought of intellectuals or groups of intellectuals.

The borders between these three types of history are unclear and continue to be subject to debate. Yet, in 1953 the British economic historian Sir John Harold Clapham argued that "Economic History is a branch of general institutional history, a study of the economic aspects of the social institutions of the past"[22]. In accordance with Clapham, my view is that none of the three conceptual approaches – history of ideas, institutional and cultural history - taken in isolation would provide a sufficiently comprehensive basis from which to attempt a history of industry, firm and business studies in their various institutional contexts. Rather, it is from the reconciliation and overlaps between these three approaches that the novelty of my research arises[23].

I deliberately chose to focus on a single historical case study that comprises several dimensions, each of which involves primary research and fieldwork. Clearly, debates about the validity of theoretical inferences and generalisations drawn from a small number of qualitative cases continue to be central to the methodological concerns of the

[21] Burke, 2008.
[22] Clapham, 1953: 415.
[23] My view converges, to a large extent, on Warren J. Samuels' view who argued in 1953: "[The historian of economic thought] tends to neglect that the real world is a world of power play, a world of argument, and a world of psychological perception, identification, and interaction as well as manipulation, and not just a world of ideas, intellect, reason, and knowledge. [...] The historian of economic thought who neglects this world of power and psychology grossly distorts both the development and meaning of ideas" (Samuels, 1974: 316).

social sciences, in particular in sociology, anthropology, political science and management studies[24]. The Boston political scientist John Gerring probably offers the most complete and clearest definition of the method I use. To him, a single case study is "an in-depth study of a single unit (a relatively bounded phenomenon) where the scholar's aim is to elucidate features of a larger class of similar phenomena"[25]. Case study research is characterised by process tracing[26] and serves the purposes to eliminate "incompatible causal claims". What it cannot do is provide a "canon of proof" of a larger phenomenon[27]. Put differently, this single-unit method is useful for, and has its place in, the exploration of hidden generative mechanisms or unintended consequences that have influenced the development and gradual institutionalisation the economics of industry and of the firm, as well as of management studies at a British university.

Furthermore, the specific in-depth case study presented in this thesis provides a sound basis for further and wider empirical research, for a number of reasons. Wherever appropriate and possible, I relate my results to findings in other academic contexts in order to identify those elements of the Oxford case that are of a more general nature and thus suitable points of departure for more aggregate perspectives. Moreover, the Oxford case is representative of the wider English picture for four main reasons: first, Oxford was the first university to be established in England (1096), and thus, the founding institution of the 'old' universities[28]. Consequently, the University of Oxford is seen as a critical case since it historically took the lead in British university reforms and its stance was crucial

[24] Lieberson, 1991, 1994; Savolainen, 1994; Bennett, Elman, 2006; Yin, 2009.
[25] *Ibid.*: 341.
[26] Goodwin, 1972.
[27] Savolainen, 1994: 1218.
[28] This category of universities also includes Cambridge (1209), Edinburgh (1583), London (1826) and Durham (1832) and is often opposed to the 'new universities' that received university status only since 1992.

because of its venerable status[29]. Second, the role of Oxford was initially to produce clergy, gentlemen and, from the 1850s, civil servants[30], whereas the university did not appeal to engineers or members of the growing new commercial classes throughout the nineteenth century. This makes the question of how three (sub-)disciplines, such as industrial organisation, economic firm theory and management studies, in their different ways all largely focused on the practical concerns of business, emerged, evolved and eventually established themselves precisely on such *a priori* hostile ground, all the more interesting. Third, part of the answer is perhaps to be found in another particularity of Oxford, apart from the university's leading position in university reforms and its historical anti-vocational education stance. Differently, for instance, from Cambridge, our case study of Oxford also reveals a university inclined to develop non-mathematical disciplines. As highlighted by Dr. John Archibald Venn in his account of *Oxford and Cambridge Matriculations 1544-1906* published in 1908, "Oxford had definitely become the home of the humanist, Cambridge already specialised in Mathematics"[31]. Last but not least, Oxford studies of industry, firms and management constitute an important and distinctive strand within economics[32]. Key fellows and lecturers, such as Francis Y. Edgeworth (1845-1926), David H. MacGregor (1877-1953), Jacob Marschak (1898-1977), Lord Robert Hall (1901-1988), Sir Roy F. Harrod (1900-1978), Sir John R. Hicks (1904-1989), James E. Meade (1907-1995), Charles J. Hitch (1910-1995), Philip W.S. Andrews (1914-1971), and more recently George B. Richardson, Norman Leyland, Sir

[29] For instance, when in 1871, Oxford abolished religious prerequisite as part of the BA, the rest of the 'old universities' followed and by 1880, they were benefiting from the abolishment of the old religious exclusiveness (Roach, 1959: 141).
[30] Sanderson, 1995: 48.
[31] Venn, 1908: 14 in Smith, Stray, 2001: 33.
[32] Young, Lee, 1993.

Derek J. Morris, Donald A. Hay, Rosemary Stewart and others played a central role in the emergence, development and diffusion of economic theories of the firm and of management studies in Britain and throughout the world during the twentieth century. Yet despite the prominent position of its researchers in their fields, Oxford's leading role in the emergence of industry, firm and management studies is not owed to any specific school of thought it produced, as could be arguably the case for Cambridge. Rather, the Oxford case stands out because of its contribution to the emergence and development of institutions that are still internationally central to the discipline.

In the Oxford context, more detailed questions I am seeking to answer throughout this thesis include: how significant was the role of Oxford University in the emergence of industrial economics? How was industrial economics different from the economics of the firm? To what extent has Oxford University contributed to the emergence of industrial organization? How did industrial organization split from industrial economics and did these two fields ever coexist? What was the role of Oxford in the development of the information and knowledge-based theory of the firm? Why were the emergence and the development of management studies in Oxford and in England so tardy by international standards?

Overall, the uniqueness and novelty of my research can be summarised under three main headings: First, it tells the history of economic sub-disciplines and of a new discipline – management studies – that has not been told before. The history of disciplines

in Oxford is not a new enterprise and studies exist of history[33], literary culture[34], religion[35], economics[36]; anthropology[37]; politics[38]; engineering[39], science[40], medicine[41], and physics[42]. However, there is no history of industrial economics, the economic theory of the firm and management studies in Oxford, even though the contemporary legacy of this tradition is substantial. Hence, the space for an original contribution. Second, it provides a historical account of a specific institutional environment, and of the intellectual developments that took place in this context, that has been much less well explored than is the case, for instance for Cambridge or the London School of Economics (LSE), both equivalent institutions in terms of reputation and influence. The very few existing publications are unsystematic[43], sometimes out-dated and too broad[44], or else, too narrow[45]. This literature does not attempt to reconcile the history of economic and management thought, intellectual history and cultural history. Here, there is room for a more integrated analysis. Third, my thesis recounts individual stories of lecturers, researchers and administrators who were key figures in the development of the economics and management of the firm in this particular institutional context[46]. Last but not least, this

[33] Slee, 1986.
[34] Cunningham, 1994.
[35] Macan, 1917; Green, 1964; Turner, 1994.
[36] Chetser, 1986; Young, Lee, 1993.
[37] Riviere, MacFarlane, 2009.
[38] Chester, 1986; Harrison, 1994.
[39] Borthwick, 2008; Howatson 2008.
[40] Morrell, 1997.
[41] Webster, 1997.
[42] Fox, Gooday, 2005.
[43] Snow, 1995.
[44] Young, Lee, 1993.
[45] Graves, 2001.
[46] These biographies contribute to the existing studies of Oxford economists' lives and legacies, such as David Ogg's *Short Biography* of Herbert Fisher (1947), Alon Kadish's historical monograph on *The Oxford Economists in the Late Nineteenth Century* (1982) or on the *Life and Death of Arnold Toynbee* (1986), Sir Alec Cairncross' edited biography of Robert Hall *Diaries* (1989), Warren Young's and Frederic Lee's account of *Oxford Economics and Oxford Economists* (1993), Langford Lowell Price's *Memories and Notes*

research considers Oxford as an institution that influenced and shaped economic and management thought on industry and firm organization both, directly through the promotion of education and research, as well as indirectly through its wider role in university governance and policies.

In this regard, I argue that the evolution of economic and management studies of firms and industries was not a smooth process but resulted from the interplay of vested interests, contextual factors and institutional history. In accordance with Kadish's study of the history of economics, my approach is informed by the view that "the standard approach to the development of [...] any scientific discipline, based on the notion of a linear intellectual genealogy, is unsatisfactory"[47]. The thesis shows that, quite to the contrary, the process of institutionalising industrial economics, economic firm theory and management studies at Oxford followed a complex dynamic governed as much by external factors as by internal university governance and procedures. Amongst the former, social and economic context has a strong impact on teaching and research orientations of British universities, at a theoretical as well as at an empirical level.

From the point of view of the evolution of industry, firm and management studies, growing pressures from business interests to respond more favourably to practical concerns relevant to them, is key to understanding this process. Yet, this was not simply a question of gearing teaching and research towards practical questions as a matter of internal governance procedures. Rather, such changes evolved gradually and in complex ways in response to exogenous needs express by new generations of students and business

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on British Economists (1996 (Ed. By Koot and Rashi)) or more recently, Daniele Besomi's *Collected Interwar Papers and Correspondence of Roy Harrod* (2003)

[47] Kadish, 1989: ix.

people. In addition, other exogenous factors – in the sense of arising from outside the formal university governance system -, such as unintended consequences and situational issues, also played a significant role in the evolution of the university. Thus, some progress was made through the polite exchange of ideas between gentlemen, but more often through power struggles and personality clashes. It is from this combination of exogenous and endogenous forces that the promotion of education and research can be understood when analysed within an institutional framework. An important working hypothesis of my research is, furthermore, that such myriad factors are relevant also to explaining the methodology and specific angles economists and management scientists adopted in their approaches to the study of industry and the firm. Throughout, my work considers the role of both formal and informal academic institutions and contexts in the formation of different theories of inter- and intra-firm relations.

My research makes use of a range of different sources. A core primary source are *interviews* with students and tutors who worked in Oxford on the theory of the firm and industry in the period between the 1940s and the 1970s, and with college and university fellows who participated in, or at least witnessed at close quarters, the emergence and development of management studies from the 1950s to the 1990s. The interviews conducted have been listed in **Appendix 1**. Copies of unpublished papers dealing with the theory of the firm and of industry, as well as historical accounts of management studies at Oxford were also provided during these interviews[48]. The second source are *unpublished*

[48] Documents were given to me by David Stout (personal collection of papers concerning the OERG and the theory of industries at Oxford), Bob Tricker (1970s personal diary on management studies at Oxford) and Ashley Raeburn (unpublished memoirs about management education at Oxford).

documents from two archives: The Andrews and Brunner archives at the LSE that contain a number of documents relating to the development of the Oxford University Business Summer School and of the B.Phil. seminar in Economics of Industries, mainly leaflets and school programmes for the period from the 1950s to the1980s; and the Bodleian Library archives that hold information relating to the introduction of management studies at Oxford between 1961 and 1969[49]. The third source were *academic journals* with a focus on industry and firm theory, such as the *Oxford Economic Papers* and the *Journal of Industrial Economics*. Beyond economic journals, the research is also based on the exploration of Oxford University's internal publications, such as the *Oxford University Gazette*, *Oxford Today*, the *Oxford Magazine* and the publications of the *General Board of the Faculties*. Finally, the last source is concerned with the organisation and theoretical content of *teaching programmes* in industrial economics, the theory of the firm and management studies at Oxford. The original syllabus of the first B.Phil. programme in management studies is closely scrutinised in the thesis, as are the first set of exam questions set for economics and management students and examination decrees and regulations for the period 1950-1975.

My research – structured chronologically – consists of two parts, each divided into three chapters. Part I covers the period from Marshall's publication of *Principles of Economics* in 1890 to the emergence of industrial economics in the early 1950s. Chapter 1 focuses on the early development of firms and industry studies (1890s-1930s). It depicts a revolution of ideas in political economy which required British economists to introduce new methodological and theoretical elements to understand the industrial world. However,

[49] UR6/MAS/1, Files 1-5.

throughout this period, the pace of institutional and theoretical change at Oxford was very slow, with this inertia the result, to a considerable extent, of the election of Francis Edgeworth to the chair in Political Economy and his apathy and disinclination towards institutional alteration. I show how this inertia contrasted with the situation in Cambridge during the same period that was marked by Alfred Marshall's substantial contribution to the economics of industry and of the firm, culminating in the famous so-called cost controversies and the emergence of the modern theory of imperfect competition. Chapter 2 covers the period from the 1930s to the 1950s and analyses two main developments: From a teaching perspective, the creation of Philosophy, Politics and Economics as an Honour School in 1921 paved the way towards the professionalization of economics. From a research perspective, the Oxford Economists' Research Group (OERG, 1935-1965) constituted a first step towards a new methodology, initially based on a response to the Cambridge theory of imperfect competition. Based on archival analysis and interviews, I show that although non-uniform, this group exemplified a new generation of Oxford economists willing to inject empiricism into the study of industries and firms. I demonstrate that while Oxford economists between the wars never managed to create a genuine school of thought of their own, they institutionalised the discipline through the establishment of their sub-faculty, the emergence of the Institute of Statistics, the meetings of the OERG, and through the creation of two economic journals still considered as influential today. Part I concludes with chapter 3 (1950s-1960s) that depicts the unsuccessful attempt by Philip Andrews and his assistant, Elizabeth Brunner, to establish their empirical approach to industrial economics in Oxford. Under Andrew's influence, the subject area took a form rather distinct from North American developments. This was

mainly derived from an older generation of British economists who were willing to bring together the economics of industry and of the firm in a unified framework of analysis, combining theoretical and empirical tools of investigation. I also explore the impact of World War II on new research avenues, for example, through the Social Reconstruction Survey, but also through facilitating institutional developments such as the foundation of Nuffield College. The Courtauld Inquiry exemplified a new type of research commissioned by industry and paving the way for further empirical and statistical research on the internal organization of the firm. This episode illustrated a gradual shift taking place away from economists working in an 'ivory tower' to those more concerned with 'real world' economic problems under the impact of influences from outside the academic sphere, strictly speaking. It is in this context that industrial economics emerged in Oxford through the foundation of the *Journal of Industrial Economics* in1952.

Part II of the thesis deals with developments in the study of industry and firms after Andrews and Brunner left Oxford in 1968. Each of the three chapters evaluates a new direction of theoretical and empirical developments as well as the institutions and the power struggles that shaped them over time. Chapter 4 chronicles and analyses the triumph of formalism through the decline of industrial economics (as defined by Andrews and Brunner) and the rise of industrial organization. The institutional roles of Donald Hay and Derek Morris – both established and influential Oxford figures – coupled with university reforms in the 1960s favoured the rapid development of industrial organization as a branch of applied microeconomics. The historical dynamics of non-coexistence between industrial economics and industrial organisation paved the way for further developments in Oxford, less formalised, closer to reality and/or more empirically

grounded, during the 1960s. These are developed in chapters 5 and 6. Chapter 5 assesses the influence of Oxford on the development of the information and knowledge theory of the firm, focusing on the contributions by G.B. Richardson and H.B. Malmgren, both students of J. R. Hicks. The success of this part of Oxford economics – mainly measured by its impact on popular contemporary theories of the firm – is evaluated. While the chapter shows the influence of Malmgren's and Richardson's lives, education and careers on their theoretical developments, it also outlines the similarities between these authors' contribution that I refer to as the "Malmgren-Richardson coordination view of the firm". This view presents the first Oxford challenge to Cambridge economics, elegant models based on the assumptions of imperfect competition (and outlined in chapter 1). This approach also coincides with early developments of business studies in Oxford, which sought to offer an alternative methodology to the study of firms and industries. Chapter 6 turns to the emergence and early development of management studies at Oxford. I show that business studies had to undergo a long drawn-out process of negotiation and positioning before eventually managing to establish itself as a proper academic discipline. The first half of the century saw little progress in recognising business as a noble enough activity to be taught at the university, and it is as late as the early 1960s that the first courses in management can be found at Oxford. Rather than any explicit choices by its administrative and academic office, I argue that what was instrumental to this initial resistance to management studies as a separate discipline, was a combination of the university's overall elitist and traditional outlook, anxieties about infringing on traditional disciplinary boundaries and scepticism about business studies in particular.

PART I – From Political Economy to Industrial Economics: 1890s-1950s

Part I of the thesis covers the evolution of ideas in economics from the embryonic versions of the theory of the firm in England until the establishment of industrial economics as a recognised academic discipline in Oxford University. It shows how studies of markets, industries and competition were conducted and taught in Oxford in the first half of the twentieth century. In line with the main working hypothesis of this thesis (namely that a diverse range of factors is required to explain the methodology and concepts economists and management scientists adopted to approach issues related to the firm), this part of the research explores the initial ways in which these academic groups were formed.

The purpose and scope of the theory of the firm are neither obvious nor simple to explain. In his 1971 edition of *The Theory of the Firm*, the British economist, George Christopher Archibald, accords on this view and argues in his introductory remarks:

> "It is doubtless no accident that in many universities there is no course with this title [theory of the firm], but only 'price theory' or 'microeconomics' and perhaps 'industrial organization'. There is, however, some tradition that the theory of the firm is a suitable label for some recognizable subdivision of economics. Since it is not business administration, or operations research – or industrial organization – let us try to work out what it might be". (Archibald, 1971: 9).

The theory of the firm is neither business administration, nor industrial organization. Therefore, the establishment of one single definition of the concept is perhaps inappropriate but clarification on this matter is needed. It is commonly agreed that in neo-classical economics and, in particular, in the general equilibrium theoretical framework developed by Léon Walras in 1874, the firm is seen as a 'black box', *i.e.* reduced to a production function converting inputs into outputs. As remarked by Archibald, "in perfect competition, firms have so little to do, particularly in the absence of technical change and

uncertainty" (*Ibid.*: 10)[50]. The introduction of the Marshallian partial equilibrium framework deals with the more complex issues that general equilibrium theory has yet remained unable to incorporate, such as market structures, entrepreneurial roles and firms' behaviour. Yet, the identification of a modern form of the theory of the firm in Marshall's work would perhaps be a biased interpretation of his legacy. One of the main contributions of the Marshallian approach was to provide a general economic explanation of how prices were formed in purely competitive as well as purely monopolistic markets. Browsing through any interview of any Oxford economist during the inter-war period[51], 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 competition during these two decades. However, the *Principles of Economics* left Marshall's research programme unfinished and ambiguously open to misunderstandings. As shown in the following account, his concept of a 'representative firm' is a prime example of these misunderstandings.

Since the Marshallian approach to the firm dominated during the first two decades of the twentieth century, part one of the thesis seeks to evaluate how the interpretation of his works by his students and colleagues gave rise, in Britain, to the first considerations of firms as organisations which were conceptually more complex than production functions.

In particular, chapter 1 first explores the state of economics at Oxford before the establishment of the Honour School of Philosophy, Politics and Economics (PPE) in the Michaelmas Term of 1921. Although the Drummond Chair in Political Economy was

[50] For a characterization of the emergence and development of the neo-classical approach in modern industrial organization, see Lazonick (1998; 2002; 2010).
[51] Cf. especially Dr. Frederic Lee's archives (Ms. Eng. C., folios 4820 to 4823), at the Bodleian Library, Oxford.

established in Oxford in 1825, economics in the undergraduate curriculum remained a minor optional subject in the Honour School of *Literae Humanories*. Furthermore, in 1872, when the Honour School of Modern History was introduced, political economy was also an optional subject in this curriculum (Slee, 1986). Research in political economy was not strongly developed, since "many tutors and lecturers saw themselves as full-time teachers and moral tutors whose main purpose was to turn out well-rounded students suitable for public service rather than academic careers or research" (Young, Lee, 1993: 1). The small amount of time allocated to political economy in the undergraduate curriculum was also felt within Oxford colleges, as no full-time tutors were appointed. Rather, lecturers in philosophy and modern history acted as political economy teachers and unsurprisingly, therefore, Mill's *Principles of Political Economy* was the primary reference on students' reading lists, in contrast to Cambridge where Marshall's *Principles of Economics* was established as the main text (*Oxford University Gazette*, 1891-1900; Young, Lee, 1993). The election of Francis Edgeworth as the Drummond Professor in Political Economy signifies the specific Oxford orientation and his "Introductory Lecture on Political Economy" published in December 1891 in the then recently established *Economic Journal* exemplifies the intellectual environment at the time. The content of this lecture is explored in chapter one and shows that Edgeworth's view of political economy strongly encouraged the discipline to remain a subject in the School of *Literae Humaniores*. The rest of the chapter briefly outlines the institutional development of economics in the first quarter of the twentieth century in Oxford. The chapter covers: the debate between Francis Ysidro Edgeworth and Langford Lovell Price published in the 1902 edition of the *Oxford University Gazette* which gave rise to the famous 'Memorial as

to Economics' signed by eighty-eight members of the Convocation, the creation of the first Diploma in Economics in 1903, and the development of the Oxford University Political Economy Club. This institutional development led to the establishment of the PPE degree in Balliol College in the 1920s. However, while research on firms and industries was rather limited in Oxford until the inter-war period, the 'Master of Cambridge' was developing his *Principles of Economics* which, as previously outlined, gave rise to a series of intellectual debates among his students and colleagues. Marshall's legacy and the interpretation of his work as an embryonic version of the theory of the firm and industries – and to some extent, of business studies – is also examined. Hence, chapter one additionally deals with the reaction of Cambridge economists to Alfred Marshall's work on the firm and on the industry, and the theoretical developments made by the well known cost-controversies in the *Economic Journal*. The publication of the 1933 *Theory of Imperfect Competition* by Joan Robinson illustrates the significance of this debate.

By the end of the nineteenth century, some Oxford dons joined the Oxford University Extension Movement and, in favour of a liberal education, began to teach political economy to the working classes and organisations outside the University such as the Social Science Club (1885) and the Oxford Economic Society (1886) (Young, Lee, 1993: 2). This view of higher education in Oxford was coupled with a historical and empirical approach to political economy, partly due to its institutional dependence on modern history. Mainly as a result of this specific tradition, a group of Oxford dons who sought a broader empirical framework to theories of competition and prices, gathered in 1936 and contributed, to a large extent, to various parts of the theory of the firm, especially by adopting a novel methodology, which moved away from the Cambridge

tradition of studies of firms and industries. Chapter 2 focuses on the emergence, development and final years of this academic group, which is seen as institutional and historical evidence for the emergence of an Oxford theory of the firm.

The institutional developments in economics during the first half of the twentieth century, as analysed in chapters 1 and 2, partially explain the process of emergence of industrial economics in the early 1950s in Oxford. Interestingly, the establishment of industrial economics by Philip Andrews and, his colleague, Elizabeth Brunner is shaped by their own personal view of the discipline, as an empirical approach to the firm, as seen in chapter three. The first issues of their *Journal of Industrial Economics* (first published in 1952) is scrutinised and the evolution of the discipline is analysed through a close examination of lecture lists during the period 1953-1968.

As stated in the introduction, Part I attempts to reconcile the history of economic thought, institutional history and cultural history. Through the use of different sources, introduced to the reader in each chapter's introduction, Part I shows how the theory of the firm evolved from a component of the theory of prices and markets, to a conceptual element of industrial economics. This account paves the way for Part II which is concerned with three modern interpretations of an Oxford theory of the firm (industrial organization, information theory of the firm and business studies), which are still of great significance in today's economics teaching and research.

CHAPTER 1 – The Theory of the Firm in Britain

I. A Brief History of Political Economy
I.1. Political Economy in Scotland and in England: From Adam Smith to John Stuart Mill
I.2. Political Economy in Continental Europe: From Antoine Augustin Cournot to Léon Walras

II. Oxford Developments in Political Economy and the Theory of the Firm
II.1. Oxford 'Young' Economists at the Turn of the Twentieth Century
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III. The Marshallian Tradition of the Economics of the Firm in Cambridge
III.1. Marshall's Beliefs on the Future of Economics (and Business Studies)
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III.3. Marshall's Theory and Beyond: His Economic Theory on Competition, Prices and the Firm

IV. The Cost Controversies and Joan Robinson's theory of Imperfect Competition
IV.1. The Demise of Marshall's theory? The Cost Controversies in Cambridge (1922)
IV.2. Joan Robinson's Theory of Imperfect Competition (1933): A First Step Towards the Theory of the Firm

The birth of political economy as an academic discipline in Britain corresponds to a long and complex process of institutionalisation which has drawn the attention of various scholars in the history of economic thought. The emergence and growth of political economy in British academic institutions is not the primary aim of this chapter, yet a brief account is required to place the emergence of the theory of the firm and of industries in context. From a nineteenth century perspective, the very nature of political economy divided British academic communities and fomented an intellectual debate about the scope and methodology of the discipline. This debate mainly took place between those dons who believed political economy should become a branch of philosophy or history and those who promoted an independent discipline. Beyond a purely abstract academic debate, this series of discussions opposed two generations of economists: the 'old' and the 'new' (Marshall, 1897). While the former was in favour of a general education whose purpose was to "create capable and cultivated human beings" (Mill, in Sanderson, 1995: 44) and not to provide a professional education of any kind the latter thought that economics should be related to current affairs and provide a training for students intending careers in private and public service. In other words, to the 'old' generation, economics was an extension of moral philosophy and modern history and should remain an optional subject in one or the other curriculum. This was not the view defended by Alfred Marshall, who introduced at Cambridge in 1903 a new 'Curriculum in economics and associated studies' which was meant to develop analytic and realistic research in economics, but also, to satisfy the growing need for students who were preparing for a business career. To the 'new' generation of economists, conclusions drawn from nineteenth century economic doctrines were no longer able to explain the complexity

of social phenomena, especially when applied to the industrial world, which became an inescapable requirement.

Accordingly, this chapter first provides a brief overview of these economic doctrines and their inadequacies in the twentieth century economic and social environment. Followed by an analysis of the reactions of Oxford and Cambridge, two 'old' Universities then increasingly concerned with the study of the humanities over sciences. While, in Oxford, the future of economics was mainly in the hands of Francis Edgeworth; Alfred Marshall was leading the discussions in Cambridge. This chapter will show that, although similar debates about the purpose of political economy and the structure of education took place in both Universities, the first step towards a theory of firms and of industries (and even, to some extent, an embryonic version of business studies) only took place in Cambridge. We will see that environmental circumstances and individuals' personality are integrated in the work of the individual social scientist in creating a theory about a certain social reality and in shaping disciplinary orientations.

To this end, various sources are used, although the majority of material is published. The first section, dealing with the theoretical inadequacies of nineteenth century economic doctrines, is supported by original texts of economists at the time. Sections two and three (covering the Oxford developments in political economy and Cambridge's first attempts to study the firm) are supported by both Universities' internal journals and reports such as the *Oxford University Gazette* and the meetings of various Syndicates in Cambridge.

I. A Brief History of Political Economy

Economic thought at the end of the eighteenth century is often associated with the publication of Adam Smith's *Inquiry into the Nature and Causes of the Wealth of nations* in 1776. Smith's theoretical contributions to political economy gave rise to a series of economic doctrines in Great-Britain and in continental Europe. The following section offers a (brief) survey of these doctrines, and highlights their inadequacies in post-Industrial Revolution social and economic environments. Because of significant differences in theoretical and methodological orientations, economic doctrines in Great-Britain and continental Europe are considered separately[52].

I.1. Political Economy in Scotland and England: From Adam Smith to John Stuart Mill

Although it is possible to find elements of a theory of the firm in Scottish and English classical economic thought before the second half of the nineteenth century, organisational issues were, to some extent, already of interest to some classical scholars. After all, as noted by Alfred Marshall in his *Elements of Economics of Industry*:

> "Writers on social science from the time of Plato downwards have delighted to dwell on the increased efficiency which labour derives from organisation" (Marshall, 1892(a): 139)

To some extent, this theoretical interest can be seen in the substantial works of Adam Smith (1723-1790), Scottish moral philosopher and political economist. The presence of the role of the firm, of the entrepreneur or of the businessman in the *Wealth of Nations* is subject to controversy among the community of historians of economics. While Joseph Schumpeter (1949)[53] and John Commons (1957)[54], denied that Adam Smith gave any

[52] Obviously, this brief survey represents a non-exhaustive list of political economists' contributions.

[53] "Natural law preconceptions led Adam Smith to emphasise the role of labour to the exclusion of the productive function of designing the plan according to which this labour is being applied. [...] What the

room to such topics, others would argue that, "the development of the theory of the firm can easily be traced back to Adam Smith and the *Wealth of Nations*" (Hay, Morris, 1979: 4). The most reasonable view is probably half way between these statements, in that Smith's book put an 'implicit' emphasis on the concept of economic organisations[55] in its most rudimentary terms (McNulty, 1984: 237).

Smith's well known concept of division of labour grounded his theory of value, since he regarded products as having two prices: a 'market' price and a 'natural' price or 'value'; the latter depending on the quantity of labour commanded to make the product[56]. Although the organisation of labour within firms was a key element to competitive position of firms in their markets, Adam Smith still put effort into indicating "points in which the system failed and incidental evils which it involved" (Marshall, 1892(a): 140)[57]. This reference to market failures and to the evolution of industry indicates his interests in embryonic version of industrial organization which are still relevant in today's economic theories of the firm. Interestingly, in his article entitled "Technologies, products and Organization in the Innovating Firm: What Adam Smith Tells Us and Joseph Schumpeter Doesn't?", published in the evolutionary economics journal *Industrial and Corporate Change*, Keith Pavitt showed how Adam Smith's insights into the specialised nature of

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businessman does in the system of Adam Smith is, therefore, to provide real capital and nothing else." (Schumpeter, 1949: 47).

[54] "Adam Smith was able to start economic theory with the elimination of all associations [and] [...] corporations [...] with their work rules." (Commons, 1957: 137).

[55] Technical organisation at the firm level and market organisation at the industrial level.

[56] In a nutshell, he argued that in the long-run, the forces of economic competition would drive the market price to its natural level. Consequently, if one product commanded a higher market price than another, it was because it required higher costs of the factors of production. The profits of firms were seen as the difference between the market and the natural prices of its products but, at the industry level, high profits were only temporary, as competition acted against them.

[57] This search for market failures contrasts with the purpose of his followers' theories, as shown in the next paragraphs.

knowledge production are central to understanding contemporary problems related to firms' management. Specifically, Pavitt argued:

> "As foreseen by Adam Smith, specialization in knowledge production is a central feature of the innovating firm. It is therefore of great importance to distinguish products (and other artefacts) from the underlying bodies of technological understanding on which they are based." (Pavitt, 1998: 447)

Put differently, Adam Smith's 'theorem' according to which the division of labour is limited by the extent of the market constituted an early theory of the functions of a firm which was capable of wider theoretical and empirical generalisation, such as its application to issues related to the structure of the firm (Stigler, 1951). Smith's pin factory was a rudimentary example of vertical integration, since, as he noted, it involved not only a "division of the labour of the pin-makers", but also, "a combination of their different operations" (McNulty, 1984: 237). To some extent, this early contribution to the theory of the firm and of its structure is also concerned with issues of governance, especially in Part II of Book V of the *Wealth of Nations*. The idea of the managerial form of a firm organisation and of distrusted corporations had already attracted Adam Smith's attention. On the latter, he argued:

> "The directors of such [joint-stock] companies, however, being the managers rather of other people's money than of their own, [...] should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own. [...] Negligence and profusion, therefore, must always prevail, more or less, in the management of the affairs of such a company" (Smith, 1776/2009: 439)

Yet, if some elements of industrial organization undeniably existed in Adam Smith's work, the concept of entrepreneur is neglected and Smith emphasised, instead, the notion of markets and exchange.

To a large extent, very few of Adam Smith's nineteenth century followers in Britain emphasised the problem of the internal organisation of the firm. Most of them were mainly concerned with the theory of value, income distribution and growth. Economic thought in England and in Scotland in the first half of the nineteenth century was evolving around the idea of a 'natural' organisation of industry which according to Marshall, [...]

> "prevented them from seeing and removing the evil that was intertwined with the good in the changes that were going on around them; and it hindered them from inquiring whether many even of the broader features of modern industry may not be transitional, having indeed good work to do in their time." (Marshall, 1892(a): 141)

David Ricardo (1772-1823) is perhaps the English writer who best represented the current thinking at the time, and yet, his theoretical contribution provides very little in terms of the theory of the firm and its internal organisation. His main theoretical framework dealt with economic theories of value and income distribution through the dynamics of rents, profits and wages and international trade. His definition of political economy expressed in a letter to his contemporary Thomas Robert Malthus (1766-1834) illustrates how his thought was dominated by the transformation of resources and the importance of quantitative measures. He argued:

> "Political Economy you think is an enquiry into the nature and causes of wealth – I think it should rather be called an enquiry into the laws which determine the division of the produce of industry amongst the classes who concur in its formation. No law can be laid down respecting quantity, but a tolerably correct one can be laid down respecting proportions. Every day I am more satisfied that the former enquiry is vain and delusive, and the latter only the true object of science." (Ricardo, (1952), edited by Sraffa, (8): 278).

While Adam Smith's theoretical developments considered both pure competition and monopoly contexts, Ricardo's *Principles of Political Economy and Taxation* (1817) mainly focused on situations in which "competition operates without restraints" (Ricardo, 1817: 6). In this analytical framework, Ricardo paved the way to further intellectual

developments in which industry and firm were governed by a natural organisation and by the strength of competition. Retrospectively, Alfred Marshall was very critical of David Ricardo's contribution and influence on his colleagues and successors in England. Beyond his mistake in neglecting "a large group of facts and a method of studying facts [...] of primary importance" and of regarding "men as so to speak a constant quantity, and gave themselves little trouble to study his variations", his most vital fault was to ignore "how liable to change are the habits and institutions of industry" (Marshall, 1885: 15-16). Marshall went one step further in his virulent critique and argued that [...]

> "to indulge in excessively abstract reasonings [...] is chiefly due to the influence of one masterful genius, who was not an Englishman, and had very little in common with the English tone of thought. The faults and the virtues of Ricardo's mind are traceable to his Semitic origin; no English economist has had a mind similar to his" (Marshall, 1885: 12)[58].

Ricardo's approach to political economy led to a more dominant view of the discipline in the mid-nineteenth century, expressed by John Stuart Mill (1806-1873), British philosopher and civil servant, in his *Principles of Political Economy*:

> "So far as rents, profits, wages, prices, are determined by competition, laws may be assigned for them. Assume competition to be their exclusive regulator, and principles of broad generality and scientific precision may be laid down." (Mill, 1848: 306)

Mill's position was also shared by William Stanley Jevons (1835-1882), British economist who inquired into the nature of business cycles and who was one of the first to argue that phases of economic activity had a regular, measurable, and predictable periodicity. Jevons' approach to political economy is perfectly aligned with a free competition

[58] Marshall's view did not seem to apply to all economists as he argued in the same paragraph: "It is generally known that Economics has to some extent changed its front during the present generation; but the nature of the change is much misunderstood. It is commonly said that those who set the tone of economic thought in England in the earlier part of the century were theorists who neglected the study of facts, and that this was specially an English fault. Such a charge seems to be baseless. Most of them were practical men with a wide and direct personal knowledge of business affairs. [...]" (Marshall, 1885: 12).

framework of analysis, as he stated in his 1882 account of *The State in Relation to Labour*:

> "If there is no longer competition among men and among employers, then a problem has little or nothing to do with economics. It is not a question of science." (Jevons, 1882: 155).

While Jevons substantially contributed to the economic theory of demand, almost inexistent in his predecessors' theories, he also elaborated theoretical elements on the nature of costs and factors of production. However, his methodological position symbolised the prevalent paradigm of the time among political economists, namely that competition generally kept prices in line with costs resulting in the assurance of allocative efficiency in resource use in the economy[59]. In this framework, economic organisation was a mere reflection of natural market forces.

Thus, the role of the individual firm was purely passive and boundaries between firms were not established by economic theories. This view was not challenged, in Britain, until, perhaps, the first Marshallian developments of the theory of the firm in Cambridge[60].

I.2. Political Economy in Continental Europe: From Antoine Augustin Cournot to Léon Walras

To a large extent, nineteenth century developments on the theory of the firm in European economic thought were even less noticeable than in England and Scotland. By this time, the marginalist revolution had already started and the concept of economic equilibrium was at the heart of economic theories in Europe. The essential characteristic of the

[59] This is well expressed by Kenneth Arrow's account of *General Equilibrium*, published in 1983, where he started his eighth chapter 'The firm in general equilibrium' by arguing that: "In classical theory, from Smith to Mill, fixed coefficients in production are assumed. In such a context, the individual firm plays little role in the general equilibrium of the economy." (Arrow, 1983: 156).
[60] For further details, see sections three and four of this chapter.

economic theory of general equilibrium was to define an economic system by a set of consumers described by their needs and abilities (consumption sets), their initial resources and tastes (preferences); and a set of firms, described by their technological possibilities (production sets). In this European tradition of economic thought, although his work was ignored by economists, Antoine Augustin Cournot (1801-1877), French economist, philosopher and mathematician developed a mathematical theory of competition and markets. His *Researches into the Mathematical Principles of Wealth* published in 1838 anticipated the modern concept of the so-called Cournot-Nash competition which represents a model applied to an industry structure in which firms compete in terms of the amount of output they will produce; an amount decided independently of each other and at the same time. The main assumptions in Cournot's main model of duopoly are: homogeneous products, the absence of cooperation between firms, the existence of market power (Cournot observed a spring water duopoly), a fixed number of firms in the market, and the methodological assumption according to which firms are economically rational and act strategically. Overall, Cournot's focus was on the outcomes rather than the functioning of competition, depriving the theory of the firm of any behavioural content. However, his contribution to the theory of the firm is still considered by some scholars. Kenneth Arrow is a prime example, since in his account of *General Equilibrium*, he argued that Cournot has to be seen as the earliest theorist of the firm:

> "There were other economists, however, who were interested in the theory of the firm as such, the earliest being Cournot (1838)" (Arrow, 1983: 156).

By contrast, other economists would argue that Cournot's contribution [...]

> "[...] was not a definition of the behavioral process of competing but, rather, a definition of competition as a state in which that process had run its limits" (McNulty, 1967: 398)

As far as the theory of the firm is considered independently from a theory of markets, Cournot's first formal definition of perfect competition provided a rigorous analytical treatment of market processes, yet was accompanied by an increasingly passive role for the firm[61]. Léon Walras (1834-1910) followed the mathematical tradition instigated by his predecessor and formally introduced the concept of general economic equilibrium[62]. In line with Cournot's assumptions, his work preserved the passive nature of the firm and the concept of free competition. In particular, the assumption of constant returns to scale required the size of the firm to remain indeterminate.

Hence, overall, political economy in Europe was relatively mathematical (in comparison to Britain at the time) and treated the firm, as passive. Jacques Dreze expressed this view in an amusing metaphor published in the *Economic Journal*:

> "The firm fits into general equilibrium theory as a balloon fits into an envelope: flattened out! Try with a blown-up balloon: the envelope may tear, or fly away: at best, it will be hard to seal and impossible to mail… Instead, burst the balloon flat, and everything becomes easy. Similarly with the firm and general equilibrium" (Dreze, 1985: 1).

In the last decade of the nineteenth century, the divide between existing economic theories and the industrial world was felt among the student community and a need for change was expressed by the new generation of economists. Consequently, a series of debates on the role of the discipline took place in Oxford and Cambridge.

[61] For a more detailed account of Cournot's contribution to Industrial Organization, see Corley, 1990: 85-87.
[62] For a detailed analysis of Walras' economic approach, see Friedman, 1955.

II. Oxford Developments in Political Economy and in the Theory of the Firm

In the late nineteenth and early twentieth century, Oxford economists remained loyal to the old tradition of political economy and, accordingly, mainly developed a historical school of economics in which the discipline was part of modern history, explored predominantly by economic historians. This methodological orientation continued in spite of the election of Edgeworth and of his mathematical view of economics in 1891 to the chair of political economy[63]. Moreover, Edgeworth's failure to raise the status of economics teaching and research left Oxford on the side lines in the debates on firms and industries which were taking place in Cambridge at the same time. This section seeks to investigate this period of development of economic theory in Oxford and consists of three main parts: Some biographical elements of the main influential Oxford economists at the time (1880s-1900s), the establishment of the first Diploma in Economics (1903) and the failure to introduce its equivalent in business (1913). The section concludes with, the institutionalisation of economics through the creation of the Philosophy, Politics and Economics (PPE) degree course in 1921.

II.1. Oxford 'Young' Economists at the Turn of the Twentieth Century

Until the 1870s, theories of the firm and industries in Oxford were mainly developed by historical economists who were strongly critical of economics as an independent discipline. This critical view of political economy was also shared by industrialists and a popular opinion opposed to the science of economics. This general opinion is well

[63] Further details will be provided below.

expressed by William Cunningham's account of the Industrial Remuneration Conference which took place in January 1885 in London[64]. According to his pamphlet:

> "[...] it was disappointing to realise how little [economic] doctrines are apprehended or respected; and we cannot but trust that the discussions of this section among other agencies may eventually render clear to the public that there *is* an Economic Science, and may produce some sort of agreement among educated men as to the nature of its principles. It has certainly failed to do so thus far" (Cunningham, 1885: 11)

In retrospect, the impact of this Conference on the evolution of economics, as a science, is certainly more significant than could have been expected by the participants at the time. Institutionally speaking, the conference directly led to the foundation of the British Economic Association which soon sponsored the publication of the *Economic Journal* in March 1891.

Interestingly though, among the economists invited to the Conference, there was no representative from the University of Oxford. To a certain extent, this absence symbolises the limited role of Oxford economics in the practical life of industrial matters at the national level. In particular, the position of William James Ashley (1860-1927) is significant[65]. Ashley was an economic historian, influenced by Oxford historians such as Benjamin Jowett and Arnold Toynbee, and was more concerned with the historical examination of industrial life than he was with "Cambridge people hair splitting analysis

[64] This London Conference started an inquiry into the question: "Is the present system or manner whereby the products of industry are distributed between the various persons and classes of the community satisfactory? Or if not, are there any means by which that system could be improved?". The Conference gathered 90 representatives of 'artisan societies' (either trade unions or cooperative societies), 15 representatives of 'societies of capitalists', and 30 representatives of 'social and economic societies'. These representatives were added to the Committee and the invited readers 'among whom were economists of such high repute as the Professors of the Science in Cambridge, Edinburgh, and London, as well as the President and several well-known members of the Statistical Society" (Cunningham, 1885: 3-4).

[65] Sir William James Ashley (1860-1927) was appointed lecturer at Lincoln College in 1885. After a stay as the first Professor of economic history at Harvard, Ashley left in 1901 to take the Chair of Commerce at the University of Birmingham. A year later, he served as Dean of the Faculty until 1923.

of abstract doctrine" (Ashley, in Usher, 1938: 157)[66]. To him, history was a way to understand present events. In this sense, his critique of classical political economists was, somewhat, close to Marshall's position, outlined in the last section. In his chapter 'Modern History', published in *Oxford, Its Life and Schools* (1887), he argued:

> "For the present most investigators of Economic History would agree in thus defending their attitude towards orthodox Economics: they do not deny that the teaching of Ricardo and Mill is a logical construction upon given assumptions, nor that these assumptions are in a large measure true of certain important sides of modern industrial life, but they assert that these assumptions were certainly not all true until very recent times" (Ashley, 1887: 303)

However, his suggestions for a new tendency in economics were clearly against the future development of deductive theories, since, to him, political economy was a part of modern history, as he explained in the same paragraph:

> "And therefore, they [economic historians] urge, the so-called 'principles' of Political Economy are at any rate not universally true for all times and places, and in consequence contribute scarcely at all to the understanding of the economic life of the past" (*Ibid.*)

Another emblematic Oxford figure in political economy at the end of the nineteenth century was Edwin Cannan (1861-1935), although he left Oxford for the LSE in 1895 where he stayed until 1926[67]. In 1888, he published his *Elementary Political Economy*, in which only 10 pages (out of 138) are concerned with the economics of industry; the remaining part dealing with 'Individual Welfare under Private Property' and 'The Promotion of Public Welfare by the State'. By contrast with Ashley though, he made a clear distinction between the role of the historian and that of the political economist. He wrote:

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[66] For further details about Cambridge analytical developments, see sections three and four in this chapter. Ashley's work is best illustrated in Ashley (1900 1914) and a complete biography of him was written by his daughter, Ann, in 1932.

[67] Today, Cannan remains probably best known for his contributions to the history of economic thought.

> "To explain why such and such a nation or class is rich, and such and such other nation or class is poor, is the duty of the historian, just as to explain why such and such an individual was rich or poor is the duty of the biographer. The duty of the political economist is, so far as possible, to explain generally what has made and will make mankind and nations wealthy, and also, given certain institutions and states of human nature what has made and will make individuals wealthy" (Cannan, 1888: 1)

Hence, the need for applicability of political economy was commonly agreed in Oxford, but no significant debate on 'theory versus history' followed in Oxford economics. However, as its title exemplifies, Cannan's book was basic and his elements in the economics of industry remained exclusively concerned with a very simplified account of the growth and productivity of industry, which according to him, is studied through an inductive method[68].

The last economist who contributed to the early developments of economics in Oxford is Langford Lovell Frederick Rice Price (1862-1950) who was educated at Trinity College and became fellow and treasurer of Oriel College in 1888. According to Alon Kadish's biography of him, he [...]

> "[...] was of the very few of his contemporary economists to have been trained by Alfred Marshall during the latter's short term at Balliol. [...] Marshall was impressed by Price's ability and for some years considered him the 'ablest of the pupils he had to do with'. Upon his election to the Cambridge chair, Marshall remained in touch and took an active interest in his career, a privilege no other contemporary Oxford economist enjoyed." (Kadish, 1982: 31-32).

This privileged relationship is symbolised by Price's first book *Industrial Peace: Its Advantages, Methods and Difficulties*, published in 1887, which had been prefaced by Marshall himself. Interestingly, the critiques made by Cannan and Ashley to the book

[68] For instance: "Given a certain amount of labour, the average comfort of a collection of individuals per head will depend on the quantity of comfort a given amount of labour will produce. When this is a great quantity, we say that 'the productiveness of industry' is great, and when it is small we say that 'the productiveness of industry' is small" (Cannan, 1888: 11). However, it is interesting to note that in other parts of the book some very complex issues are introduced, which led Langford Lovell Price (see below) to argue that Cannan's book "is too difficult to be elementary [...] he underrates the value [...] of his work by applying this epithet to it" (Price, in Kadish, 1982: 161).

indicated their own positions in relation to the methods which should be used by modern economists to understand modern industrial problems. On the one hand, Ashley disagreed with the view that Price's reasoning placed theory before collection of facts, as the latter defended it in his book. Rather, Ashley showed the importance of historical and inductive methods in Price's book[69]. On the other hand, Cannan challenged Ashley's view of political economy which according to him was nothing more than an extension of economic history, arguing for a more theoretical approach to economics. In line with this view, Cannan's *History of the Theories of Production and Distribution* published in 1893 sought to study the past economic doctrines, yet showing their relevance in terms of present practical issues.

Overall, neither Ashley, nor Cannan did substantially contribute to the theory of the firm or industry, at least in a non-historical perspective. Rather, their main concern was methodologically oriented and was justified by their need to determine the contribution of the economist to the society and value of his study in the search for a more advanced economy. During the last quarter of the nineteenth century, these methodological debates were witnessed by the Drummond Professor of Political Economy in Oxford who however remained aloof, leaving no institutional or theoretical legacy after his death. His name was Bonamy Price and he held the Chair of Political Economy between 1868 and 1888. Except for a brief biographical account made by Alon Kadish

[69] This view is also encouraged by the presence of Alfred Marshall's preface in Langford Lovell Price's book. Ashley argued: "It [the study] is heralded by a Preface by Professor Marshall, who had done more than any one else of late to maintain in England the credit of the old abstract or deductive Political Economy [...] yet this work of his pupil is precisely the outcome of 'common sense' working upon historical and statistical material 'unaided' by economic theory" (Ashley, in Kadish, 1982: 163).

(1982: 172-178), B. Price's life and works did not attract any further attention, although the determination of his successor became a matter of public interest in England[70].

After a long process of discussions and political tensions, James Edwin Thorold Rogers (1823-1890), known as Thorold Rogers was elected to the chair in 1888[71]. Rogers was an English economist and historian as well as being member of Parliament. His view of economics was close to the one defended by the historical school, in Cambridge[72]. The publication in 1866 of his *History of Agriculture and Prices in England from the Year after the Oxford Parliament (1259) to the Commencement of the Continental War (1793)* (in seven volumes) made him remembered for his pioneering contribution to economic history and according to W.A.S. Hewins was "based on a prodigious amount of archival work" which "is of permanent value" (Hewins, 2006). A fair account of his position on University matters can be found in his controversial article entitled "Oxford and its Professors" published in the *Edinburgh Review* in 1889 in which he described a general feeling of discontentment within the University. In particular, Rogers argued:

> "Nobody [in Oxford] pretends to be satisfied with the existing *régime*. [...] But amid so strange variety of complaint and distension, scarce any voice is raised in advocacy of the University as it is." (Rogers, 1889: 308-309)[73]

Despite his innovative ideas about higher education, Rogers never became the leader of Oxford economics in the sense that Marshall led the way in Cambridge. He was never

[70] In 1878, Bonamy Price published his *Practical Political Economy.*

[71] A detailed account of these discussions is provided by Alon Kadish (1982: 179) who notes that "other outsiders who presented themselves and were considered, at least in Cambridge, to have reasonable chances were F.Y. Edgeworth, J.N. Keynes, and Inglis Palgrave. Of the Oxford men the most serious contenders were Phelps and L.L. Price".

[72] For further details about this school of thought, see the Cunningham-Marshall debate presented in the next section.

[73] In other words, Rogers was aware of the changes needed in the University and was, consequently, a defender of liberal education. On this matter, he commented: "A University ought to provide a liberal education, competent to form the basis of that technical training which is special to every trade and profession." (Rogers, 1889: 324-325)

regarded by the younger generation as their mentor, mainly because of his personality and his orthodoxy on, and historical approach to, economic theory (Kadish, 1982: 181)[74]. According to William Ashley,

> "[a]s a theoretician, Mr. Rogers has added but little to economic science: he seems, indeed, never to have realized the exact nature of recent controversy, or the point at which the discussion has arrived. [...] It is as an economic historian that Mr. Rogers is to be judged" (Ashley, 1889: 406).

On 12 October 1890, only two years after he was elected to the chair, Rogers died[75], this paved the way for the election of the new Oxford Professor of Political Economy.

Francis Ysidro Edgeworth (1845-1926) was elected to the chair on 21 February 1891[76]. His undeniable professional attributes gave him a large range of supporters among the most reputed economists of the time[77], especially since he became the general editor of the *Economic Journal* a month after his election to the chair. Edgeworth's publications were mostly known for their mathematical and statistical orientation based on deductive reasoning. His intellectual developments were probably best expressed in his well-known *Inaugural Lecture* published in the *Economic Journal* in 1891:

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[74] On the one hand, it is noted that "although as a lecturer he was said to be amusing and instructive, he was a poor teacher when it came to personal instruction. He had a tendency to keep most of his work to himself." (Kadish, 1982: 181). On the other hand, his textbook entitled *Manual of Political Economy for Schools and Colleges* published in 1868, was aimed to make him part of these "rebellious economists who, during the decade 1870-1880bagan to criticise accepted doctrines" (Ashley, 1889: 389) and was nothing but well within these economic doctrines.

[75] For further details about his life and works, see William Ashley's account of his life published in *Political Science Quarterly* in 1889. According to Ashley, "Mr. Rogers' position as an economist is hard to characterize. He is so inconsistent and yet so vigorous, so one-sided in his conclusions and yet so laborious, that the critic is torn in twain" (Ashley, 1889: 406).

[76] Although former Balliol student, this election represented the appointment of an outsider after having been appointed to a chair in economics at King's College London in 1888. Shortly after his election, the *Oxford Magazine* expressed the hopes that "the electors would have fixed their choice on a candidate better known to Oxford than Mr. Edgeworth and more closely associated than he is with the recent study and teaching of the subject in the University. But the compromises of the Electoral Board are apt to bring to the front an outside candidate, and so it has been once more" (*Oxford Magazine*, 25 February 2925).

[77] For instance, in a letter to Marshall, dated 20 October 1890, Jowett wrote before the election: "Who do you think is the best candidate for our Professorship of Political Economy? Is any one superior to Edgeworth? He has written to ask me to support him so far as I have any influence." (Jowett, in Kadish, 1982: 198).

> "The demonstrative part of political economy, to which I am referring, seems rudimentary, when compared with mathematical physics. [...] Abstract reasoning, far from having become obsolete, seems never to have swayed larger masses." (Edgeworth, 1891: 626).
> "There is a certain affinity between the mathematical physics and the one social science which is largely occupied with measurable quantities." (*Ibid.*: 628).

Some pages later, he pursued and defined his task in Oxford:

> "It will be my duty to take occasional opportunities of discoursing on the methods of statistics – the logic of numbers, in which fallacies unfortunately form a large chapter" (*Ibid.*: 632).

His analytical framework was supported by the postulate of free competition without which economics "would be indeed a dismal science" (Edgeworth, 1881: 50) and he did not pretend to have an extended knowledge of historical issues in economics[78]. Yet, his general view was to maintain economics in Oxford as it was, namely as part of the School of Modern History, in a cordial harmony:

> "In this broad and liberal spirit our school of modern history has included political economy among its studies. In this spirit the teachers of both subjects will, I hope, cordially cooperate." (Edgeworth, 1891: 633).

As a result of his mathematical interests and his taste for compromise, his contribution to the economics of the firm was negligible and his appointment did little to change the general perspective of economics in Oxford. In fact, he was "soon regarded as a theorist who hid his opinion behind the cipher of mathematics" and "when forced to state a position, he would refer to the authority of others" (Kadish, 1982: 202). This view is expressed in Price's memories and notes on British economists:

> "Economics at Oxford looked like slumbering quietly or in effect at least must languish comparatively as it rested, so to say, inert in Edgeworth's keeping. There

[78] In his *Inaugural Lecture*, he mentioned: "Having dilated at such length on theory and its application to practice, I am unable to devote proportionate attention to the advantages of historical studies. But you will not expect me to expatiate upon advantages which are known to most of you from personal experience. I will only advert to a secondary and less obvious benefit attending historical researches." (Edgeworth, 1891: 632-633).

> was no active stir of a resonant hive of busy students gathering honey under his helping regime. [...] He did not even care to be at the pains of attending regularly the meetings of the Board of Faculty of Modern History of which he was *ex officio* a member." (Price *et al.*, 1996: 646)

It is interesting to note here that in 1884, Alfred Marshall spent a year at Balliol College, in Oxford[79] after he returned from his stay in Bristol[80]. The Marshalls were also offered the option of going back to Cambridge the same year; but in a letter to Foxwell, Alfred Marshall metaphorically expressed his choice as follows:

> "You were all so good and kind at Cambridge that we almost yielded to the temptation to go there. But there is no doubt, when we come to reflect on it calmly, that we ought to go, and in the long run we shall be glad we have gone, where there are vast flocks of untended sheep without (economic) shepherds rather than where there are many able shepherds with but few sheep. I don't suppose we will be able to get our crooks around the ankles of the Oxford sheep: they are too much out of the way of treating economics as a serious study: still we can try" (Marshall, in Whitaker, 1972: 14).

Marshall's stay only lasted four terms and neither changed the position of economics in Oxford nor paved the way for an Oxford School of Economics[81]. Marshall's main contribution in Oxford was his undergraduate teaching and interestingly[82], its content did not mention any topics related to the theory of the firm or the economics of industry[83].

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[79] Mainly, Marshall's stay in Oxford was due to his friendship with Benjamin Jowett (1818-1893), Master of Balliol College. In a letter to Marshall, Fowcett wrote: "The losses of Henry Smith and Toynbee are without exaggeration irreparable for Oxford, and I feel that they make the place difficult to me [...] I should be glad indeed if anything should bring you and Mrs. Marshall to settle in Oxford." (Fowcett in Whitaker, 1972: 13-14).

[80] In 1877, Alfred Marshall got married to Miss Mary Paley, former pupil of his and lecturer in Economics at Newnham. As a consequence, and as mentioned in J.M. Keynes' obituary of A. Marshall: "Marriage, by involving the loss of his Fellowship, meant leaving Cambridge for a time, and Marshall went to Bristol as the first Principal of University College, and as Professor of Political Economy" (Keynes, 1924: 325).

[81] He was then elected to the Chair in Political Economy in Cambridge. For further details, see the next section of this chapter.

[82] On this matter, Fowcett wrote: "We shall greatly miss you in Oxford: the Undergraduates say to me 'Who will teach Political Economy to us now?'" (Fowcett, in Whitaker, 1972: 15).

[83] On his year in Oxford, Marshall planned to give three separate courses, each meeting twice a week: "(1) General course: Michaelmas term-Production, Rent and Value; Lent term-Distribution, Money and Foreign Trade; Easter term-Economic Progress and the Functions of Government; (2) Economic Theory: Michaelmas term only.; (3) Advanced Course: Lent term only. The general course was "designed to give such a knowledge of the subject as is required for the ordinary business of life, or for understanding economic history".

Relative to the Cambridge case at the same period, Oxford economists had strong views on economics, preferring a formal mathematical approach. Furthermore, the common opinion was that economics should remain a part of history and/or philosophy. However, some new beliefs about higher education did lead to the introduction of a Diploma in economics in 1903. The next section recounts the process of emergence of this first degree in economics as well as the rejection of a Diploma in business also put to Congregation ten years later.

II.2. The Introduction of the First Diploma in Economics (1903) and the Failure of the Diploma in Business (1913)

To a large extent, the establishment of the first Diploma in economics in 1903 followed the needs recently formulated by the Industrial Remuneration Conference which took place in January 1885 in London. Interestingly though, the requirement of a new Degree or of an Honour School in Economics was not formulated by Oxford economists. Instead, the first Diploma (and the recently established equivalent in geography and education) aimed for a more liberal education, in line with the Extension Movement of the 1880s, offering teaching by Oxford men in other places[84]. More specifically, the concept of 'liberal education' was coined by Sir Richard Jebb, a Cambridge classical scholar and politician (1841-1905) and reported in the *Times* on June 20, 1903 as one which […]

> "[…] trains the intelligence, gives elasticity to the faculties of the mind, humanises the character; and forms, not merely an expert, not an efficient man" (Jebb, in Marshall, 1903: 13).

The Extension Movement was very present in Oxford, since John Henry Newman – author of the famous *Discourses on University Education* (1852) – was an ex-fellow of Oriel College. In line with Jebb's definition, Newman's idea was that the end result of

[84] In the next section of the chapter, it will be shown that the exclusive requirement of a Diploma strongly contrasted with the introduction of the first Economic Tripos in Cambridge in 1905.

such education was "a cultivated intellect, a delicate taste, a candid equitable dispassionate mind" (Newman, 1852). Consequently, the aim of this movement's proponents was to "create 'capable and cultivated human beings', not to provide professional instruction for specific vocations" (Sanderson, 1995: 44). While some argued at the time that "Economics and associated studies may then claim to afford a liberal education" (Marshall, 1903: 13), this view was far from being shared by the rest of the academic community in Oxford.

Nevertheless, in January 1882, Langford Lovell Price sent an open letter to the Vice-Chancellor which he entitled 'The Present Position of Economic Study in Oxford" (Oriel College, 14 January 1902) and in which he argued that if Oxford failed to introduce a new degree in the discipline, businessmen would increasingly send their sons to younger universities who were preparing students for a business life. This informal, individual initiative, was soon followed in May by a formal 'Memorial' signed by 88 members of Convocation and sent to Hebdomadal Council. In particular, this 'Memorial' argued the need for a more systematic study of economics and related subjects. Interestingly, this Memorial was published a month after Marshall's *Plea for the Creation of a Curriculum in Economics and associated branches of Political Science* in Cambridge[85]. Thus, to a considerable extent, this Memorial echoed Marshall's *Plea* and expressed the Oxbridge concern of falling behind other universities which could potentially provide more practical education for businessmen's sons. Unsurprisingly, this worry was inherited from the position held in Victorian times. Since the fact that both Oxford and Cambridge […)

[85] According to Norman Chester' accounts on *Economics, Politics and Social Studies in Oxford (1900-1985)*, this was no coincidence, given the personal links between Alfred Marshall in Cambridge and Francis Edgeworth in Oxford. The last sub-section also showed the personal links existing between L.L. Price and A. Marshall.

> "[...] had met successfully the professional demands of the old social order by producing statesmen, churchmen, and lawyers put them at an actual disadvantage when a new industrial order, new types of wealth, and new forms of professional activity were all making claims on society" (Roach, 1959: 134).

This position was already exemplified by Thorold Rogers' account of "Oxford and its Professors", published in the *Edinburgh Review* in October 1889. Rogers argued:

> "[...] it still remains a question which must be asked: Is the University of Oxford, with its immense revenues, adequately performing its functions as a centre of national education? There can be little doubt that if that question be asked outside the University, the answer would be the reverse of favourable. [...] Nevertheless [...], knowledge on academic matters is still confined to comparatively few men, and of those who know, the great majority have been educated at Oxford and Cambridge, and recognise in the circumstance a quasi-obligation to take no action which could be interpreted as hostile to the universities." (Rogers, 1889: 307-308)

In addition, this concern was reinforced by 'exogenous' forces coming from the academic environment in England, such as the recent establishment of the London School of Economics and Political Science (1895) and the Faculty of Commerce in the University of Birmingham (1901). Not only did their interest in economics make Oxbridge scholars aware of their lack of adapted teaching and research, but, ironically, both establishments were led by former Oxford Fellows. W.A.S. Hewins, first Director of the LSE, had taught economic history at Pembroke College and W. Ashley, first Dean of the Faculty of Commerce had also taught in Oxford – as shown in section II.1.. This need was undeniably shared by some industrialists, as expressed by Mr. Gibb, a businessman working for the North-Eastern Railway, who wrote to Alfred Marshall in 1903:

> "There is a growing desire on the one hand, that young men who enter business with the hope of reaching the higher posts of management, shall come with faculties trained by thorough education and by studies of University rank. But this desire is [...] seriously checked by a conviction [...] that [...] Universities need considerable revision to render them suitable for students who intend to enter public life" (Gibb, in Marshall, 1903: 14)

Yet, in contrast with Cambridge, the Oxford signatories of the *Memorial*, although talking of the desirability of constituting 'a new School of Economics and Political Science', suggested that the school should be exclusively addressed to graduate students (Chester, 1986: 5). Failing to be given a graduate school, Oxford economists finally obtained a Diploma in Economics first examined in 1905. This particular inertia in Oxford University could have resulted from two distinct (yet related) intellectual phenomena emerging from institutional and individual factors. First, from an institutional perspective, the Oxford tradition of building new disciplines on existing ones slowed down the process of the emergence of economics as an independent discipline from moral philosophy and modern history. According to some dons, economics was best kept as a component of a liberal education. As a consequence, there was no room for either a new Honour School nor for compulsory papers in economics within *Literae Humanories* or Modern History, although according to Norman Chester:

> "In the Final Honour School of Modern History there was a compulsory paper entitled 'Political Science and Political Economy with Economic History'. But candidates not aiming at either a First or a Second Class could omit either Political Science or Political Economy with Economic History. According to Price 'neither the standard of attainment in economic knowledge which is generally reached by the candidates, nor that which is expected by the examiners, is very considerable' (Price, in Chester, 1986: 7)

The second reason concerns the central role played by Francis Edgeworth who (as discussed earlier) held the Chair in Political Economy. His inaugural lecture published in the *Economic Journal* in 1891 signifies Edgeworth's position, according to which political economy should remain a branch of moral philosophy and modern history. He wrote:

> "[...] there is a certain congruity between the theory of political economy and the studies which are particularly characteristic of this university, the great Oxford school of *literae humaniores*" (Edgeworth, 1891: 625).

A page later in his *Lecture*, he elaborated:

> "The logical methods, which are studied in the School of *literae humaniores* may be exemplified in political economy without going beyond the range of subjects conterminous to that school." (Edgeworth, 1891: 626).

Price, who knew Edgeworth well, stated in his obituary of Edgeworth[86]:

> "I tried hard in our weekly conversations to urge [Edgeworth] [...] and [...] persuade him that a golden opportunity for marked advance was offered and alas, was being missed, after the war. [...] But, partly from a loyalty, with which I sympathetized, towards the ancient school of *Literae Humanories* that had been our common training ground as undergraduates, and unwillingness to depreciate or impair so admirable an education as that, in our joint belief, had proved [...] pressed successively with force [...] my counsel [...] of stout aggressiveness did not avail" (Price, 1926: 372).

It is clear from this statement that Marshall's success in Cambridge in establishing the Economic Tripos contrasted with the failure to raise economics "from the ignoble level, at Oxford, of a tolerating, grudged, subordination to other studies to the prominent status of recognized autonomy" (*Ibid*.). Undoubtedly, Edgeworth's lack of pugnacity and avoidance of academic politics harmed the development of economics in Oxford before the Great War. Still, the number of students taking the Diploma almost doubled in 1913, when Oxford University, following an aspiration to get closer to the working class, widened the Diploma to cover Political Science and to admit Ruskin students to it[87]. From the academic year 1950-1951 onwards, the Diploma widened to public and social administration and the Certificates of Economics, Political Science and Social Training were introduced between 1950 and 1959 (*Examination Statutes and Regulations of the Boards of Studies and Boards of Faculties*, 1950-1951: 400-407 and *Ibid.*, 1958-1959:

[86] In his later *Memories and Notes on British Economists*, Price remembered their weekly walk together during term time (Price *et al*., 1996: 645).

[87] During the academic year 1909-1910, the Diploma in Economics became the Diploma in Economics and Political Science (*Examination Statutes and Regulations of the Boards of Studies and Boards of Faculties*, 1909-1910: 248-258). Founded in 1899 with the support of trade-unions, Ruskin College was housed in Oxford but did not have any formal links with the University. It was what will later be called an independent institution of Oxford University.

471-478). By the mid-1960s, the Diploma in Public and Social administration became the Diploma in Social and Administrative Studies. The Diploma in Economics stopped running since the academic year 1967-1968 when the Diploma in Economic Development was introduced along with the Special Diploma in Social Studies and the Diploma in Social and Administrative Studies (*Ibid.*: 1967-1968: 578-591).

In the early twentieth century, Oxford University was far from considering business as noble enough to be taught. Interestingly, the first potential Oxford Business Diploma failed to be introduced in 1913. One year earlier, the suggestion of a substantial two year course aimed at training students for business careers made by the University Chancellor, Lord Curzon[88], was rejected in November 1913 by the Convocation[89] (Brock, Curthoys, 2000: 613). The University considered business to be a vulgar and ignoble profession. The common view, in the Congregation debate, was well expressed by the Warden of New College, Dr. Spooner[90]. He pleaded against "too much of the brains and vigour of the country' being attracted towards the 'wealth-amassing career of commerce or business" to the neglect of "the more ennobling careers of the clergyman [...], the lawyer, the doctor, and even the public servant" (Snow, 1991: 16). Alternatively, it is possible to explain this statement purely on institutional grounds, namely the underlying fear that students would be attracted away from the Diploma in Economics and Political Science which had recently been introduced in 1905. Oxford disliked proposed courses "that encroached on established vested interests" (Brock, Curthoys, 2000: 613).

[88] Oxford University Chancellor (1907-1925)
[89] *Oxford University Gazette*, 1913: 189
[90] William Archibald Spooner (1844-1930), Warden of New College (1903-1924)

II.3. The Establishment of Philosophy, Politics and Economics (PPE) as an Independent School (1921)

The end of the Great War marked the need to recontinue developing the aspirations established prior to 1914 and soon a new proposal for the PPE degree arose; which later became known as 'Modern Greats'. According to Sir Norman Chester (1907-1986), Warden of Nuffield College between 1954 and1978:

> "The creation of this School was the major step in the development of Social Studies in Oxford. For its establishment led to a Board of Studies, later to a Faculty, and as the School grew in popularity, College and University appointments in Economics and Politics were made to provide the teachers" (Chester, 1986: 30).

The original idea of PPE came from philosophers who wanted to give a more modern orientation to their discipline, and to break its systematic association with ancient history. Modern philosophy had to be, by definition, coupled with the study of modern society and consequently also concerned with science, and political, economic and social development. The science component of the proposed school did not generate any particular enthusiasm from the Sub-Faculty of Philosophy or the Board of the Faculty of Natural Science. As a result, it was decided that the initial proposal for a School of Modern Philosophy related to Science would be postponed for further consideration. However, an alternative recommendation was made by the committee in February 1920, forming the first step towards PPE:

> "[...] the Committee should be authorised to proceed with the drafting of a Statute for a School of Modern Humanities, 'i.e. Philosophy in combination with modern political, economic and social development'" (*Ibid.*: 33)

This suggestion was soon followed, in May 1920, by a letter sent by the then recently formed Committee for Economics and Political Science, in which, the establishment of a

Final Honour School in Economics and Politics was stated as being required[91]. A draft of the structure of the papers for the potential school, attached to the letter, suggested the following papers:

1-2 Economic Theory, including its history.
3 Modern Economic History from 1700.
4 Political Philosophy.
5 History of Political Thought.
6 British Constitutional History, including that of the Dominions, from 1688.
7 The Economic Organisation of Modern Society.
8 The Political Organisation of Modern Society.

Interestingly, this draft showed that economics was still perceived as a branch of economic history and no study of the firm or of industries *per se* was considered. Nevertheless, a month later, the name of the proposed school was amended to the Honour School of Philosophy, Politics and Economics and was brought to Congregation in October. There, the only opponents to the School were those who saw the predominance of philosophy in the new school and, instead, wished for greater emphasise on economics and political science elements[92]. Price, who was the initial instigator of the establishment of a degree in economics in Oxford, argued against the proposed statute since, to him [...]

> "[...] it continued the old policy of regarding economics as a 'pretty' but not very important subject taught in Oxford" (Young, Lee, 1993: 10).

In retrospect, this view was also exemplified by the creation, in 1924, of an informal association of Oxford tutors in economics by the name of S.O.E (Some Oxford Economists)[93]. This group of economists was founded by Edwin Cannan, who although a

[91] The emergence of this Committee was associated with the first Diploma in Economics, in 1905.
[92] For instance, this view was shared by Lionel (Lord) Robbins who saw philosophers as "a race of men who were all too apt to assume that their own discipline gave them spiritual jurisdiction over all [...] to hear, for instance, J.A. Smith, Waynflete Professor of Moral Philosophy pontificating on the methodology of economics, with which his acquaintance was zero, was to gain new conceptions of the possibility of human absurdity" (Robbins, 1971: 111).
[93] It would be interesting to compare this group of economists with the Oxford Economists' Research Group created in 1935, in Oxford (For further details, see chapter 2). However, because of its informal nature, the

Professor of Economics at the London School of Economics and Political Science until 1926 kept in touch with Oxford, and Henry Sanderson Furniss, who was a Lecturer in Economics at Ruskin College. These informal meetings took place in one of the members' rooms, in rotation, once every term. One of the members would introduce a discussion on some economic issue to be subjected to the criticism of the others (Besomi, 2003: 1020; Brown, 1939: 370). The only rule was that philosophers were not allowed to be members. It is reported by Norman Chester (1986: 35) that the S.O.E. had regular meetings during the inter-war period. Despite its opponents, Congregation voted through the statute of the new School in November 1920.

III. The Marshallian Tradition of the Economics of the Firm in Cambridge

At the end of the nineteenth century, the consequences of the discussions about the position of economics in Cambridge contrasted with those conducted in Oxford. As in Oxford, the historical school of economics was predominant, but unlike in Oxford though, this predominance was challenged with pugnacity by the initial convictions of one man: Alfred Marshall. The representative of the historical school of economics in Cambridge was the influential William Cunningham (1849-1919) who attended the London Industrial Remuneration Conference in 1885 (previously mentioned) and whose report of it highlighted the urgent need to clarify the purpose and scope of economics, as an academic discipline, yet close to industrial reality. A year before, at the death of Henry Fawcett who

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SOE did not leave any archives or notes which would be necessary for such a task. The group is only mentioned in Alfred Barratt Brown's 1939 obituary of Lord Sanderson (1868-1939) – formerly Henry Sanderson Furniss – who was a Lecturer in Economics at Ruskin College. A brief reference to the group was also made by Norman Chester (1986: 35) and by Roy Harrod in his diary record on the 8 March 1924 (Besomi, 2003: 1020).

vacated the Chair of Political Economy[94], William Cunningham competed with his life long opponent Alfred Marshall to hold the new position. In Audrey Cunningham's 1950 biography of William Cunningham, she noted that Cunningham had hopes that:

> "Marshall would have been content to carry on the teaching of analytical economics at Oxford and that he would be left with room to develop a school of empirical political economy at Cambridge" (Cunningham, 1950: 64)

Things turned out differently and Cunningham soon became aware of Marshall's mission to change the position of economics at Cambridge. Marshall's intention was not new and could be traced back to his *Inaugural Lecture* in 1885. Methodological debates which followed between Cunningham and Marshall, often symbolised by Cunningham's most serious protest in an article "The Perversion of Economic History" and Marshall's reply in the same issue of the *Economic Journal*, are well documented (Hartwell, 1973; Kadish, 1982; Maloney, 1976; Hodgson, 2005) and would be unlikely to benefit from any further analysis here[95]. However, an understanding of the twentieth century developments of the theory of the firm, industrial economics and management studies would not be possible without some knowledge of the Marshallian theory of the firm and of industries, seen as the precursor of more modern developments. Therefore, this section (III.1) provides a general overview of Marshall's beliefs on the future of economics, (III.2.) of his methodology and (III.3.) of his economic theory of competition, prices and the firm.

III.1. Marshall's Beliefs on the Future of Economics (and Business Studies)

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[94] Henry Fawcett (1833-1884) became the Cambridge Professor of Political Economy in 1863. His main contribution was to labour economics, predominatly through the publication of his *Economic Position of the British Labourer* (1871). Previous to this book, he also developed more general economic theory in his famous *Manual of Political Economy*, first published in 1863. He died in 1883, blind since the age of 25, after a shooting accident.

[95] This debate is exemplified by two different ways of studying industrial issues, mainly characterised by Marshall's *Principles of Economics* (1890) and Cunningham's *Growth of English Industry and Commerce in Modern Times* (1892(c)). In particular, Cunningham's way of studying these issues was significantly more historically oriented as shown earlier in this chapter. Overall, though, Cunningham was not concerned that economists would abandon economic history, but would not pursue it seriously (Cunningham, 1892(a)).

In the nineteenth century, in Cambridge, political economy courses were taught and examined within the Moral Sciences Tripos as a minor part of the Indian Civil Service course. The subject could, therefore, only be studied seriously as an optional special subject in Part II of the Moral Sciences Tripos, for which there were very few candidates. Marshall disliked this configuration and had the desire to liberate economics from the Moral Science tripos so as to systematise the subject (*Cambridge University Reporter*, 1885-86: 579). Marshall made very clear his position on the future of economics, as early as 1885, in his *Inaugural Lecture*. His view was built upon the heritage of the discipline[96] from which he derived what he perceived as the task of an economist and his use of real economic facts. According to Marshall, the economist must combine empirical facts with economic theory, which he also called the economic 'organon'. To him, the role of the University of Cambridge in the development of the discipline was meant to help the economist to develop this 'organon', since it has not been achieved in the past. In this respect, he argued:

> "To develop and apply the organon rightly is our most urgent need: and this requires all the facilities of a trained scientific mind. [...] What is most wanted now is the power of keeping the head cool and clear in tracing and analysing the combined action of many combined causes. [...] Cambridge has more such men than any other University in the world. But, alas! Few of them turn to the task" (Marshall, 1885: 51-52)[97].

Marshall started his battle for professional independence of economics and urged the need for more systematic and rigorous studies in economics at Cambridge. Yet he

[96] "Twelve years ago England possessed perhaps the ablest set of economists that there have ever been in a country at one time. But one after another they have been taken from us Mill, Cairnes, Bagehot, Cliffe Leslie, Jevons, Newmarch and Fawcett. And not content with these, death has stricken down also one of the noblest of the rising generation, Arnold Toynbee." (Marshall, 1885: 9).

[97] Marshall pursued and explained the reasons why, to him, so few men 'turned to the task' in Cambridge: "Partly this is because the only curriculum, in which Economics has a very important part to play, is that of the Moral Sciences Tripos. [...] But may I not appeal to some of those who have not the taste or the time for the whole of the Moral Sciences, but who have the trained scientific minds which Economics is so urgently craving?" (Marshall, 1885: 53).

acknowledged that the University was already interested by social issues but that economics was still in its infancy and had but little to teach (Marshall, 1885: 56-57). By contrast with the inertia described previously in the Oxford case, Marshall's view did not leave his colleagues indifferent. Although the strong critiques made by his most virulent opponent Cunningham, Marshall's suggestion was encouraged by his colleagues in the University. This was the case, for instance, of Professor Herbert Foxwell (1849-1936) who was one of Alfred Marshall's first student. In line with Marshall's position, Foxwell argued in favour of the study of economics to develop the power of applying abstract and theoretical principles to current affairs[98].

As a result of this general position, a new curriculum in economics was created in Cambridge in 1903, with the aim of fulfilling two needs: developing analytic and realistic research in economics and satisfying the growing need for students looking forward to a business career. More specifically, in the purpose and plan for *The New Cambridge Curriculum in Economics and Associated Branches of Political Science*, written in 1903, Marshall argued:

> "First, there is a growing need for a thorough analytic, and therefore realistic, study of economics, of the same order as that which is given to physics and physiology." (Marshall, 1903: 20).

The curriculum was also a response to Marshall's fear that businessmen would increasingly send their sons to universities where they could receive a more practical education. This concern mainly justified the second need:

[98] After being Marshall's student, Herbert Foxwell became his close friend and "ally" until 1908, "when Marshall's decision not to back Foxwell as his successor for the Cambridge chair in economics forced them irrevocably apart" (Hodgson, 2005: 332). For further details about Herbert Foxwell's life and legacy, see John Maynard Keynes' obituary in the *Economic Journal* (1936). In particular, Foxwell argued: "Under present conditions, we are not able to carry it far enough, to make it sufficiently thorough, or to bring it close enough to reality, either to give the best training, or to interest the practical man" (Foxwell in Cambridge special committee of the Senate, 6th June 1903, in Marshall, 1903: 4).

> "Secondly, there is a growing need for better provision for students who are looking forward to a business career or to a public life, and who desire to obtain a good intellectual training and opportunities for distinction in subjects that will bear on their thoughts and actions in after years" (Marshall, 1903: 21).

This dual nature of the curriculum from its origins was reflected in its structure, which consisted of both theoretical and practical issues. Amusingly, these two sides of the discipline were respectively entitled "Advanced Economics, mainly realistic", and "Advanced Economics, mainly analytic" in the 1903 Schedule of Subjects reproduced in Appendix 13 (Marshall, 1903: 30). On this matter, the report of the Syndicate noted:

> "[...] the Syndicate accordingly propose to allow students to follow their particular bents and give special attention to industrial questions on their technical side; to banking; to trade; to modern developments of political theory and practice" (Marshall, 1903: 23).

On 4 March 1903, the Economics and Political Science Syndicate recommended the establishment of a new Tripos, separated from Moral Science[99]. This Report was debated by Senate on May 7 and a full account appeared in the *Cambridge University Reporter* on May 14 of that year.

Although one element of justification for the introduction of the new Tripos in economics was to prepare students to enter business life, Marshall's aim was to develop more than just a technical education in the discipline. Indeed, in the minutes of the Cambridge Special Committee of the Senate, Marshall remarked:

> "What is desired is not technical instruction, but an education of a high type, which shall have the additional advantage of preparing the student to take, without unreasonable delay, a responsible place in business or in public life." (Cambridge special committee of the Senate, 6th June 1903, in Marshall, 1903: 3).

[99] For further details about Marshall's view on philosophy and ethics, see *Meeting of the British Economic Association: The President's Address,* (1893: 389). In particular, Marshall argued that: "In early times, Ethics did all her [economics] own work. But as she got on in the world, she delegated much of the drudgery to various servants; of whom Economics was one of the most busy. Ethics now gave herself mainly to the higher problems of the ultimate basis of duty and the correlation between its various aspects".

Hence, while Marshall's view of economics at the turn of the twentieth century is well known in the academic community, his position on the development of management studies at University is certainly more ambiguous. Undeniably, businessmen's opinions *did* matter in Marshall's attitude towards the discipline. As outlined in the previous section, the new Tripos was motivated by Marshall's fear of seeing the sons of English businessmen sent to newer Universities which would potentially offer them a more practical education[100]. It is, in this sense that he argued, in 1903, in the *Cambridge University Reporter*:

> "If this University should refuse to do what business men required: in return they should, as it was said they were already doing, tend more and more to send their sons to new Universities [...]; and if, in consequence, the rising generation of wealthy business men became the loyal sons of the newer and not the older Universities, then [...] this University might regret too late that it had seemed somewhat different to the opinion of business men" (*Cambridge University Reporter*, 14th May 1903: 774).

It might be worth relating Marshall's position towards management education with his stay at University College, Bristol, during the period 1877-1881[101]. There, Alfred and Mary Marshall, then recently married, were teaching students who were less academic

[100] This remark is supported by the publication of extracts of letters sent to Marshall by businessmen. For instance, in 1903, Sir Clinton E. Dawkins, K.C.B., wrote: "[...] certain schemes for business training that I have seen put forward went far in the direction of technical preparation, and ignored the advantages of that general education of mind and character afforded at the old Universities". (Dawkins, in Marshall, 1903: 15). Similarly, in that same year, Mr. Charles Booth wrote: "It is already generally recognised that a University training is desirable for any whose lot it is to inherit commercial positions of even moderate importance [...], and this although no pains has been taken to make the higher training offered applicable to their future" (Booth, in Marshall, 1903: 15).

[101] As previously pointed out, Marshall's stay in Bristol followed his marriage to Miss Mary Paley former student of his. The Marshalls then moved for a year to Oxford (1884-1885) before Marshall took the Chair in Political Economy in Cambridge. As explained by Mary Paley Marshall in her memoirs, *What I remember*, written a year before she died, this stay was purely motivated by financial reasons: "We began seriously to consider ways and means of providing an income. One plan seriously discussed was that we should become Board-school teachers, Just at that time, however, the Principalship of University College, Bristol, was advertised [...], and after much anxious consideration Alfred decided to apply. [...] We were afraid that the administrative work at Bristol would too much interfere with his writing, and as things turned out, it did" (Marshall, M.P., 1946: 23).

than those in Cambridge and had consequently adjusted the content of their lectures[102]. Yet, this experience brought Marshall "into the public eye and to a first-hand acquaintance with the wider world of affairs" (Whitaker, 1972: 1). Mary Paley Marshall remembered in her memoirs:

> "[...] during the second year I was allowed to give the morning lectures in Economics to a class which consisted mainly of women and I was also tutor to the women students. [...] He continued to give the evening lectures which were attended by businessmen, trade unionists and a few women; they were less academic than those at Cambridge; and were a mixture of hard reasoning and practical problems illuminated by interesting sidelights on all sorts of subjects" (Marshall, M.P., 1946: 23-24).

The content of Marshall's lectures addressed to his Bristol students is very informative and has been reproduced in Appendix B of Whitaker's account of Alfred Marshall's Years 1877-1885 (Whitaker, 1972: 42-47). It is interesting to note that for the session 1880-1881, the reading list included Marshall's 'textbook' *Economics of Industry*. Moreover, Marshall's effort to apply theory to practical business problems can also be noticed in his 1881-1882 lectures on 'The Theory of Wages and Its Applications'. The outline mentioned:

> "I. THE THEORY OF WAGES: [...] Unskilled labour, skilled labour and business management. The rate of interest. Normal wages and market variations of wages.
>
> II. APPLICATIONS OF THE THEORY and consideration of some closely allied practical problems. History of the Gilds. Trades Unions: their past, present and future. Arbitration and Conciliation. Co-operation. The history of Socialism. Property and Land Tenure. The right methods of public and private poor-relief. National Education. [...]" (reproduced in Whitaker, 1972: 46)

Marshall's experience with businessmen in Bristol led him to recognise the importance of practical business matters in the study of economics. On his return to Cambridge, in his

[102] In Marshall's Outlines of Courses of Lectures on Political Economy Given at University College, Bristo1, one can read "The lectures will be adapted to the requirements of those who have some acquaintance with economic science, or with the practical conduct of business" (reproduced in Whitaker, 1972: 44).

Introductory Lecture given in the Senate House in 1885, he addressed the needs for Universities to be "more in sympathy with business":

> "[...] if more University men looked upon their life here as preparing them for the higher posts of business, what a change they might make in the tone of business! Just and noble sentiments might be introduced into counting-house and factory and workshop, without the dangers which weak benevolence runs of turning sentiment into sentimentality, of courting ruin and increasing the common prejudice that a pleasant looking house of business is likely to be financially unsound. If our Universities were more in sympathy with business, charitable England would not have left to other countries so much of the work of pioneering the way towards making factory life pleasant and beautiful." (Marshall, 1885: 55-56).

More generally, Marshall's view reflected a reality described by Roach's account of Victorian times (1959: 47) in which the turn of the new century was witnessing a shift from the work of "individual enterprise" to collective enterprise directed by skill and knowledge "made available for public purposes by concert and organisation[103].

Consistent with his view on economics and business education, Alfred Marshall's economics was developed as a combination between theoretical elements and empirical facts. The main lines of his methods are developed in the following section.

III.2. Marshall's Theory and Beyond: His Methodology on Competition, Prices and the Firm

Marshall's position on the way economics should be taught and studied in Cambridge was much clearer than Edgeworth's. The latter, by developing mathematical economics, still sought to get economic closer to "practice" but failed to provide any systematic method to

[103] On this matter, in his Plan and Purpose on the new curriculum, Marshall quoted an extract of Cambridge special committee of the Senate, 6th June 1903: "They have had before them a number of letters from leading men of affairs, and also a resolution passed unanimously by the London Chamber of Commerce, expressing warm approval of the project of establishing a curriculum in Economics and Political Science at Cambridge. By these and other indications of opinion they are convinced that the organisation of such a curriculum would be welcomed by [...] business men, who, while anxious to secure for their sons the advantages of residence at one of the older Universities, yet often hesitate because there is not among the existing Honours Examinations one which already during their student days will concentrate their main intellectual activity upon the field of their future labours" (in Marshall, 1903: 2-3).

be followed by the professional economist. In particular, in his *Inaugural Lecture*, he argued:

> "It is worth while to consider why the path of applied economic is so slippery; and how it is possible to combine an enthusiastic admiration of theory with the coldest hesitation in practice. [...] There still is room for the studies which the Greeks attributed to theoretical science, as distinguished from practical sagacity, which Aristotle characterized as wonderful, and hard to be attained to, and sublime, but not immediately useful, not directly applied to the service of humanity. [...]From these heights of speculation, as from a lofty mountain, may be obtained general views as to the directions in which practice trends." (Edgeworth, 1891: 629).

The only insight given by the Oxford economist was that statistics were useful to resolve 'social fallacies'. By contrast, Marshall held strong views on the methods used in economics and deployed both inductive and deductive reasoning, stating:

> "Each study supplements the other: there is no rivalry or opposition between them; every genuine student of economics sometimes uses the inductive method and sometimes the analytical, and nearly always both of them together. There is a difference in proportion between different students; as one may eat more solid food and another drink more fluid: but everyone must both eat and drink under pain of starving or dying of thirst" (Marshall, 1897: 133)[104].

As is evident from the above quotation, one of the main characteristics of Marshall's methodology has been to emphasise the importance of realism in economics. In one of his letters addressed to Alfred Flux, his former student, Marshall wrote:

> "My confidence in Cournot as an *economist* was shaken when I found that his mathematics *re* I.R. [Increasing Returns] led inevitably to things which do not exist and have no near relation to reality. One of the chief purposes of my Wander-jahre among factories, etc., was to discover how Cournot's premises were wrong. The chief outcome of my work in this direction, which occupied me a good deal between 1870 and 1890, is in the "representative firm" theory [...], the supplementary cost analysis [...], as well as the parts that directly relate to supply price for I. R" (Extract

[104] This view was already expressed in his 1885 *Inaugural Lecture* given in Cambridge. In particular, his view was that the economists must: "[...] stand fast by the more laborious plan of interrogating facts in order to learn the manner of action of causes singly and in combination; applying this knowledge to build up the organon of economic theory, and then making use of the aid of the organon in dealing with the economic side of social problems. He will thus work in the light of facts, but the light will not be thrown directly, it will be reflected and concentrated by science" (Marshall, 1885: 51).

> from a letter to A.W.Flux dated March 7, 1898; reproduced in Pigou, 1925: 406-407).

Basically, Marshall saw economics to be a science with a double nature. On the one hand, he believed that economics, like any other discipline, 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 and business. Therefore, and by contrast to some of his predecessors and contemporaries, Marshall tried to render economics closer to reality. However, Marshall did not want to transform economics into a pure empirical science, taught within a technical curriculum. In Marshallian terms, economics is nothing less than a combination of theory and application.

> "In my view "theory" is essential. No one gets any real grip of economic problems unless he will work at it. But I conceive no more calamitous notion than that abstract, or general, or "theoretical" economics was economics "proper". It seems to me an essential but a very small part of economics proper: and by itself sometimes even – well, not a very good occupation of time… a combination of the two sides of the work is *alone* economics proper. Economic theory is, in my opinion, as mischievous an impostor when it claims to be economics *proper* as is mere crude unanalysed history" (Marshall, in Pigou, 1925: 437).

Moreover, unlike Edgeworth in Oxford, Marshall never thought that economics could be considered a mathematical science. In fact, for Marshall, economics was rather a science of human economic behaviour, which could be helped by economic and institutional history. His view of the use of mathematics in economics is confirmed in a letter to A. L. Bowley where Marshall describes it perfectly: Mathematics is, at best, a tool or a language which can help to clarify some specific issues[105].

> "(1) Use mathematics as a shorthand language, rather than as an engine of inquiry. (2) Keep to them till you have done. (3) Translate into English. (4) Then illustrate by examples that are important in real life. (5) Burn the mathematics. (6) If you

[105] For further details about Marshall on Mathematics, see Brems (1975).

> can't succeed in 4, burn 3. This last, I did often" (Marshall, 1906/1996, letter 840, volume III: 130)

In addition, Marshall considered economics as a science closely concerned with the role of institutions in society. Hence, in his mind, conventions, customs or institutions affect and influence individual behaviour:

> "The present indeed never reproduces the past: even stagnant peoples gradually modify their habits and their industrial technique. But the past lives on for ages after it has been lost from memory: and the most progressive peoples retain much of the substance of earlier habits of associated action in industry and in trade; even when the forms of those habits have been so changed under new conditions, that they are no longer represented by their old names". (Marshall, 1919/1920: 15-16).

He appreciated the desire to try to chart the historical background of diverse customs and institutions. Institutions are important in the accumulation of knowledge and for the economic improvement of society. To sum up, Marshall's desire for realism is confirmed by his own definition of economics as a social science, based upon a combination of theory and applied work, as well as his wish to interpret economics as a science explained more by a historical process than by mathematics.

Marshall's insistence on realism is based upon a specific methodology. He conceived economics as a combination of theory and empiricism. This led him to use a static method. The aim is nothing more than a simplification that can provide guidelines for a substantial application of the theory. Marshall developed this idea in his article published in his 1898 in the *Economic Journal:*

> "But the statical solution has claims of its own. It is simpler than the dynamical; it may afford useful preparation and training for the more difficult dynamical solution; and it may be the first step towards a provisional and partial solution in problems so complex that a complete dynamical solution is beyond our attainment." (Marshall, 1898: 38)

Hence, Marshall used the notion of *Caeteris Paribus* as a means to isolate effects of one explanatory variable on the dependent variable even when all are changing together. He insisted on this notion in his 1898 article, arguing that the economist had to proceed step by step, namely with a statical analysis in order to understand the dynamic aspects later. He then explained:

> "With each step of advance more things can be let out of the pound; exact discussions can be made less abstract, realistic discussions can be made less inexact than was possible at an earlier stage. The pound *Caeteris Paribus* is never turned to better service in locking up disturbance causes, which we want to keep out of the way provisionally in the earlier stages of an enquiry, than when it is applied to the famous fiction of "the Stationary State." (*Ibid.*: 40)

Marshall did not mean that the statical method was the exclusive way to deal with economic issues. He only argued that a statical analysis corresponded to the first step of a more general dynamic approach. This view was still widely discussed amongst Post-Marshallian economists. Thus, some, and especially the Pigovians, considered that Marshall's theory was only based on a statical analytical framework. However, some Marshallian concepts were difficult to understand within a purely static framework (e.g. the concept of representative firm and of external economies). Therefore, other recent interpretations referred to Marshall as an economist of dynamics[106], and tried to reconcile some Marshallian concepts with a "dynamic economic universe" (Marshall, 1898: 21).

III.3. Marshall's Theory and Beyond: His Economic Theory on Competition, Prices and the Firm

Having considered Marshall's methodological framework, it is now easier to understand his theory. Given that his contribution to economics was vast, this section focuses only on the theorisation of competition, prices and the firm. The basis of Marshall's theory concerned the way he thought prices were determined and is developed in his *Elements of*

[106] For further details on this specific matter, see Jenner (1964).

Economics of Industry – Being the First Volume of Elements of Economics, published in 1892 and his substantial *Principles of Economics* published in 1890. Perhaps, the links between his two publications deserves some further comment. The *Economics of Industry* was firstly published in 1879 and written in collaboration with his wife, Mary Paley Marshall. The first part of the book was meant to be written by her at the request of a group of Cambridge University Extension lecturers who wanted a textbook on the economics of industry. According to her memoirs, *What I remember*, Mary Paley Marshall admitted though, that this book was more the result of her husband's work[107]:

> "When I returned to Newnham in October [1876] [...], we made the first outlines of the Economics of Industry, which Professor Stuart wanted as a textbook for the Extension Lectures and which with too light at heart I had undertaken to write. It was published in our joint names in 1879. Alfred insisted on this, though as time went on I realised that it had to be really his book, the latter half being almost entirely his and containing the germs of much that appeared later in the Principles" (Marshall, M.P., 1947: 22)

Nevertheless, one of Marshall's greatest contributions to economic methodology was his integration of time into his analysis. In his *Principles*, Marshall clearly explained:

> "The element of time is a chief cause of those difficulties in economic investigations which make it necessary for man with his limited powers to go step by step; breaking up a complex question, studying one bit at a time, and at last combining his partial solutions into a more or less complete solution of the whole riddle. In breaking it up, he segregates those disturbing causes, whose wanderings happen to be inconvenient, for the time in a pound called *Caeteris Paribus.* The study of some group of tendencies is isolated by the assumption *other things being equal:* the existence of other tendencies is not denied, but their disturbing effect is neglected for a time". (Marshall, 1890: 304)

This method, known as partial equilibrium analysis, is illustrated in Marshall's treatment of demand, in which the number of consumers, their tastes, expectations, and money incomes, as well as the prices of other goods are all assumed constant when studying how

[107] This is also acknowledged by John Maynard Keynes in his obituary of Alfred Marshall published in 1924 in the *Economic Journal* (see in particular, page 324). Later, in 1944, when Mary Paley Marshall died, this story was also told by Friedrich August von Hayek who co-wrote her obituary with Keynes in the *Economic Journal (*see in particular page 274).

equilibrium prices and quantities are determined. As things change over time, however, each restrictive assumption may be relaxed in turn so that the analysis proceeds to a new equilibrium. Marshall regarded demand price and supply price as functions of quantities: $D_{px} = f(q_x)$ and $S_{px} = g(q_x)$. In other words, quantity here is the independent variable and prices the dependent variable.

The distinction between four broad cases of period analysis enabled Marshall to build an original conception of the relationship between statics and dynamics. He then explained prices by the interaction between supply and demand forces. The introduction of different market "periods" is an important innovation. *Temporary* or *market period* equilibrium analysis proceeded on the assumption that the goods produced for sale on the market were taken as given data. Prices quickly adjusted to clear markets. Within Marshall's short *period-normal* equilibrium analysis, output was allowed to vary, but industrial capacity was taken as given. The level of output, employment, the inputs of raw materials and prices were assumed to fluctuate in order to equate marginal cost and marginal revenue where profits were maximized. *Long period-normal* equilibrium allowed the stock of capital goods to vary, such as factories and machines, as well as the level of output. Profit-maximizing equilibria determined both industrial capacity and the level at which it operated. Finally, *very long or secular period* equilibrium analysis assumed that technology, population trends, habits and customs were not taken as given, but were allowed to vary over very long time periods.

Marshall argued that the role of demand in price determination was greater in the short run than in the long run. In the market period, demand determined price (and thus marginal utility determined price) because the quantity supplied was inelastic. In the short

run, the supply curve was upwardly sloped, so marginal utility and marginal cost each had a role to play. In the long run, price equalled marginal cost. If returns to scale were constant, marginal utility played no role in price determination. Of course, it continued to play a role if returns were increasing or diminishing.

Marshall's distinction between four periods of time allowed him to analyse the cost tendency in the short-run and in the long-run. Hence, he made the distinction between on the one hand, increasing and decreasing cost industries, and on the other hand, external and internal economies. First of all, if we have a look at the short-run, Marshall has followed the classical tradition, especially Ricardo. Hence, Marshall elaborates a law of diminishing returns for agriculture. In the long-run, Marshall identifies three possible patterns implied by industry expansion: constant returns, increasing returns, and diminishing returns. His theory of returns to scale is explained by the concepts of external and internal economies. External economies result from "the general progress of the industrial environment" and enable all firms in an expanding industry to experience decreasing costs. Better transportation and marketing systems, and improvements in resource-producing industries might produce external economies. Internal economies are gained by a particular firm as it enlarges its size to achieve greater advantages of large-scale production and organisation. Increasing returns to scale that are internal in origin can lead to the monopolization of markets, as large firms develop lower cost structures than smaller firms, driving smaller competitors out of business. External economies are not, however, anti-competitive. Marshall believed that limits to internal economies existed, that managerial and organisational problems would eventually lead to internal

diseconomies that would increase costs. Therefore, he believed that long-run increasing returns were likely to be caused by external economies. Thus, he remarked:

> "The general argument of the present Book shows that an increase in the aggregate volume of production of anything will generally increase the size, and therefore the internal economies possessed by such a representative firm; that it will always increase the external economies to which the firm has access; and thus will enable it to manufacture at a less proportionate cost of labour and sacrifice than before." (Marshall, 1890: 265)

The final concept essential to properly understand Marshall is the notion of a 'representative firm' in order to analyse the trend of costs. His clearest and fullest definition of this representative firm is one that [...]

> "[...] has had a fairly long life, and fair success, which is managed with normal ability and which has normal access to the economies, external and internal, which belong to that aggregate volume of production; account being taken of the class of goods produced, the conditions of marketing them and the economic environment generally. Thus a representative firm is in a sense an average firm. But there are many ways in which the term "average" might be interpreted in connection with a business. And a Representative firm is that particular sort of average firm, at which we need to look in order to see how far the economies, internal and external, of production on a large scale have extended generally in the industry and country in question." (*Ibid*.)

The introduction of this methodological tool has caused some puzzlement and, indeed, Marshall was not entirely clear about it[108].

Although Marshall's contribution to economics was little, if at all, contested during the first two decades of the twentieth century, there emerged a series of challenges to the evolving Marshallian orthodoxy in the 1920-1930's. Hence, according to Shackle (1967: 289), the 'Age of Tranquility' suddenly became the 'Age of Turmoil' with the beginning of new debates around Marshallian orthodoxy and the arrival of what came be called the Cost Controversies.

[108] For more details, see Robins (1928) and Robertson, Sraffa and Shove (1930, *Economic Journal*). Secondary literature about the representative firm can be found in Wolfe (1954).

IV. The Cost Controversies and Joan Robinson's theory of Imperfect Competition

The debate of the 1920s-30s on the Cost Controversies questioned the theoretical meaning of Alfred Marshall's work. Through the publication of a series of articles in the *Economic Journal,* there emerged a series of challenges to the evolving 'Marshallian' orthodoxy. These controversies were, in fact, the starting point of the concept of imperfect competition.

IV.1. The Demise of Marshall's Theory? The Cost Controversies in Cambridge (1922)

Among Marshall's students and colleagues, the most radical reaction has been to reject entirely Marshall's theory. Piero Sraffa contributed essentially to this dissolution. In 1930, he declared:

> "[...] I think it is Marshall's theory that should be discarded." (Sraffa, 1930: 93)

The second reaction was formulated by Marshall's colleague and friend, Cecil Pigou. It is clear that Pigou reinterpreted Marshall, using purely marginal tools. Thus, in his "Analysis of Supply" published in the *Economic Journal* in 1928, Pigou emphasised the role of external economies and developed the concept of the "equilibrium firm" which he believed to be equivalent to Marshall's "representative firm". His definition was as follows:

> "It implies that there *can* exist some one firm, which, whenever the industry as a whole is in equilibrium, in the sense that it is producing a regular output y in response to a normal supply price p, will itself also individually be in equilibrium with a regular output x_r." (Pigou, 1928: 239-240)

Briefly, Pigou showed that Marshall's theory of competition only concerned two economic cases: on the one hand, the case in which industry operated under purely competitive conditions and, on the other, the extreme case of a monopoly. The analysis of

the 'intermediate case' lying between 'monopoly' and 'competition' was therefore specifically left 'out of account' by Pigou's interpretation, while Marshall however dedicated various pages to it.

The Cambridge Cost Controversies also led some Cambridge economists to react against the static "reductionist" interpretation proposed by Pigou. One of the main points on which this interpretation focused was the problem of time: how was it possible to incorporate a more realistic conception of time in the Marshallian construction, in order to capture more satisfactorily the characteristics of the real world? While these controversies covered a wide range of issues, they mainly concentrated on Marshall's construction of the industry supply curve, and a number of empirical, theoretical and methodological difficulties that arose from this construction. It seemed to stand up neither to the test of logical consistency, nor to that of empirical validity or usefulness, and thus raised questions as to the role of logic and realism in economic theory.

The starting point is the attack against the technical developments of Marshall by Clapham in 1922. In his article, Clapham expressed a general doubt, concerning the complexity of Marshall's theory, which tried to combine decreasing returns in an individual firm (in order to maintain the hypothesis of perfect competition) with increasing returns at the industrial level. He especially disagreed with Marshall's concept of increasing returns, which he considered as an 'empty box'. Thus, in opposition to a classification of industries on the basis of variable returns, Clapham suggested a more historical, descriptive approach, in order to get closer to 'things of life' (Clapham, 1922: 305).

In his reply to Clapham's critique, Pigou (1922) accused Clapham of failing to distinguish between 'realism' and 'practical usefulness'. Two years later, Pigou was forced to defend the existing orthodoxy (Pigou, Robertson, 1924). Robertson's criticism of Pigou's reply to Clapham held that Pigou's treatment of the Laws of Return in *Economics of Welfare* (1912) not only rendered the filling of the empty boxes unnecessarily difficult but also positively misleading and dangerous, if they were to be used as a guide for policy implementation[109].

Following this methodological controversy, Piero Sraffa published an article in 1926 which would be the basis for the eventual demise of Marshall's theory. In a letter sent to Keynes in 1926, Sraffa summarised his argument thus:

> "The difficulties of the system, which may be briefly described as that of 'crossing curves of demand and supply', is that it is subject to two conditions: (1) perfect competition, (2) 'caeteris paribus', that is independence of the conditions of production of the commodity concerned from those of all other industries [...] : as to increasing returns, external economies 'can seldom be allocated exactly to any one industry: they are in a great measure attached to groups, often large groups, of correlated industries', as Marshall himself recognizes (Industry and Trade, p.188) [...]. Consequently, in a Marshallian supply schedule, if the amount produced of the commodity concerned is changed, not only its own price, but the prices of many other commodities are changed; and the supply schedule, based on the 'caeteris paribus', becomes invalid.' (Roncaglia, 1978: 11)

Joan Robinson who had been a student of Marshall in the 1920s, had also attended the lectures on 'Advanced Theory of Value' that Sraffa gave in Cambridge between 1928 and 1931. While it remains unclear to what extent these lectures had any impact on her – "[Sraffa's] work is very interesting and original – but I wonder if his class will understand it when he lectures" (Marcuzzo, 1997: 14) – she was impressed by the general sense of criticisms contained in the *Symposium on Increasing Returns and The Representative*

[109] On this occasion, it will be recalled that Pigou had increasingly come to associate decreasing (long-period) costs with external economies.

Firm. At the beginning of the 1930s, she thus embarked on an attempt to build a theory of what she called imperfect competition (corresponding, in her view, to a kind of real-world intermediary case between the Marshallian polar cases of perfect competition and monopoly), yet using traditional Marshallian tools.

IV.2. Joan Robinson's Theory of Imperfect Competition (1933): A First Step Towards the Theory of the Firm

Joan Robinson wanted to demonstrate to Sraffa that there were cases "which made Sraffa's critique of Marshallian's theory less forcible" (Rosselli, in Marcuzzo, 2001). Thus, she categorised Sraffa as a 'fundamental pessimist'. At the theoretical level, she sought to demonstrate that, if either heterogeneity of factors or factor specialisation were allowed for, the supply curve for a single industry could be upward sloping –contrary to Sraffa's claim (Marcuzzo, 1997: 3). In fact, her approach can be summed up in the following passage from a letter to Sraffa:

> "I am not trying to defend Marshall and his knife handles. I do not mind how few cases of I[ncreasing] R[eturns] there are as long as there are some on which I can use our ingenious analysis of monopoly under I[ncreasing] R[eturns]" (Robinson to Sraffa, 1931, reproduced in *Ibid.*)

Hence, while Sraffa had shown that there was no way in which Marshall's claim (that perfect competition could be reconciled with increasing returns to scale) could be both logically consistent and empirically relevant, Robinson refused to take on board Sraffa's verdict that "Marshall's theory should be discarded". Instead, she set out to look for a solution to the dilemma that would rid Marshallian theory of its *ad hoc* assumptions and turn it into a coherent and relevant theory.

On the whole, Joan Robinson's *Economics of Imperfect Competition* was one of the first neo-Marshallian's work so far as technique was concerned, but directed to the

analysis of "imperfectly" competitive markets. In her view, the important entity in business was not the firm, but the industry (defined as all the firms producing the same product). Her treatment of the behaviour of firms emphasised their interdependence, the way in which each individual firm's decisions influenced that of others, a necessity arising from the fact that the individual firm's demand was a portion of the demand facing the industry as a whole. Her analysis shifted attention from the perfectly elastic demand of the competitive firm imagined by Marshall to a business environment in which it was necessary to reduce price to sell more products, an environment characterised by monopoly rather than competition in the traditional sense. As she wrote in the introduction to *The Economics of Imperfect Competition,*

> "[...] the economists, misled by the logical priority of perfect competition in their scheme, were somehow trapped into thinking that it must be of equal importance in the real world. When they found in the real world some phenomenon, such as 'economies internal to the firm', which is inconsistent with the assumptions of perfect competition, they were inclined to look for some complicated explanation of it, before the simple explanation occurred to them that the real world did not fulfil the assumptions of perfect competition." (Robinson, 1933: 3)

Joan Robinson represents therefore one of the first economist who tried to save Marshall's theory, rejecting Pigou's interpretation. As Luigi Pasinetti underlined in his New Palgrave's article: "In a sense, therefore, rather than a radical critique, *The Economics of Imperfect Competition* might well be regarded as the completion and coronation of Marshallian analysis" (Pasinetti, 1987: 214).

The first analytical comment that we can make about her contribution is that *The Economics of Imperfect Competition* has been a first step towards a theory of the firm in the 1930s. As Shackle later noted, as a result of this imperfect competition revolution, the perfectly competitive [...]

> "[...] account of industries and their mutual relations, and of the factors of production and their pay, a general account applying to the whole economy and answering all questions about prices, outputs and incomes, had now been left behind, not without many a backward glance. In its place had been put the theory of the firm." (Shackle, 1967: 69)

Hence, even if Joan Robinson's ideas were closely related to the theory of competition, clarifying the Marshallian matter of market competition[110], one cannot deny that her analysis put emphasis on the behaviour of firms in oligopolistic markets, paving the way for an embryonic version of the theory of the firm.

Moreover, Joan Robinson's book also contained an important contribution in the form of her tangency solution that, for a few years, established a new paradigm in microeconomics. This solution appeared to provide the necessary double condition for an equilibrium state (profit maximisation of the individual firm (marginal cost = marginal income) and the absence of unexploited profits in a free entrance regime of competition (average cost = average income, and therefore, no profits above the capital remuneration rate). Essentially, it reconciled monopolistic discretion over price with normal competitive profits. The laws of decreasing and increasing returns are described "in terms of the supply curves of the factors of production, drawn up in efficiency units appropriately chosen" (Robinson, 1933: 330). We can here refer to the definition stated by Marcuzzo:

> "(..) increasing returns arise when the employment of more of a factor has a favourable reaction upon the efficiency of the units already employed; diminishing returns arise when the employment of more of a factor has an unfavourable reaction upon the price of the units already employed." (Marcuzzo, 1997: 6)

Concerning the derivation of a supply curve, Joan Robinson introduced a contrast between the short, and the long period. Hence, in the short period, the cost of production is fixed and does not depend on output, whereas over the long period, the number of firms

[110] On this specific matter, see Lazonick (1991/1994: 164).

producing a commodity may change. Therefore, Joan Robinson had no difficulties in carrying out a short-period analysis, since all costs were independent of the conditions of demand. The supply price was then constant. However, in the long-run, a problem arose, since a change in the number of firms may alter their costs. In order to face this problem, Joan Robinson assumed "that there is no change in the cost curves of the firms when the industry expands" (Robinson, 1933: 98). Thus, she defined the equilibrium of an industry as follows:

> "An industry is said to be in full equilibrium when there is no tendency for the number of firms to alter. The profits earned by the firms in it are then normal." (Robinson, 1933: 93)

To summarise, one can say that when competition is perfect, "marginal and average cost must be equal in equilibrium and average cost must be at a minimum, simply because, if this condition is not fulfilled, competition is not perfect." (*Ibid.*: 96). By contrast, in Joan Robinson's own words, when competition is not perfect:

> "since the demand curve for the output of the individual firm will be falling [...] the double condition of equilibrium can only be fulfilled for some output at which average cost is falling. The firms will therefore be of less than optimum size when profits are normal." (*Ibid.*: 97)

However, criticisms of Joan Robinson's conceptualisation of monopolistic competition mounted in the years following publication, regarding, in particular, its compatibility with and relevance for modern economic developments. Joan Robinson herself was quick to disown her theory of imperfect competition – in spite of the fact that it was still taught in microeconomic textbooks of the time. It is relevant to note that Joan Robinson's imperfect competition model bore little relation to reality. She, indeed, realised that:

> "Clear and definite questions cannot be asked about a vague, richly detailed, fluid and living world. This world must therefore be exchanged for a model, a set of

> precise assumptions collectively simple enough to allow the play of logic and mathematics." (*Ibid.*: 47)

Marshall had been trying to do just this, to get clear and definite answers about the fluid living real world. Robinson's solution at that time was to abandon the real world. Unlike most economists, she was not a 'one idea' person and, therefore, later in her life, she finally admitted the limitations of her own construction. First of all, Joan Robinson's falling demand curve was not an observed fact, but a methodological necessity. Moreover, the tangency solution was not robust enough *a posteriori*. The 'no profits' condition above the interest rate was only motivated by exogenous factors (outside the model). In fact, Robinson was not clear about the way in which new products enter the market, especially in terms of costs and of consumers' satisfactions. Moreover, one cannot deny the existence of indivisibilities in the production function (necessary for the existence of increasing returns production), which could *a posteriori* generate positive profits. Therefore, the 'no profits' condition was more a tendency, satisfying a stage postulated *a priori*, rather than an analytical result derived from a given set of hypotheses[111].

Hence, even if Joan Robinson's theory of imperfect competition was dominant during the 1930s, it was so only for a short period of time. Its decline is due to theoretical, methodological and even extra-theoretical reasons. Thus, neither production planning during the war, nor the needs of a rapid reconstruction after the war, were a favourable environment in which to develop a more sophisticated analysis of industrial organization. The previous analysis has made clear that her theory was not compatible with any modern

[111] According to Stigler: "It will be observed that the theory of monopolistic competition now contains no conditions of equilibrium, only a definition of equilibrium" (Stigler, 1949).

theory of the firm, as Joan Robinson has herself noted later[112]. Nevertheless, from a methodological standpoint, her analysis can certainly be considered as a first step on the way towards the development of a theory of the firm.

Concluding remarks

This chapter has outlined the general background of the theory of the firm, industrial economics and management studies, in the last decade of the nineteenth and at the turn of the twentieth century in England. To obtain a general picture of the background, the chapter sought, as often as possible, to put the Oxford case in perspective by considering other equivalent contemporary institutions. The four main results of this chapter could be summarised as follows.

First, the last decade of the nineteenth century showed a revolution of ideas in political economy. The inadequacy of classical economics presented in Section One required economists at the beginning of the twentieth century to introduce new methodological tools and new theoretical elements to understand the industrial world. In this perspective, the purpose and scope of political economy, as an academic discipline were questioned, yet more challenged in Cambridge than in Oxford.

Second, the chapter showed that Oxford developments in economics at the turn of the twentieth century were mainly historical (although coupled with some mathematical economics) and did not, therefore, provided any insights into a modern economic theory of the firm. This situation was mainly due to inertia emerging from the election of Francis Edgeworth to the chair in Political Economy between 1891 and 1926 and his apathy and

[112] Joan Robinson later acknowledged the limitation of her own model in "Imperfect Competition Revisited" (1953), and even more so in *Economic Heresies*, (1971).

disinclination towards institutional change. This orientation strongly contrasted with the Cambridge revolution of ideas, led by its Master, Alfred Marshall, who won the intellectual battle with the 'old' generation of economists and economic historians, exemplified by William Cunningham. After all, as Norman Chester, perhaps, rightly argued:

> "It is improbable that even had Marshall been Professor of Political Economy in Oxford in 1902-3 he would have been able to persuade the University to establish an Honour School of Economics. Circumstances and attitudes would have been against him. Of course, in Cambridge he had been campaigning for ten or so years during which time he had won over or worn down many of his main opponents. There was, however, nothing in Oxford comparable to the Moral Sciences Tripos to offer fertile ground for expansion. What is even more improbable is that had Edgeworth held the Chair in Cambridge he would have fought for and achieved the Economics Tripos" (Chester, 1986: 10-11).

Third, the only existing economic studies on firms, competition and industries were developed with the first publications of Alfred Marshall at Cambridge. This academic revolution of ideas also had a clear impact on the University institutions in which these ideas were shaped. While, in Oxford, political economy remained a part of modern history and moral philosophy until the creation of PPE in 1921, the Economics Tripos in Cambridge emerged as early as 1903. This chapter also stressed the view of business education adopted by both Universities. The failure to create a Diploma in Business in 1913 in Oxford contrasted with Marshall's effort to get economics closer to business life and businessmen, a view developed during his stay as the Principal of University College in Bristol.

Finally, the consequences of this historical account can be seen in the famous debate on costs which led to the publication of a series of articles in the 1920s-1930s in the *Economic Journal*. It is from this debate that Joan Robinson's Economics of Imperfect

Competition emerged in 1933, and formed the first theory of the firm *per se*. As shown in the chapter, the period 1900s-1930s did not show any equivalent in Oxford – except, perhaps, in terms of institutionalisation of the discipline as symbolised by the creation of PPE. It is in this intellectual environment and in response to Joan Robinson's *Economics of Imperfect Competition* that a group of Oxford economists were formed in 1936 in Oxford and constituted the first serious and systematic studies on firms, competition and industries in the University. The next chapter provides an account of the history and legacy of the Oxford Economists' Research Group in the later Oxford development of the theory of the firm, industrial economics and management studies in Oxford.

CHAPTER 2 – Towards an Empirical Approach to the Theory of the Firm

I. The Election of David Hutchison MacGregor to the Chair of Political Economy
I.1. Biographical Elements
I.2. MacGregor's Contribution to Oxford Economics

II. The Institutionalisation of Oxford Economics
II.1. The 1930s Success of Modern Greats
II.2. Social Studies as the Eleventh Faculty in Oxford and the Establishment of the Economics Sub-Faculty (1932)
II.3. The Oxford Institute of Statistics (1935)

III. The Oxford Economists' Research Group (1935-1965)
III.1. A History of the Group (1935-1965)
III.2. The Necessity of Providing Empirical Content to the Theory of the Firm

The inter-war period in Oxford was characterised by a new era of development in economics with the election of David Hutchison MacGregor (1877-1953) in the Chair of Political Economy in 1921 – which he held until retirement in 1945. MacGregor's view of economics differed significantly from the ones previously adopted, namely Rogers' historical approach and Edgeworth's mathematical approach. In particular, the publications of MacGregor's *Industrial Combinations* in 1906 and of his *Evolution of Industry* in 1911 are often recognised as pioneering contributions to industrial economics, at both a teaching and research level[113]. Thus, to a large extent, MacGregor's election modified the trajectory of Oxford economics and notably contributed to a greater interest in the theory of the firm and industrial economics. This new orientation led to a series of institutional changes in the 1930s. While PPE had been running since 1921, there was no Faculty of Economics where lecturers and fellows in the discipline could gather. It was, as late, as 1932, that the first Faculty of Social Studies was formed. In addition, the Cambridge 'costs controversies' and the publication of Joan Robinson's *Imperfect Competition* in 1933 led to a series of empirical debates and theoretical controversies in Oxford, which had until then mainly studied industries from a historical perspective. To a large extent, this series of discussions took place within a group of economists who called themselves the Oxford Economists' Research Group (OERG) and who used to gather regularly to discuss economic matters. Beyond a purely intellectual debate, this group of economists provided a new methodology and some major advances in the field of industrial economics.

[113] *Industrial Combinations* was also used as a textbook (*Journal of the Royal Statistical Society*, Current Notes, 1937: 145).

Hence, this chapter deals with the period 1921 (when MacGregor was elected to the chair) to 1965 (when the OERG last met). More specifically, this chapter focuses on the series of changes which signified considerable advances in the disciplines of economics of the firm and of industries during this period. The chapter is divided in three parts. First, it focuses on MacGregor's influence on Oxford economics through the analysis of his life, his theoretical developments and his methodology. Despite a substantial number of publications and a wide range of interests, MacGregor's contribution to political economy and industrial economics is often neglected by historians of economic thought (Samuels, 2008). Their focus is generally concerned with the contribution of MacGregor as a post-Marshallian (Cristiano, 2008) or as a forerunner of modern post-Keynesian economics (Lee, 1989). The primary aim of this chapter is not an exercise in the history of economic thought *per se*, which would locate MacGregor's works within a specific school of thought. Instead, it seeks to evaluate MacGregor's influence on the first non-historical and systematic developments of the theory of the firm and industry in the University of Oxford. Second, the chapter shows the institutionalisation of the disciplines through the creation of a faculty of social studies which corresponds to the acceptance of economics as an academic discipline independent from modern history and moral philosophy. Last, the case of the OERG is discussed as it exemplifies the series of institutional changes in Oxford economics. Although informal, the group left behind a significant legacy in terms of disciplinary outlook and methodology. The discussion will be based on the OERG's original archives and supported by George Richardson's unpublished account of the controversy on costs written and given to me after we met in April 2006 and reproduced in Appendix 12**.**

The aim of the current chapter is to evaluate the attempts at empirical generalisation made by Oxford economists in reaction to the Cambridge developments around the firm, as discussed in chapter one. In accordance with the research focus of this thesis, the purpose here is to assess the influence of a specific academic institution, shaped by individuals, on the development of the theory of the firm.

Various types of sources are used to support this chapter. The first section is mainly based on primary source material, such as the series of articles, notes, and reviews, published in the *Economic Journal* and *Economica* by MacGregor[114]. This analysis also used his *Report of Travels*, published in 1913, which are not referred to in his commentators' accounts. The content of 19 letters, sent to Oscar Browning between 1900 and 1906 (held at King's College archives, Cambridge) are also used. Questions addressed to students in PPE exam papers between 1923 and 1953 are also scrutinised. The second section of the chapter relies on journals and reports published internally by Oxford University, such as the *Oxford University Gazette*, and the meetings of the General Board of Faculty. Finally, the last section on the OERG is based on two types of archival sources. The work is the result of several interviews given during the last months by some students and tutors who were working on the firm in Oxford in the 1950s. The interviews conducted have been listed in Appendix 1. Exclusive copies of confidential papers[115] (particularly those from the OERG) dealing with the theory of the firm will be used to understand the Oxford view of studying the firm. This chapter 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 the firm, such as the *Oxford Economic Papers*, first

[114] Between 1923 and 1933, MacGregor published no less than ten articles in both academic journals.
[115] Archives given by David Stout, 16th February 2006.

published as a result of an OERG initiative.

I. The Election of David Hutchison MacGregor to the Chair of Political Economy

This section considers the life and works of a relatively obscure economist, yet one who published a substantial amount on the theory of the firm and contributed to the development of Oxford industrial economics. First, some biographical elements on David Hutchison MacGregor are provided[116]. Then, his position within Oxford economics is explored in further detail in order to evaluate his contribution to the development of the theory of the firm.

I.1. Biographical Elements

Biographical elements about David Hutchison MacGregor's life are not easy to collect. He does not have any entry in the *Oxford Dictionary of National Biography*, is only mentioned once in the *History of the University of Oxford* (Harrison (Ed.), 1994: 137) and did not leave any archival legacy. The only sources known so far are an obituary written by Philip Walter Sawford Andrews in the *Oxford Magazine* (1953), oral sources (mainly reported by students and colleagues of his to Professor Fred S. Lee in the 1980s), and his *Report of Travels*, published in 1913. Some of his correspondence with other economists[117] and some notes and memories collected among his former students[118] were also valuable when constructing the following biographical overview.

[116] The role of biographies in the history of economics has recently been discussed and acknowledged by a special issue published in the *History of Political Economy* (2007). On this matter, see, in particular, Weintraub, Forget, 2007; Hacochen, 2007; Backhouse, 2007; Dimand, 2007; Groenewegen, 2007.

[117] In particular, see 19 letters from David Hutchison MacGregor to Oscar Browning, OB/1/1023/A 1900-1906 (Cambridge University, King's College Archive Centre) and correspondence between Harrod and D.H. MacGregor in Harrod's archives (reproduced in Besomi, 2003).

[118] Here, see. "Notes from D.H. MacGregor's Seminar on Trade Cycle Theory and Lectures on Economic Analysis, Oxford University, 1932-1933", (in Samuels, 2008: 149-196) and Oxford Economics and Oxford

Second son of Reverend Robert MacGregor, Rector of Northside (Nithside) Academy, Dumfries (Scotland), David Hutchison MacGregor was born in 1877 in Monifieth, Angus (Scotland). After his graduation with first class Honours in philosophy from the University of Edinburgh in 1898, he was admitted to Cambridge where he studied economics, taking a B.A. in 1901 and becoming President of the Cambridge Union. More specifically, he gained a first in moral sciences Part I in 1900 and Part II in 1901 (Kadish, Tribe, 1993: 103). According to F.S. Lee, in Cambridge, he became "one of Marshall's favourite students and became quite attached to his method, i.e. to the use of theory tempered by empirical investigation" (Lee, 1989: 23).

This note is confirmed by P.W.S. Andrews, author of his obituary in the *Oxford Magazine*, who characterised MacGregor's relation to theories, under Marshall's influence. In particular, it is argued that MacGregor was [...]

> "[...] testing [theories] as far as he could against the facts of ordinary life, they seemed to him the best available" (Andrews, 1953)

During his stay at Cambridge, he prepared his *Industrial Combinations*, which was published in 1906 and which resulted in his being elected Fellow of Trinity College Cambridge in 1904. According to Lee's biography of him, at this time, he was "employed as a university lecturer in general economics and was paid, unofficially, by Marshall for the work" (Lee, 2008: 3). He also offered to teach for the extension movement any "Economic subject, or […] one of a few Moral Sciences subjects, or on Lord Macaulay" and he taught mainly economic and social history (Kadish, Tribe, 1993: 103). In 1908, MacGregor left Cambridge to become the Professor of Political Economy at the

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Economists 1922-1971, Recollections of students and economists, Oxford: Bodleian Library, given by F.S. Lee, (1993).

University of Leeds[119]. The publication of his *Report of Travels* in 1913 indicated that he had been appointed as an Albert Kahn Travelling Fellow between September 1911 and September 1912[120]. The nature of this one year fellowship is neither very clear nor expressed in any biographical accounts or even in the introduction of his own book. Essentially, his journey was sponsored by the Albert Kahn Foundation, which was created in 1910 in order to [...]

> "[...] establish a network of people who [Albert Kahn] hoped would become influential in preventing war, and his method was to enable them to see how the world lived, learn from first-hand experience, and hopefully to set up correspondence networks" (Johnston, 2003: 1)[121].

The *Report*, structured in four sections[122], expressed MacGregor's interest in studying forms of industrial organization in different countries, such as China, Japan, India, Russia and the United-States. In particular, MacGregor [...]

> "[...] had in view specially the relation of foreign nations to the great industrial changes which occurred in England nearly a century and a half ago – changes to which we owe the nature and the problems of our present industrial life." (MacGregor, 1913: 8)

In observing industrial change, he had two objects in mind:

> "(1) to ascertain to what extent, and with what resemblances and differences from England, other countries were passing through the industrial revolution; (2) to

[119] Interestingly, the University of Leeds was inaugurated in 1904 and John Clapham, the economic historian, had been appointed Professor of Economics two years earlier. There, the purpose of the economics department was to prepare students to enter the business world, as the creation in 1903 of a Diploma in Commerce seemed to indicate. According to Kadish and Tribe, "the elaboration of a recognizably independent curriculum in economic and commercial subjects anticipates demand for teaching" (Kadish, Tribe, 1993: 219). For this reason, MacGregor, when he succeeded Clapham, put much effort to render economics a proper academic discipline.

[120] As pointed out in the introduction of this chapter, this short book (61 pages) has never been referred to in earlier contributions. I have found a copy of it in the Bodleian Library (Oxford), bound with 6 other A.K. [Albert Kahn] travelling fellowships works.

[121] The Foundation initially took the form of an agreement between Albert Kahn (Parisian banker) and the University of London, the latter being represented by Baron Loreburn (Lord High Chancellor of Great Britain), Baron Alverstone (Lord Chief Justice of England), JW Lowther (Speaker of the House of Commons), HA Miers (Principal of London University) and Baron Avebury.

[122] I. Introduction ; II. Industrial Change in Some Foreign Countries ; III. The Position of Some Foreign Countries ; IV. Religious Organisation ; V. Some General Remarks.

> estimate the value of this change to the life of these nations as a whole. It is probable that no other nation will pass through an industrial revolution that will be quite similar to the English one." (*Ibid.*: 13)

Except from this *Report*, there is no other evidence that MacGregor visited the University of London during this period (although the Albert Kahn Travelling Fellowships were the result of an agreement between Albert Kahn and the University of London). He remained at the University of Leeds until 1915 when he served with the British army in France and in Italy, until the end of the war. In 1919, MacGregor moved to Manchester where he became the Stanley Professor of Political Economy (*Nature*, 1921: 766). He stayed there for only two years, since in 1921, Edgeworth vacated the chair in Oxford, and according to Young and Lee (1993: 12), although he "did not formally apply for the Drummond Chair", the "electors offered it to him"[123]. Immediately after his appointment to the chair, MacGregor significantly engaged in extensive research concerned with a wide range of economic topics (1923-1926), such as: unemployment (MacGregor, 1923); consumption (MacGregor, 1924(a)); agriculture[124] (MacGregor, 1925); family allowances (MacGregor, 1926). He also pursued his research interests in industrial economics and prepared the final revision of his 1906 book. In addition, towards the end of the 1920s, he published his extensive research on cartels and other industrial combinations (MacGregor, 1927(a)); 1929; 1930) and became interested in proposals for the rationalisation of industry

[123] On this matter, Young and Lee remarked: "[...] when the Drummond Chair was advertised, applications were received from Cannan, Price, G.B. Dibblee, and N.B. Dearle, all of whom were Oxford graduates and who were also associated with Oxford political economy" (Young, Lee, 1993: 12).

[124] In her father's biography, Anne Ashley mentioned MacGregor's involvement in the creation of the Agricultural Tribunal. Further details of this organisation are given in the following extract of her book: "Later (December 1922 to May 1924), [William James Ashley] was one of the three members who made up the Agricultural Tribunal (the others being Professor W.G.S. Adams and Professor D.H. MacGregor) appointed "to enquire into the methods which have been adopted in other countries during the last fifty years to increase the prosperity of agriculture and to secure the fullest possible use of the land for the production of food and the employment of labour at a living wage, and to advise as to the methods by which those results can be achieved in this country" (Ashley, 1932: 154).

(MacGregor, 1927(b)). From 1925 until 1937, he was joint editor of the *Economic Journal*, with John Maynard Keynes[125]. In addition to this responsibility, shortly after its creation (probably in 1936), MacGregor became an "active and enthusiastic member" of the Oxford Economists' Research Group, and (Andrews, 1953: 346) at the same time as "Maurice Allen, Eric L. Hargreaves, Frank A. Burchardt, Marian Bowley, P.W.S. Andrews, Arthur. J. Brown, George L.S. Schackle, and others." (Besomi, 1998: 534)[126].

In addition to his active research activities, MacGregor, whose appointment in 1921 coincided with the creation of the PPE degree, also lectured extensively between Michaelmas Term 1922 and Trinity Term 1933[127]. He played a full part in the development of the Honour School of PPE, created in 1921[128]. However, as soon as he started his appointment, he made clear, in a letter to the Registrar, that he did not want, as he did in Leeds, to teach mainly the history of political economy. On this issue, he wrote in August 1921:

> "My own interests are in modern economics … The History of Political Economy would be a subordinate part of my teaching and study. As a matter of training and interests, I cannot but help this" (MacGregor, D. H. 1921. *Letter to the Registrar*. August 2. In Oxford University Archives. Bodleian Library, reproduced in Lee, 2008: 4).

Hence, overall, he gave fourteen lectures on industrial economics (mainly for PPE) and "offered informal instruction to degree candidates on the subject matter in six different

[125] Further information about his joint editorship of the *Economic Journal* can be found in his correspondence with Roy Harrod. This correspondence has been published in Besomi (2003); see in particular 119 R., D.H. MacGregor to Harrod, 18 September 1926; 150, Harrod to D.H. MacGregor, 7 July 1928; 337, J.M. Keynes to Harrod, 30 December 1933; 456R., D.H. MacGregor to Harrod, 12 July 1935.

[126] In particular, Daniele Besomi mentioned a discussion with Henderson, MacGregor, Harrod, and Meade at the end of November 1936 about some suggestions for improving a questionnaire. This discussion was "a conversation in Oxford with A. Loveday, the Director of the Financial Section and Economic Intelligence Service of the League of Nations, who was particularly impressed with the preliminary results of the interviews." (Besomi, 1998: 541). His involvement with the Group seemed rather short though as there is no sign of his work in the Group except from this one conversation.

[127] Interestingly, between 1923 to 1925, he was also the economics examiner who acted, in effect, as an "external" examiner, since the Faculty of Social Studies did not yet exist.

[128] Further details about the establishment of this Honour School are provided later in this chapter.

terms" (Lee, 2008: 5). The lectures covered statistical methods in economics, 'the theory of interest and profit', 'the theory of taxation and public finance', 'trusts, cartels, and concerns', 'competition and combination', and 'industrial relationships'. His interest in industrial economics was also apparent through his membership of both the Committee on Restraint of Trade (1930) and the Committee on Gift Trading (1933). After this "auspicious beginning" in the University, existing literature reports "four-ill fated developments" which slowed down his contributions to Oxford economics (Samuels, 2008: 149). First, his daughter died[129]. Second, he suffered a nervous breakdown which led to the loss of the manuscript of a major work which he was never able to reproduce[130]. On this matter, Andrews commented:

> "[...] [The quality of his work] is, however, the measure of the depth of a subsequent loss to economics for, by the early 1930s, after a long period of studies on joint-stock companies, and with his practical experience as a member of the Committee on Restraint of Trade and elsewhere. MacGregor was ready to write a book to replace this early work and to provide a more general discussion of industrial economics. The new book was written but the complete manuscript was lost whilst MacGregor was ill" (Andrews, 1953: 348)

All he could recover from it has been subsequently published in 1934 in his *Enterprise Purpose and Profit*[131]. According to Lee, though, since then, [...]

> "[...] never again was he able to generate the energy required to do novel research in industrial economics. In the years 1934 - 35 to 1944 - 45, MacGregor gave three lectures on topics in industrial economics, averaging a little less than one lecture every three years; rather he lectured on national income and its distribution, public finance, and other topics." (Lee, 2008: 5)

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[129] This tragic death was somewhat consoled later by an adopted daughter who survived him (Andrews, 1953: 346).

[130] The link between his nervous breakdown and his daughter's death is not clear. Yet, Lee argued: "However, upon finishing his *magnum opus*, he suffered a nervous breakdown, due mainly to the death of his daughter, and while recovering found that the manuscript had been lost" (Lee, 2008: 5).

[131] For further details about his book, see his contribution to Oxford economics in the next section.

He still published *Public Aspects of Finance*, in 1939, in which he surveyed the principles existing behind the budgets of a hundred years and tried to relate the practice of public finance to its theory.

Third, his view of economics made him, soon enough, a somewhat old-fashioned, isolated economist. On the one hand, instead of adopting the predominant version of marginalism with its focus on firms as pure abstract entities, he rather chose to develop his theoretical framework based on an anti-marginalist interpretation of Marshall[132]. This is probably the reason why Harold Wilson, one of his former students who attended his lectures between 1935 and 1937, made the following comment:

> "Certainly I attended lectures by D.H. MacGregor, though he was felt by all of us to be living in the past" (Harold Wilson, in Young, Lee, 1993: 48).

On the other hand, his position in the chair of political economy made him rather isolated. As remarked by Elizabeth Brunner[133], much later on, in her letter to Alan Bevan sent in March 1979:

> "[...] for one thing MacGregor was an older generation and for another the Professor at All Souls is rather isolated from the rest of the Faculty – or was then, anyway. Also MacGregor did not communicate at all easily verbally – his utterances tended to be those of an obscure Scots seer, and it was not easy to grasp what he meant." (*Letter from Elizabeth Brunner to Alan Bevan*, March 1979, LSE Archives: Box 073)

MacGregor's difficulties in communicating were also brought up by some of his students at the time who later maintained that his lectures were somewhat difficult to follow. Roger Wilson recalled that:

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[132] His Marshallian influence has also been made clear in his *Report of Travels* (1913) mentionned earlier. MacGregor wrote: "It is not possible to travel in Russia without becoming aware of the tremendous extent to which the life of a nation can be permeated by religious influence. And I think it inevitable that one must carry this as one of his strongest impressions throughout the east. My own experience has borne out the truth of the opening words of Marshall's great contribution to economics. "The two strongest influences in the history of the world", he says, "have been the religious and the economic"." (MacGregor, 1913: 8).

[133] Elizabeth Brunner (1920-1983) was Philip Andrews' colleague and friend. For further information about her life and role in Oxford industrial economics, see. chapter 3.

> "Though MacGregor appeared to have something to say, I can't remember that he ever finished his sentences" (Roger Wilson, in Young, Lee, 1993: 48).

To a large extent, his ability to teach as a tutor was also questioned by Elizabeth Brunner, who remembered:

> "I had a friend who was picked out to go to him as her tutor in economics when she was an undergraduate at Oxford, and she complained bitterly of the lack of communication" (*Letter from Elizabeth Brunner to Alan Bevan*, March 1979, LSE Archives: Box 073)[134]

On a more personal note, according to P.W.S. Andrews, author of his obituary published in *The Oxford Magazine*, despite this lack of communication skills, MacGregor [...]

> "[...] combined great technical ability with wisdom and common sense. Of great sensitivity, he could be hurt by those who had acquired careless habits from dealing with blunter sensibilities, but he was too gentle to obtrude his personal reactions" (Andrews, 1953: 346).

His situation worsened when his wife died in 1940. MacGregor "moved out of his more elegant house on Banbury Road and moved to a more ordinary lodging in the north of Oxford, just a stone's throw from the River Cherwell" (Lee, 2008: 8). His marriage and family life meant a lot to him and the death of his wife shadowed his last years. Yet, for some years, he continued to be actively part of the Nuffield College Committee which was in charge of the Social Reconstruction Survey after the war[135]. MacGregor's death[136], on 8th May 1953 prevented him from taking up a position as a Distinguished Visiting Professor at the University of Michigan, where he would have written a study of Keynes.

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[134] Furthermore, in MacGregor's obituary, P.W.S. Andrews added: "Those who talked with MacGregor generally came away feeling they had been with a great man, even if they sometimes regretted they could not understand all he had said". (Andrews, 1953: 346).
[135] For further details about this project, see. chapter 3, section one.
[136] According to Minkes (1982, in Lee, 2008), MacGregor died of a street accident.

I.2. MacGregor's Contribution to Oxford Economics

As outlined in his biography, before MacGregor took the chair in political economy in Oxford, he spent some time in Leeds and Manchester. In England, he was known as a "writer and lecturer on industrial and philosophical questions" who has "also done work in connection with the Board of Trade" (*Nature*, 1921: 766). His concern with an empirical approach to economics is significantly reflected by the statistical investigations conducted in his various articles. Generally speaking, Marshall's influence has always existed in MacGregor's work. Although his intellectual orientation and his personality made him, to some extent, an isolated figure, he still contributed to the developments of the theory of the firm and of industrial economics in Oxford, both at the teaching and research level.

From a teaching perspective, he participated in broadening the scope of the PPE lectures. Between 1922 and 1939, MacGregor gave lectures in topics which were not only "principles of economics" but he also lectured on statistical methods and the use of statistics in economics, public finance, and advanced economic theory[137]. In addition, he conducted informal instruction and informal discussion classes in currency and banking, national income[138], theory of consumption, analytical economics and economic analysis, theory of interest and profit, trusts, cartels, and concerns, competition and combination, industrial relationships and international trade (Young, Lee, 1993: 42). Since, it has not been possible to find any archival evidence of his lectures' reading lists at the time, I have been exploring the Oxford University examination papers between 1923 and 1953

[137] From 1926 to 1932, the economists in the PPE Honour School offered an optional paper in advanced economic theory, including "modern statistical methods". This paper partly paralleled the compulsory paper in political economy, which offered a rather old-fashioned and (in some economists' eyes) inferior training in the subject. (Carrie, 1994: 120).

[138] For a detailed account of the content of his lectures on national account, see Arthur J. Brown's notes (1935-1936) reported in Young and Lee (1993: 71-72).

(MacGregor's time in Oxford) from the Honour School of Philosophy, Politics and Economics[139]. It seems important to note here that during this period the economists' main concern in the PPE Honour School was to increase the element of economic, and especially mathematical economic theory (Carrie, 1994: 120). Unsurprisingly then, the 1920s provided very few exam questions in industrial economics or the theory of the firm which were mainly spread in an unsystematic way[140]. The 1930s papers showed a more frequent interest in the sub-disciplines, since between 3 and 6 questions per year were being asked (on industrial economics or on the theory of the firm) in the 'economic theory' and 'economic organization' papers. The questions were influenced by the newly formed theory of imperfect competition and the study of industrial cartels by MacGregor. For instance, in 1936, the 'Economic Organization' paper asked [...]

> "[...] Question 2. Do you consider that the cartel is a form of industrial organization which is likely to survive?
> Question 3. 'The form of re-organization required by any industry is best decided by a majority of leaders in that industry. It is the part of the state to provide the means whereby their will can be enforced.' Discuss the implications of this view of 'self-government for industry'.
> [...] Question 5. If it were proposed to try out the principle of national ownership and control, what industry would you regard as most suitable for a first experiment?"
> (*Oxford University Examination Papers*, Trinity Term 1936)

[139] The only information about the content of his lectures can be found in Brown's notes. Regarding MacGregor's seminar on 'Advanced Economics' which he attended in Michaelmas term 1935, Brown noted that he dealt with the following topics in his seminar: (a) adjustment of supply and demand (marketing schemes); (b) the meaning and measure of fluctuations; (c) bank credit and deposits; (d) interest rates (real, money; real and nominal); (e) the price level (index numbers); and (f) social credit. (Young, Lee, 1993: 72)

[140] Among them, 2 questions within the 'Political Economy' exam concerned industrial economics and both had a clear historical orientation: "1924: Have the risks of industrial enterprise increased with its organization? Compare in this respect the position of a large producer now and fifty years ago. 1925: Is localization a general feature of great industries? Discuss with reference to instances, the conditions chiefly influencing it." (*Oxford University Examination Papers*, Trinity Term 1924 and Trinity Term 1925).
The "Political and Economic Organization" examination paper provided a larger number of question on the topic, but even here only four questions were present: "1926: (9). Compare the advantages with the disadvantages of expanding a business vertically; (10) Discuss the conversion of private businesses into joint stock companies with reference to a) business leadership and b) management of labour; (11) What general conditions must be satisfied before an industry can be nationalized with any prospect of success? 1930: Examine the problems of competition and cooperation between different forms of inland transport". (*Oxford University Examination Papers*, Trinity Term 1926 and Trinity Term 1930)

While the paper in 'economic theory' is concerned with the following:

> "[...] Question 4. What do you regard as the normal relation of the cost of production to the price of a commodity produced by a firm operating in conditions of imperfect competition?"
>
> (*Oxford University Examination Papers*, Trinity Term 1936)

During the 1940s, it is interesting to note that the nature of the exam questions indicates a shift towards a more empirical approach to the theory of the firm. For instance, in 1946, the 'Principles of Economics' paper asked about the internal organisation of the firm and about economic theory and realism:

> "Question 2. What factors limit the size of the firm?
> [...] Question 5. In what directions, if any, do you think that economic theory has become more realistic in recent years?
>
> (*Oxford University Examination Papers*, Trinity Term 1936)

This remark is amplified by the question asked that same year in the 'Economic Organization' paper, namely:

> "[...] 'Large firms are pioneers of progress; small firms are conspicuous for monopolistic waste and inefficiency'. Comment, with examples from British industry." (*Ibid.*)

Moving back to MacGregor's lectures, his former students' views were mixed, ranging from negative to very positive assessments. Hence, while John Hicks, who attended his lectures over the period 1923-1925 was very unimpressed by them:

> "I went to MacGregor's lectures, which consisted of simple demand-supply stuff, no doubt based on Marshall. Coming to them from my work in mathematics, I found them very dull" (Hicks, in Young, Lee, 1993: 48).

Others emphasised his sincerity and concern with the real world:

> "I think of him as a lecturer in a very quiet key, who gave the impression of one struggling to reconcile a Cambridge Marshallian orthodoxy with some stubborn peculiarities of the real world as it had emerged in post-war Britain. He was not, in my recollections, a forceful lecturer, rather more a thoughtful man, who was unsure what it all added up to. But he made an impression – one of deep sincerity and seriousness" (Kenneth Robinson, in Young, Lee, 1993: 48-49).

Nevertheless, in 1932, MacGregor helped establish the Faculty of Social Science, pointing out, with other colleagues that economics tutors *per se* were not members of any Faculty and that could prejudice the interest of their subject, since they were unable to elect representatives to the General Board of Faculties (*Report of the Social Studies Board*, 1932)[141].

As argued earlier, the main characteristic of MacGregor's economics was his preference for Marshall's original version of the theory of the firm found in his *Principles* than for its Pigovian interpretation, to a large extent, approved by subsequent theories of imperfect competition. As Andrews put it in his obituary, MacGregor [...]

> "[...] would not accept conclusions about practical behaviour which were simply derived from abstract constructions. To allegations that widespread monopoly meant that outputs everywhere were restricted and prices higher than they need be, his reply was that he was "sceptical about an equilibrium of running short … for reasons only of quasi-monopoly" and that he doubted if that were "good history or good business psychology". It seemed to him that "a good deal of bad metaphor" was being used for argument"; another pointed remark was that "an untenable contrast is made between the standards of industry and those which writers belonging to the professions pretend to be their own". (Andrews, 1953: 348).

In other words, MacGregor's economic analysis was not following the tradition of thought based on pure maximization and equilibrium concepts; rather, he was more interested by the growth of firms and the way they were able to reproduce themselves. Generally, his main idea was that new competition came about from skilled businessmen who have learnt the trade, who promoted existing relations with customers and suppliers and who used their savings (and personal connections) to start their own businesses. By the mid-1930s, he published his *Enterprise Purpose and Profit* (concerned with the behaviour of firms over the trade cycle under risk and uncertainty) where he "used the formations of

[141] Further discussion on this specific matter will be developed in the next section.

new joint stock companies to represent the course of enterprise" and he found that "variations of this index precede variations of both prices and employment" (Todd, 1935: 544). To him, variations in financial and stock market reflected variations in company formations. Hence, the concept of strategic behaviour is implicitly used at the heart of MacGregor's contribution: once a firm has entered into competition and is established on the market, it then follows long-term policies, such as stable prices, balanced with more short-term ones, such as decisions to expand. In this regard, his work shares some common ground with the more recent theory of the growth of the firm introduced by Edith Penrose in 1959[142].

However, as shown in the biographical overview, his message was not wanted in Oxford at the time and his contribution to economics has been eclipsed by the then evolving mainstream of microeconomics. This situation made him, as recently argued by Waren Samuels, "an "applied" economist in a new world dominated by "pure" economics" (Samuels, 2008: 150)[143]. Yet, he could not be completely ignored by mainstream economists due to his steady flow of books and journal articles principally published in the *Economic Journal* and more occasionally in *Economica* until the mid-1930s. Furthermore, his *Industrial Combinations* still constitute an early significant account of industrial economics which has been reprinted on several occasions and has been used as

[142] Ironically, on this matter, Brian Loasby argued in his contribution to Pitelis' book on the legacy of Edith Penrose: "Penrose makes sympathetic reference to Andrews; but her situation was different. On the one hand, she had no one like MacGregor to direct her towards the relevant elements in Marshall's work, and though Machlup could supply Austrian insights, business organisation was an empty chapter in any guide to Austrian theory" (Loasby, 2002: 52).

[143] This view is also reinforced by W.M. Allen who argued, retrospectively: "[MacGregor] was in the old-fashioned Marshall tradition and had ... little interest in rigorous analysis that came into vogue in the later years of his life. In my view, he was none the worse for that. I should say that in his books ... and in his teaching he gave students a sounder understanding of the problems of the economy of his time than contemporary dons give them at present ... It seems to me that ... the value of his contribution was underestimated because the newer trends (fashions?) in economics passed him by" (Allen, interviewed by Lee in 1981 and quoted in Lee, 2008: 1)

an economics textbook by subsequent generations of students inside and outside Oxford University[144].

II. The Institutionalisation of Oxford Economics

Until the 1930s, while economics replaced political economy and was increasingly recognised as an academic discipline, the institutions which represented it in Oxford remained quasi non-existent. On the one hand, the success of PPE raised the problem of the shortage of economics lecturers in the University resulting from the growing process of professionalisation of the discipline[145]. On the other hand, this shortage of teachers could only be resolved by the creation of new posts and lectureships which were mainly the responsibility of the General Board of the Faculties. However, since there was no Faculty of Economics, this led to a paradox where economics tutors were not able to elect their representatives in the General Board. From this perspective, the following section successively recounts the success of the PPE Honour School during the inter-war period and the establishment of the Faculty of Social Studies, in Oxford.

II.1. The 1930s Success of Modern Greats

The PPE School continued to be highly successful and attractive to students between the wars. Students of PPE were told that the School offered "the intellectual discipline of Philosophy" and also a "training in History and Economics" that prepared them for

[144] This remark is acknowledged by "current notes" published in 1937 in the *Journal of the Royal Statistical Society*, where it is mentioned "Middle-aged students of industrial combinations will remember the publication in 1906 of an important work on that subject by D.H. MacGregor [...]. It has been for some time out of print, and we are indebted to the London School of Economics and Political Science for securing its re-issue as the first of a series of reprints of scarce works on political economy [...] Even after thirty years it will repay perusal, for it differs from the usual books confined to description or denunciation and is a dispassionate study of the economic aspects of the movement." (*Journal of the Royal Statistical Society*, Current Notes, 1937, 100(1): 145).

[145] This process of professionalisation started during the second-half of the nineteenth century. For further details on this matter, see. chapter 1.

"business, the Civil Service, or public life"[146]. Unsurprisingly then, between 1923 and 1939, the PPE Honour School grew by 9.8 per cent per annum, the highest expansion rate among honour schools in arts and social studies (Carrie, 1994: 119). In 1929, A.D. Lindsay, then chairman of the Board for PPE appointed a committee to revise the statute and regulations of the Honour School. In addition to changes made by philosophers and politicians, the economists renamed their main lectures: 'Advanced economic theory' became 'statistical methods'; 'political economy' became 'economic theory', and, more importantly, an 'economic organization' paper was created from the economics section of political and economic organization (*Oxford University Examination Papers*, Trinity Term 1933). Concurrent with the success of Modern Greats, the Diploma in Economics established in 1905 became increasingly concerned with preparation for professional social work (still strongly associated with Ruskin College) and in 1919, the Diploma Committee was empowered to deliver Certificates of Training for Social Work[147].

Nevertheless, the increasing demand for PPE raised the problem of the shortage of tutors in economics. Consequently, colleges having admitted candidates to read for the new School had to appoint their own teachers. That was the case of Henry Clay who had obtained a Fellowship at New College (1919-1921); Eric Hargeaves was appointed to Oriel in 1925; Maurice Allen started teaching at Balliol in 1931; that same year, Redvers Opie was appointed to Magdalen. New College also recruited Lionel Robbins from the LSE in 1927 until 1929. By the end of the 1920s, it became common practice to appoint former PPE students who obtained a First in the School. This applied to Evelyn Wilson (later Lady Margaret Hall, who obtained a First in 1925 and was awarded a Senior Webb

[146] *Oxford University Handbook*, 1932: 152-162, reproduced in Carrie, 1994: 116.
[147] In the same line, in 1936, a Diploma in Public and Social Administration was created in Oxford.

Medley Scholarship the same year); Robert Hall (obtained a First in 1926 and was elected by Trinity in 1927); Henry Phelps Brown (obtained a First in 1929 and was elected by New College in 1930); James Meade (obtained a First in 1930 and was elected by Hertford in that year). This series of appointments formed the new generation of Oxford economists and while, in the early 1930s, the majority of Oxford colleges had appointed a Fellow in economics; lecturers were yet unable to vote in the election of the members of the Board responsible for the conduct of PPE.

As a result, from 1921 onwards, the body responsible for the management of PPE as an Honour School of the University was unusual. Conventionally, each Honour School is attached to a specific Faculty which would be in charge of its administrative organisation. It is clear that in the case of PPE, the School would need to be attached to more than one Faculty. Therefore, the school's management was the responsibility of a Board of Studies composed of twelve members: four elected by the *Literae Humaniores* Board and two each by the Modern History Board and the Committee for Economics and Political Science (in existence since 1905 with the creation of the Diploma in Economics). These eight could choose four other members (Chester, 1986: 46). In 1931, when the Hebdomadal Council decided to review the financial needs of the University, the development of economics at Oxford was considered seriously and the economists pushed to create the status of a Faculty out of the Board of Studies in charge of the conduct of PPE.

II.2. Social Studies as the Eleventh Faculty in Oxford and the Establishment of the Economics Sub-Faculty (1932)

The first formal expression for the establishment of a Faculty of Philosophy, Politics and Economics can be found in A.J. Carlyle's request that "the Board should be directly elected by members of the Faculty of Modern History, of the Philosophy Sub-Faculty of the *Literae Humaniores* Faculty and by teachers of economics, in certain proportions" (Chester, 1986: 49). Congregation approved a statute meeting this demand in February 1928 (*Oxford University Gazette*, 1927-1928: 315). From this vote by Congregation onwards, the structure and purpose of the Board of Studies of PPE presented all the characteristics of the Board of a Faculty.

The report of the Board of Studies (1931: 145) mentioned that later that year, its members wrote a memorandum about becoming a Faculty which circulated among the General Board of Faculties. In particular, this memorandum pointed out the existing functions of the Board of studies of PPE identical to those of a Board of Faculties, questioning then the non-existence of an official Faculty. As outlined in the previous section, it was at that time, that D.H. MacGregor, G.D.H. Cole and L.M. Fraser expressed a further request pointing out the paradox felt by economics tutors, not being a member of any faculty[148]. As remembered by Norman Chester in his account of *Economics, Politics and Social Studies in Oxford (1900-1985)*:

> "[...] not being part of a Faculty they could not form a sub-faculty; they therefore had no formal means of organising their schedule of lectures except by informal gatherings and conclaves. Most met informally at Edwin Cannan's home." (Report of Social Studies Board, 1932: 174, in Chester, 1986: 50).

[148] Interestingly, the thesis shows that the same situation was experienced when the first B.Phil. in management studies was established in 1965, before the creation of a faculty of business studies and the establishment of the business school. For further details about this issue, see chapter 6.

After having discussed the title that the new Faculty should take, Congregation voted for the establishment of the new Faculty of Social Studies – since it was argued that economics and politics could not claim to be sciences and therefore a faculty of social sciences would have been inappropriate. The first meeting of the Faculty of Social Studies – eleventh Faculty of the University – took place on 10 June 1932. That same year, the Sub-Faculty of Economics was established providing an institutional and organizational framework for the new generation of Oxford economists. However, it was only two years later, on 26 October 1934, that the Sub-Faculty of Politics was established.

II.3. The Oxford Institute of Statistics (1935)

The role of the Institute of Economics and Statistics in Oxford is central to understand later developments in the theory of the firm and industrial economics[149]. The appointment (previously described in this section) of a new generation of young economists as a response to the success of PPE led to a new trend in the evolution of Oxford economics, mainly based on empirical developments and statistical enquiries. In fact, until the establishment of the Faculty of Social Studies in 1932, there had been little exchange among Oxford economists about the directions of research in economic theory or applied economics as distinct from the teaching structure. The need to go beyond economic studies mainly conducted by economic historians and the urge to provide more intellectual content to economic policy were rising.

Undeniably, this collective desire to give Oxford economics a new orientation was intimately related to the economic context of the country at the time, still recovering from

[149] The Oxford Institute of Statistics was formally established on 22 October 1935 under the direction of the Social Studies Research Committee, with J. Marschak appointed as its director. In 1962, it was renamed the Institute of Economics and Statistics. For a further detailed account, see Chester, 1986: 54-55 and Lee and Young, 1993: 120-125.

the 1929 financial crisis and going through a long cycle of economic depression. The inability to explain the economic and financial crisis by existing economic theories based on equilibrium, where the factors of production were fully used, was also reinforcing this new trend. Thus, unemployment issues, trade cycle theories, industrial implications of the economic crisis and other contemporary unresolved economic problems started bringing Oxford economists together within a growing empirical framework of analysis. It was in an atmosphere which had previously always lacked contact between theoretical analysis and realistic investigations that the new generation of Oxford economists felt they could discuss economic policy and provide a more realistic body of economic theories.

This series of discussions led to the offer of a grant from the Rockfeller Foundation in order to investigate modern economic issues, supported by statistical evidence to economic theory[150]. Hence, in 1933, the Foundation provided a seven-year grant of $350,000 to establish an Oxford institute of Statistics (Craver, 1986: 211). To a large extent, this grant was used to fund equipment, secretarial staff and other facilities such as a library. However, these facilities were not available to the economist in Oxford. On 22 October 1935, Congregation agreed that an Institute of Statistics should be established under the direction of the Social Studies Research Committee. Jakob

[150] The Rockfeller Foundation is a philanthropic organisation characterised by its support for research on the causes of 'fundamental human misery'. For a number of years before the 1930s, the Rockfeller Foundation did not fund any social science projects perhaps because they were too recent, or because they had too little to do with medicine and other sciences, or perhaps because they seemed to 'draw their inspiration from something too close to common sense'. According to Earlene Craver, who wrote an article on The Rockfeller Foundation in Europe (1924-1938), this reluctance also came from the foundation's first venture in the social sciences "a [...] study of industrial relations, commissioned after the "Ludlow massacre" of striking workers at a Rockefeller mine on 20 April, 1914" which had "subjected the foundation to public scrutiny and political denunciation" (Craver, 1986: 205). Interestingly, the Foundation thought that Cambridge economics was too interested by financial analysis (mainly conducted by Keynes and Robinson) and never funded any projects there (*Ibid*: 208).

Marschak became the first Director of the Institute[151]. Interestingly, despite its name, the newly formed Institute was also involved in the study of economic theory and organisation. This was due to a clear desire expressed by the Social Studies Board in 1936 who stated:

> "[...] it is undesirable to divorce the study of statistics and statistical method from the cognate studies of Economic Theory and Organisation" (*Report of the Social Studies Board, 27 November 1936*, quoted in Chester, 1986: 146)

As a result, the then newly established library of the Institute of Statistics became the main library of economics[152]. The first senior members of the Institute were A.J. Brown, H. Phelps-Brown, R. F. Bretherton, G.L. Schackle and P.W.S. Andrews. However, it was not until 1937, that the first research staff were officially employed thanks to subsequent aid provided by the Rockfeller Foundation who specifically requested the money be spent on a two-year research project on the study of trade cycles[153]. The appointment of new lecturers and the expenses incurred on equipment for the Institute of Statistics are discussed in the correspondence between MacGregor and Harrod during the summer of 1935[154].

The emergence, and the first years of developments of the Oxford Institute of Statistics coincided with the benefaction from Lord Nuffield in October 1937 who aimed to create 'the University's instrument of research in social studies', and, to some extent, made the Institute look somewhat redundant. The establishment of Nuffield College in 1937 suggested that the Institute should be housed in new premises there which it eventually was.

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[151] Marschak remained the Director until 1939. He moved to the United-States in 1940.
[152] With the aid of specific grants for the funding of books and periodicals, the library contained 4530 books in July 1937 and approximately 2000 annual volumes of periodicals (Chester, 1986: 146).
[153] At that time, Henry Phelps Brown became a research assistant in the Institute.
[154] See, in particular the letter from D.H. MacGregor to R. Harrod, 12 July 1935 (456R) in Besomi (2003).

III. The Oxford Economists' Research Group (1935-1965)

As evidenced by the election of MacGregor in the chair of political economy, the success of PPE, the establishment of the economics sub-faculty and the foundation of the Institute of Statistics, Oxford economics pre-WWI adopted a strong theoretical, mathematical and non-historical orientation[155]. At the same time, a second tradition of economic studies was emerging, combining applied and theoretical research with particular emphasis on statistical studies. From within this line of thought emerged a group of enthusiastic Oxford economists who sought a broader empirical framework for economic analysis. The Oxford Economists' Research Group gathered people of diverse interests and backgrounds with a common focus on various parts of the theory of the firm, and, in particular, a developing interest in competition and prices. Although this Group was not exclusively devoted to the study of industries and the firm, it paved the way towards a new methodology which will be later used in Industrial Economics. The purpose of this last section is to analyse this research group, from its creation in 1935 to its last meeting in 1965, and answer some essential questions about the group and its impact on the theory of the firm. This section is based on the role of the groups in the formation and spread of scientific ideas. Such an approach is well expressed in William Coleman's article entitled "The Group Life as a Genre of Economists' Life Writing" (2007). In particular, the first task, here, is to introduce the reader to the difficulty in finding a common theme uniting the disparate members of the OERG. The aim of the inquiry is, therefore, to unearth the reasons for the Group's formation, the circumstances in which it was created, and its common, unifying theoretical points – if indeed there were any. The second task is to evaluate the theoretical

[155] This emerging dominance of Oxford economics was reflected in the decline of lectures offered in economic history (Young, Lee, 1993: 21).

and scientific contribution of the Group; the impact and novelty of the group's ideas are exposed here. First, this section describes the activities of the OERG in chronological order, from the seminal discussions to the last meeting in 1965. Then, it shows the influence of the OERG's activities on the theoretical developments of the theory of the firm.

III.1. A History of the Group (1936-1965)

The following deals with the formation, evolution and decline – as well as the atmosphere – of the OERG. Two time periods are identified: 1936-1940 and 1940-1965.

- **The first part (1936-1940)**

The Oxford Economists Research Group was created in 1936 and initially led by Sir Hubert Henderson who was the sole Professor of Economics in Oxford. The earliest members were all economists and teaching fellows at Oxford at that time. These members are all listed in Appendix 2. P.W.S. Andrews who came to Oxford in 1937 as a member of Research Staff, became secretary of the OERG. A couple of years after the establishment of the first sub-faculty in Economics in Oxford in 1932, All Souls College offered a readership in economic statistics to promote systematic empirical work in social studies. Oxford economists – who were already mainly contributing to the development of the Oxford Institute of Statistics – took this opportunity to approach the Rockfeller foundation. In 1937, the financial assistance given by the Rockfeller Foundation to Roy Harrod enabled the Group to grow, in two years, from a relatively small number of participants to more than nineteen members. The meetings of the OERG were quite informal and anyone who was invited and had attended a meeting was considered to be a member of the Group and could attend as little or as often as he liked. At each meeting

some eight to twelve members of the larger group would attend, attendance varying from meeting to meeting. Also, the informal nature of the meetings enabled anybody from the group to take the chair if the chairman could not come to one of the meetings.

The OERG's studies basically consisted of sets of inquiries or research projects which took about eighteenth months and which were based upon questionnaires. These questionnaires, which "defined the scope of the discussion"[156], were sent in advance and then based on after-dinner interviews with businessmen who were invited to come to Oxford to dine and spare an evening answering the members' questions. Harrod used to bring the guest to dine in Christ Church, then onto his rooms, where the Group would have gathered. They had intensive discussion and questioning took place from about 8.30 pm until the small hours of the morning. All the businessmen were promised complete confidentiality[157]. A record was kept of what was said after each meeting. The report was sent back to the guest, allowing him to alter his comments. A copy was then given to each of the members of the Group on condition that it was regarded as strictly confidential to them personally. In the end, a general report might be prepared in such a manner as would keep secret the identity of the businessmen who had helped. This procedure to study firms in economics was perceived as a completely new methodology at the time, and broke with traditional deductive methods[158].

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

[157] 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 personal archives, *background memorandum*, 1960).

[158] Interestingly, this research practice was also used by politics fellows during the same period. This is evidenced in *The History of the University of Oxford: The Twentieth Century*. In particular, Harrison notes: "In the 1930s, while Henderson' Economists Research Group was entertaining visiting businessmen, politics tutors were entertaining visiting non-academic speakers in their Public Administration Group" (Harrison, 1994(b): 388-389).

While the topics studied within the Group were wide and not only focused on firms and industries, the most famous inquiries of the Group were concerned with the influence of interest rates on investment, and with the pricing policies of firms. The results were that investment decisions taken by businessmen were influenced very little by the changes in the rates of interest. Regarding the pricing policies, many of the participants claimed to set their prices according to the 'full cost' principle, i.e. calculating the average cost of production and then adding on a margin. In October 1938, the members of the Group published their inquiries in the first issue of the *Oxford Economic Papers*. The purpose of this journal was to make public the empirical research currently being done by the Oxford Economists' Research Group and the Oxford Institute of Statistics.

The first article was Henderson's "The Significance of the Rate of Interest", followed by the evidence for it given by Meade and Andrews' "Summary of Replies to Questions on Effects of Interest Rates". The editorial board was composed of members of the OERG at that time, including Henderson, Harrod, Marschak and Opie who were the principal editors of the Journal and probably the most active and invested members of the OERG.[159] The rate of publication of the Journal was rather occasional at the beginning. Only one issue a year appeared during the first two years. In 1940, the Journal published two issues. One issue each was published in 1941 and 1942.

In 1939, the OERG published two papers on pricing which established the innovative nature of its research and the novelty of its findings, namely by Hall and Hitch and by Harrod. The first is the famous Hall-Hitch exposition of the 'full-cost principle'. It

[159] Further details on this matter can be found in the *Andrews and Brunner's archives*, London School of Economics, Box 633.

was the first time that theorists had inquired into actual business practice. They used questionnaires for a sample of 38 firms; the results of their investigation showed that a significant proportion of these firms set their prices according to the 'full-cost' principle. Among the 38 firms investigated, none used a technique of optimisation to set prices, while 12 firms investigated 'adhered to the 'full cost' policy'. Typically, the company would make an *ex-ante* estimate of its output for the coming year, determining then the average cost (direct costs, e.g. labour, materials, energy, per unit of product) and then add to it one or more percentage margins for profit– the "mark-up". They insisted that this pricing mechanism was a "rule of thumb" and could result in maximum profits by accident only. Hence, the results of their survey appeared to conflict the received doctrine of the time[160]. Implicitly, this exercise tested the conventional assumption of maximization in terms of equalisation of the marginal cost and the marginal revenue. In fact, Hall and Hitch justified the full cost principle by the argument that "producers cannot know their demand or marginal revenue curves" (Hall, Hitch, 1939: 22). Therefore, the evidence obtained from the businessmen showed that they did not use marginal revenue and cost (i.e. any forms of marginalism) to set prices. Rather it indicated "that they are thinking in altogether different terms" (Hall, Hitch, 1939: 18).

Another substantial contribution was made by Harrod (1939), who insisted on the use of a new methodology, mainly fortified by statistical enquiries. Harrod clarified the purpose of his paper – "Price and Cost in Entrepreneur's Policy" - at the beginning:

[160] It is interesting to note, here, that, some years later, Philip Andrews argued: "The analytical merit of the approach made by Hall and Hitch was that it preserved intact the old approach via the static equilibrium of the firm. It was still possible to think in terms of marginal revenues and costs, only the indeterminacy of their point of intersection accounted for the vagueness of the resulting theory and the paucity of empirical data. For the teacher, the approach was attractive since it lent itself to the systematic development of the theory of business behaviour from the Marshallian cases of perfect or pure competition, to a theory which had apparent reference to real procedures whilst retaining at least the forms of marginal analysis" (Andrews, 1951: 160).

> "[to] consider whether the problem of how the entrepreneur reaches decisions about the amount of output to be undertaken gives scope for empirical study" (Harrod, 1939: 1).

In this paper, Harrod particularly argued that profit maximization – in equalising estimated marginal revenue and estimated marginal cost – was not observed in many firms partly because the necessary information – marginal revenue and costs – for such calculations was hard to obtain. He, indeed, noticed[161]:

> "In imperfect competition, [...] in order to estimate current marginal revenue in its crudest sense, that is without taking into account future repercussions, it is necessary to know the elasticity of demand for the product. Our questions revealed that the great majority of entrepreneurs were in profound ignorance with regard to its value." (Harrod, 1939: 4)

After the publication of this series of articles in the *Oxford Economic Papers*[162], the Group was full of intellectual vitality and raring to take their research forward, but when the War started in August, members were dispersed, disrupting the OERG which became inactive for the duration of hostilities[163].

- **The second part (1940-1965)**

The post-War intellectual activity of the OERG had not been seriously considered by any of the scholars involved in the topic. Young and Lee's (1993) interest in the OERG ends in 1940 and Besomi (1998) is only concerned with the pre-War history of the Group. The Andrews and Brunner's archives at the LSE only report some of the answers given by the businessmen, without discussion of the internal organisation of the meetings. The only

[161] Later, Philip Andrews commented on Harrod's theoretical developments and claimed that he "[...] suggested that the full-cost principle must have its rationale since it was so firmly established" (Andrews, 1951: 160).

[162] These publications have been reprinted in *Oxford Studies in the Price Mechanism* in 1951 (Edited by Wilson and Andrews).

[163] One of the difficulties for scholars in collecting archival evidence from this period is the lack of documentation. The rumour which is still circulating among people I interviewed is that, when the War broke out in 1939, worried about a Nazi invasion and confidentiality issues, Harrod and Andrews burned the files which contained the entire proceedings of the Group in the boilers of Christ Church College

relevant source I was able to find was given to me by Professor David Stout: an OERG post-war member. He provided reports of the last meetings of the group, and also some correspondence between the members. The history of the second chronological part of the group is, therefore, based essentially on these archives and on David Stout's own recollections communicated to me in a series of interviews.

The conventional wisdom on the post-war OERG is that it had a limited effect on Oxford economics in terms of influence or direction of research. According to some of the few members who are alive today, the OERG tried to resurrect itself after the War, but the drive and interest that existed before the War was gone. The Group was re-formed and some new members played an active part in its reconstruction. Roy Harrod took the chair and was accompanied by some new and some old members, listed in Appendix 2. As can be seen in this appendix, F. Burchardt, H. Henderson, and E.M. Hugh-Jones still attended the meetings, along with P.W.S. Andrews, who became the new secretary of the group and was assisted by Elizabeth Brunner, one of the very few female members.

While the OERG was re-forming and changing the nature of its inquiries, the *Oxford Economic Papers* resumed publication. The rate of publication became more regular than before the war. During the first year of this new series, two issues were published. In 1951, the rate grew to three issues a year. The editorial board included some new members, such as Andrews, Burchardt, Worswick and certainly the most faithful contributor, namely Henderson. Tom Wilson became the general editor.

During the post-war period of development, the members of the OERG were more concerned with the internal organisation of the firm. The inquiries in pricing were finished before the war and the Post-War Group had changed its main research interests and

completed enquiries into productivity and factors affecting capital expenditure. 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 seek businessmen's opinions on some aspects of the problem." (Andrews, Brunner, 1950: 1)

It is difficult to identify the permanent members of the Group in its post-War history. While the official membership in 1959 listed twenty participants in the Group (Roy Harrod, being the Chairman and Norman Leyland, being the Secretary)[164], some confidential reports found in David Stout's personal archives seem to indicate rather poor rates of attendance. For instance, in a report of a meeting held on November 24th, 1960, the participants in the meeting did not reach ten; namely:

> "Mr. Richardson (in the chair), Mr. Leyland, Mr. Wright, Mr. Scott, Mrs. Hicks, Mr. Stout, Mr. Knowles, Mr. Munby."

The issues shifted from a study of the cost/price theory of the firm to a study of the internal organisation of the firm. Perhaps, these new inquiries represent the first foreshadowing of business school interests in Oxford. Between 1950 and the end of the Oxford Economists' Research group, four main themes were studied by the members. The first was the pricing policy of exporters when the exchange rate altered. The members of the Group then studied the relationships between firms. The third theme referred to business investment and sources of growth enquiry. Two papers on this matter

[164] "The present membership of the Research Group is as follows: R.F. Harrod (Chairman), P.W.S. Andrews, Elizabeth Brunner, F.A. Burchardt, Professor D.G. Champernowne, Lady Margaret Hall, E.L. Hargreaves, J.R. Hicks, C. Kennedy, E.M. Hugh-Jones, Prof. J. Jewkes, N.H. Leyland (Secretary), Sir G.D.A. MacDougall, C.N. Ward-Perkins, T. Wilson, G.B. Richardson, J.R. Sargent, D. Henderson, J. Fforde". (*David Stout's personal archives of the OERG*, Membership list, 1959)

were published in March 1964 in the *Oxford Economic Papers*[165]. The method of this enquiry is described by George Richardson and Norman Leyland in their introductory article "The Growth of Firms" of the March 1964 issue:

> "For this inquiry, sixteen business men came to Oxford over a period of rather less than three years. The interviews were based on a question paper which dealt primarily with the methods of forward planning, with the motives for growth and with the limits to growth." (Richardson, Leyland, 1964: 1)

Although the existence of some bias in the chosen sample[166], the inquiry showed that the desire to expand was observable in all firms[167].

One of the last inquiries was based mainly on the provision of finance for industry. Many representatives from the world of finance were invited. In particular, as stated in a latter sent by G.B. Richardson to the members of the OERG on the 26th November 1962:

> "The following gentlemen were elected to a committee, the purpose of which will be to draw up a draft questionnaire; Mr. Little, Mr. Opie, Mr. Stout, Mr. Baragwanath, Mr. Leyland and Mr. Richardson" (*Letter from G.B. Richardson to the members of the OERG, 26th November 1962*, David Stout's personal archives on OERG).

These changes in the OERG's main research interests consequently had an impact on the nature of the articles published in the *Oxford Economic Papers*. In fact, the Journal no longer reflected the primary purpose of its publication *i.e.* to report the OERG's inquiries. The *OEP*'s position remained that of a general interest journal, without any particular

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[165] At that time, Norman Leyland was the general editor of the *Oxford Economic Papers* and John Wright, its secretary. The rest of the editorial board was: P.D. Henderson, Sir John Hicks, G.B. Richardson, M.FG. Scott, F. Seton (Oxford Economic Papers, March 1964: 1). It is interesting to note that the issues were very much penrosian oriented. As stated by the 1964 Background Memorandum: "More recently, the Group has studied the motives for, and obstacles to business expansion. Some of the results of this study are published in Oxford Economic Papers for March 1964." (*OERG: Background Memorandum. Not Dated but estimated in 1964*, David Stout's personal archives on OERG).

[166] The following is argued by Richardson and Leyland: "Our sixteen witnesses represent a deliberately biased sample. We confined ourselves to managements whose firms had good growth records and who might be expected to be familiar with the problems of adjustment arising therefrom. An additional element of bias is introduced by the fact that firms accepting our invitation are likely to be among the more interesting and active. Thus our inquiry throws no light on the problems of adjustment faced by firms in declining markets; it deals with highly successful firms operating within growth industries". (Richardson, Leyland, 1964: 1-2).

[167] Further details about the content of this enquiry can be found in the next sub-section.

link with empirical generalisations:

> "While most of the articles will be concerned with Economics, the Editors also hope to publish occasional articles on Economic History and Scientific Method, provided these articles are likely to be of general interest to economists." (*Oxford Economic Papers*, New Series, 1(1), January 1949, Front Matter)

At the beginning of the 1960s, the links developed with businessmen were still growing, especially with the help of Harrod, Richardson, Leyland and Andrews and the reputation of the University[168]. Businessmen were still very grateful for their evenings and overnight stays in Oxford, as witnessed by a letter from businessman Sir John Wrightson (Head of Wrightson & Co. Ltd.) to Leyland and Richardson[169]:

> "Just a very short "bread and butter" letter to thank you and Mr. Richardson for your particular kindness to me in Oxford last night, and for the excellent arrangements for my comfort. I really enjoyed the evening enormously, although I found that towards the end of 2 ½ hours intensive cross-questioning I was becoming a little bit tired" (*Letter from John Wrightson to Norman Leyland, 4th November, 1960*, David Stout's personal archives).

In November 1962, Roger Opie became Secretary of the Group in place of Norman Leyland[170]. At this time, the Group's members started showing some loss of interests and the decision to increase membership and invite new economists was taken:

> "The Chairman was requested to invite the following to become members of the Group; Mr. MacMahon, Mrs. Paul, Mr. Hazlewood, Mr. Worswick, Mr. Gorman and Miss Ady" (*Letter from G.B. Richardson to the members of the OERG, 26th November 1962*, David Stout's personal archives)

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[168] Contacts with businessmen were also facilitated by the Oxford Context. According to the *History of the University of Oxford*: "Oxford had ample contacts of this sort; in 1958 it had educated 46 of the 148 directors of the 'Big Five' banks, 24 of the 107 directors of fourteen merchant banks or discount houses and 30 of the 149 directors of eight major insurance companies – surpassing all other universities in all three categories" (Harrison, 1994(b): 387-388).

[169] The benefits of the OERG's methods are described by Richardson and Leyland in 1964: "Our discussions ranged freely and did not adhere strictly to the written questions. Despite its many serious deficiencies, this form of inquiry has some merits. The informal and highly confidential character of our conversations gave our visitors fewer grounds for reticence than would otherwise have been the case. [...] Perhaps the most substantial benefits to economists attending meetings of the group take the form, not of precise and communicable findings, but of an enhanced sense of, or feeling for, the general atmosphere in which business decisions are made." (Richardson, Leyland, 1964: 1).

[170] *Letter from G.B. Richardson to the members of the OERG, 26th November 1962*, David Stout's personal archives on OERG.

David Stout's personal archives are a source of information regarding the rate of attendance between 1959 and 1965. Two trends can be observed. First, a significant drop in attendance characterises the period. This is commented on by G.B. Richardson in March 1964:

> "At the most recent meeting, held earlier this term, only seven members of the Group arrived, including in any case two office holders." David Stout's personal archives on OERG, *letter from George Richardson to David Stout*, 3rd March 1964

The second source of information was the 1964 membership and mailing lists which indicated the invitation of new members, mainly for the reasons explained earlier[171]. Both counted almost thirty members. Probably due to a lack of attendance or a specific request not to be added to either of these lists, some names have been deliberately crossed out. This is the case for A.D. Hazlewood, Lady Margaret Hall, K.G.J.C. Knowles, G.B.A. MacDougall, P. Streeten and J.E. Vaizey:

1964 (Membership List)	**1964 (Mailing List)**
L. Baragwanath	L. Baragwanath
Black	Black
Miss Cooper	Miss Cooper
	C.D. Foster
W.M. Gorman	W.M. Gorman
R. Harrod	R. Harrod
~~A.H. Hazlewood~~	
H.D. Henderson	H.D. Henderson
J.R. Hicks	J.R. Hicks
Mrs. Hicks	Mrs. Hicks
?	~~K.G.J.C. Knowles~~
~~Lady Margaret Hall~~	
N. Leyland	N. Leyland
I. Little	I. Little

[171] These two lists take the form of two distinct documents both dated 1964. There is no indication of the month though and no way to estimate it. The crossed out names and the question mark are reproduced as such, from the original document.

G.D.A. MacDougall	~~G.D.A. MacDougall~~
McClelland (chair)	McClelland
Munby	Munby
R. Opie	R. Opie
G.B. Richardson	G.B. Richardson
D. Robinson	D. Robinson
M. Scott	M. Scott
D. Stout (organising secretary)	
P. Streeten	~~P. Streeten~~
~~J.E. Vaizey~~	~~J.E. Vaizey~~
P. Vandome	P. Vandome
G.D.N. Worswick	G.D.N. Worswick
J. Wright	J. Wright

Table 1 – Membership and mailing lists for the OERG (1964)

By Summer 1964, the Group started to seriously question its relevance. David Stout, the current Chairman of the Group, proposed some possible reforms which could render the meetings more attractive. One of the ideas was to change the schedule and to move the meetings to every Monday instead of every Tuesday (when the Hicks Group used to gather as well). The reasons for the decreasing popularity of the Group were not easy to understand. Possible reasons were put forward in a letter written by George Richardson (the secretary in 1964) who wrote:

> "[...] 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." (David Stout's archives, *letter from George Richardson to David Stout*, 3rd March 1964).

In the minutes of the last meeting, on 25th May 1965, David Stout noted:

> "Attendance was dismally and embarrassingly low, and it is not clear what happened to the other members of the Group still in Oxford who neither came nor gave the Secretary warning that they could not come." (*Minutes of a meeting of the Research Group held in the Payne Room, University College at 8.30pm on Tuesday, 25th May*

1965, David Stout's personal archives on OERG).

This 1965 meeting was the last time the group met, at which they enquired on Forecasts and Business Decisions.

II.2. The Necessity of Providing Empirical Content to the Theory of the Firm

It seems almost impossible to find a common research theme or even a single tradition of thought among all the contributions made by the members of the Oxford Economists' Research Group to the theory of the firm between 1935 and 1965. Interests included macroeconomics as well as microeconomics and were not exclusively concerned with topics on industries and firms. As mentioned earlier, the participants came from different intellectual backgrounds, and developed different theoretical positions. However, within contributions to the theory of industries and firms, this diversity of backgrounds led to a very eclectic approach to the firm. Yet, some common themes emerged from each of their contributions. With this in mind, four main lines of thought and methodologies within the Group, over its thirty years of existence, are noted.

The first approach was developed by Hubert Henderson, a founding member of the Group. This view corresponds to the "old" Oxford economics tradition. Henderson's main idea was to get closer to the real manufacturing world, in order to solve some central economic issues[172]. Henderson was quite sceptical and developed some distrust of 'pure'

[172] In particular, in 1938, he argued: "[...] it has been desirable to some of us at Oxford that a more systematic effort should be made than hitherto to ascertain whether these conclusions, positive and negative alike, are well founded. There has been in existence for some years among the tutors engaged in teaching economics at Oxford a research Group which has been investigating the factors affecting the course of economic activity. [...] One of the questions examined has been that of the effects of changes in the rate of interest [...] It seems fair to claim that our investigations, though not amounting to a conclusive demonstration, confirm with a high degree of probability the negative conclusions which have been tentatively advanced on grounds of common sense, i.e. that the direct influence of variations in the rate of interest on the actions of the majority of businesses of an ordinary industrial or commercial character, either in purchasing materials or in undertaking capital expenditure, is not likely to be very great." (Henderson, 1938: 9)

theory *per se*. He instead adopted an inductive approach to the firm, using questionnaires to validate the foundation of some essential deductive economic conclusions. Henderson felt that the framework of economics must be checked against reality to see whether the definitions in economics applied to the real world and whether the forces in economic theory were the forces operating in the real world. He discovered a gap between economic theory and reality and decided that the OERG should aim to plug the gap making economic theory more realistic. Thus, through the Group, Henderson tried to give a more satisfactory theoretical explanation of real world phenomena, thinking that the whole methodology used by the marginalist theories was inappropriate for a good understanding of manufacturing and individual businesses[173]. Under these circumstances, as described above in the history of the group, and as Henderson wanted, the inquiries of the OERG consisted of inviting a business man, usually the Chief Executive of a firm, to come to Oxford for dinner. He was then questioned by the OERG's members about his methods and principles of running his business. Interestingly enough, the difficulty of the meetings was to find a common language between academics on one hand and businessmen on the other. As Shackle reported some years later:

> "After one meeting one member of the OERG remarked 'The businessmen don't seem to think we know what words mean'. Another answered 'They don't seem to think we know <u>anything</u>!'" (Shackle interviewed by F.S. Lee, 1993: 171)

Shackle added:

> "But the dons learnt business language and found out how to interpret their own lines of thought as to make them intelligible." (*Ibid.*)

[173] As Young and Lee commented, Henderson's approach emphasised factual inquiries as the first step of a 'good' theory: "Because of his belief in the need for facts *before* constructing theory, Henderson felt that the young economics fellows and their theories needed to be confronted with the experience of the businessman to show that their formal economic systems were much too simplistic for actually dealing with the complicated interdependencies of the real economic world." (Young, Lee, 1993: 129)

The second group of people corresponded to the newly appointed economists in the 1930s, namely Bretherton, Harrod, Hugh-Jones, Meade and Phelps-Brown who were particularly keen on marginalist ideas. Although this new generation of Oxford economists wished to some extent to get closer to the real world, they did not want to transform economics into a purely empirical science. In their minds, economics was then a combination of theory and application. Putting it differently, the young marginalist economists were clearly not satisfied with the inductive approach to the firm, particularly developed by Henderson, but rather more with a need for empirical work as a supplement to theory. As Harrod argued: "What is validly vouchsafed by the deductive method is in no need of verification". Therefore, the aim of empirical studies was not to validate the theory. As Harrod pointed out, some of the marginalist assumptions were "formally incorrect" in each individual case, but "may be true as the expression of a statistical average, since the errors of judgement leading an entrepreneur to depart in either direction from his point of best advantage may be expected to cancel out, if there are a large number of cases". Consequently, empirical enquiries can only be justified by a need to find what Harrod had called "a systematic distortion of [the entrepreneur's] judgement or his conduct away from the point of best advantage". Harrod's theoretical framework was here clearly based upon the concept of equilibrium. His "systematic distortion" referred to a position which digressed from each equilibrium point which the entrepreneur or the firm could reach. In this context, Harrod clearly defined his view of the OERG's contribution in a different way to Henderson:

> "It was with this in mind that the Oxford Research Group decided that this was a proper field for the method of direct question. The best way of discovering possible causes of systematic distortion appeared to be to ask a sample of entrepreneurs how they did in fact make up their minds what to do when faced with specified changes

in their business position." (Harrod, 1939: 2)

Harrod's approach to the firm was, therefore, built upon an equilibrium approach, underlined by marginalist tools. He argued that a good measurement of the marginal revenue should take into account the lack of knowledge of the entrepreneur:

> "So far the problem has been discussed in the language of the theory of imperfect competition (marginal cost and marginal revenue). [...] In imperfect competition, [...], in order to estimate current marginal revenue [...], it is necessary to know the elasticity of demand for the product. Our questions revealed that the great majority of entrepreneurs were in profound ignorance with regard to its value." (*Ibid.*: 4)

Harrod's position on the firm largely illustrates here the tendency of the economists mentioned above to use marginal tools in economic equilibrium conditions. However, this particular group of marginalist economists was also mainly interested in macroeconomics – as, for instance, Meade showed in translating Keynes' *General Theory* in mathematical terms. It appeared quite common among Oxford economists to believe at the same time in both marginalism and Keynesian macroeconomics[174].

A third approach to the firm was developed by Philip Andrews and his assistant Elizabeth Brunner[175]. In his article of 1952, Andrews clearly rejected the inductive approach applied to the theory of the firm:

> "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)

In accordance with this view, therefore, a "good" theory has to be built upon three

[174] As Young and Lee put it: "[...] The new phase of Oxford economics, that is the preference for Pigovian marginalism and imperfect competition and Keynesian macroeconomics, had now attained wide support amongst the core Oxford economists, including [...] Harrod, Meade, Phelps-Brown. [...] Moreover, lectures and tutorials on microeconomics were liberally sprinkled with marginal utility curves and marginalist equilibrium conditions, while the ones in macroeconomics concentrated on Keyne's General Theory." (Young, Lee, 1993: 24)

[175] For further details about their lives and works, see chapter 3.

successive steps, firstly driven by a theoretical part and then by an empirical component. First of all, the theorist needs to make some assumptions in order to construct a model. As the author argued above, these assumptions do not necessarily need to be realistic, but should rather fit with the theoretical elements involved. Then, from these assumptions, the theorist can draw a theoretical model of the problem that will lead to his temporary conclusions. Finally, the empirical part is used to confront the results – or what are often called the predictions – of the model with the industrial reality. This third step of a "good" theory primarily involves both statistical and empirical analysis. At this stage, a significant statistical sample of the reality is chosen, so that the theorist can check whether it is compatible with the conclusions drawn from the theoretical model. If this is not the case, the initial assumptions are reformulated until the stage when the new conclusions finally fit with the industrial reality. This intellectual process justifies the absence of realism in the assumptions initially made by the theorist. Thus, an *a priori* opinion of Andrews' contributions would be to think he developed a naïve way to separate theory from reality, adopting a pure inductive approach to the firm. By contrast, Andrews' methodological position reflected the developments associated with the emphasis on logical empiricism or falsification. However, one cannot deny the strong emphasis he put on his empirical work. In fact, to him, the theoretical part of the theory of the firm was in a really bad state and there was no point getting it better if one could not improve the empirical part first[176].

Finally, a last approach emerged in the final years of the Group proposed by economists such as George Richardson, Norman Leyland and David Stout. This approach

[176] As he put it: "Now, oligopoly theory has long been something of a technical toy just because no general theoretical solution can be found, and the admission of its importance is consequently the first sign of the breakdown of a theoretical approach to prices in practice via the assumption of a determinate full equilibrium in the individual business. It seems reasonable to suggest that a new start has to be found. [...] Economics needs a workable theory of the behaviour of individual business." (Andrews, 1952: 75)

mainly focused on the internal organisation of the firm and was, therefore, concerned with issues about the growth of firms and decision-making processes. To a large extent, this approach was strongly influenced by the publication of Edith Penrose's *Theory of the Growth of the Firm* in 1959 and will also lead to two different orientations in the 1970s, namely from a theoretical perspective, the information theory of the firm, studied by Richardson and Malmgren (see chapter five of this thesis) and from a methodological perspective, the emergence of business studies (see chapter six). Hence, according to Richardson and Leyland, the study of the internal organisation of the firm was better understood through the use of a more inductive methodology. In the *Oxford Economic Papers*, they commented:

> "Some subjects, such as the nature of managerial limitations to growth, lend themselves more readily to investigation by discussion than they do to other more elaborate techniques." (Richardson, Leyland, 1964: 1).

Their results mainly focused on the gains from growth and principally outlined as such: the reduction of costs with larger volumes of output, the maintenance of a predominant position on the marker, the desire of market control, the reduction of risks (especially market fluctuations, credit squeezes, and diversification of products).

Concluding Remarks

Overall, this second chapter has outlined three lines of results, which are helpful for the construction of the history of the theory of the firm, industrial economics and management studies in Oxford. In particular, this part of the research has dealt mainly with the interwar period and has shown that this stage of development in Oxford economics gave a new orientation to the institutionalisation and intellectual developments of the discipline.

Firstly, the 1920s are characterised by the first attempts towards the professionalisation of economics[177]. It is interesting to note that the impetus for this first line of developments came from teaching and more specifically, from the creation of Philosophy, Politics and Economics as an Honour School in 1921. The appointment of a series of young economists to satisfy the PPE teaching followed in the 1930s and led to a breakthrough with the traditional Oxford political economy (mainly studied from an economic history perspective until then) predominant during the beginning of the twentieth century. While the 1920s showed a rapid growth in economics, it did not represent significant progress in terms of the theory of the firm and industrial economics.

Then, this initial impetus gave rise to a more systematic institutionalisation of the discipline in the 1930s, especially with the establishment of the Economics Sub-Faculty and the Oxford Institute of Statistics. This significant institutionalisation coupled with the economic climate resulting from the financial and economic crisis suggested the need for more empirical studies to understand trade cycles, competition, growth and prices fluctuations[178]. From this perspective, the emergence of the Oxford Economists' Research Group in 1935 constituted a first step towards a new methodology, initially based on a response to Cambridge economics and the theory of imperfect competition, in particular. Supported by empirical investigations based on questionnaires and interviews with businessmen, this new tradition of research in Oxford was composed of teaching economists who had a special interest in the firm and its environment. The celebrated inquiries into the influence of interest rates upon investment and into pricing policies of

[177] It is interesting to remind here that this stage of professionalisation took place much earlier in Cambridge with the lead of Alfred Marshall.
[178] As showed in the chapter, this rapid process of institutionalisation was facilitated by the benefaction given by the Rockfeller Foundation.

firms created a new intellectual tradition and represented a significant contribution to economic theory at the time and for subsequent generations. While it has been shown that this Group cannot be seen as a uniform and homogenous group of researchers, possessing similar methodological and theoretical approaches to the firm, the Oxford Group was a good example of cooperative work between a new generation of economists. Regarding their theoretical and methodological contributions to the theory of the firm, through the meetings of this Group, Oxford economists were still looking towards the same direction, even if their individual views differed. Whatever their respective reasons were, they all underlined the necessity to inject empiricism into the theory of the firm. They introduced a novel kind of research to Oxford and paved the way for broader statistical studies, contributing to what Young and Lee called the "grounded empiricism" (1993: 119) in the theory of the firm. This series of Oxford contributions to the discipline was one of the first works based upon firm studies, in opposition to what had been done before, namely studies at the level of an industry looked at from a historical perspective.

To conclude, this chapter argued that the Oxford economists between the wars never managed to create a genuine School of Thought *per se*. The main reason for this is probably the heterogeneous nature of the research interests of economist at the time or perhaps a lack of real intellectual coherence and persistence. The creation of a School in terms of economic theory was increasingly set into the past, leaving big names, such as Smith, Ricardo, Marx and Marshall, as the genuine leaders of entire lines of thought. In either case - because Oxford economics had never been assimilated to a specific School of Thought in economics - its theoretical legacy regarding its contributions to the theory of the firm could appear limited or even unsuccessful. Nevertheless, this chapter has shown

that Oxford economists, through the establishment of their sub-faculty, the emergence of the Institute of Statistics and through the meetings of the OERG has indeed left a legacy. They created two seminal economic Journals[179] which are still considered influential. They also initiated a long controversy between the empiricists who based their theories on empirical generalisations and the proponents of the marginal analysis who explained the economic world by deductive systems[180]. A good example is to think about the influence and impact of Hall and Hitch's article - published in the *Oxford Economic Papers* – on some further developments of the theory of the firm. Various debates followed their contribution, especially Andrews's *Manufacturing Business* (1949) and Harrod's non-optimizing model in his *Economic Essays* (1952). The marginalists responded, especially Austin Robinson and Fritz Machlup, arguing that the full cost principle could be reconciled with marginalism and profit-maximization. Hence, although the full-cost principle had been contested, it did question the validity of the hitherto dominant marginal analysis through the publication of the *Oxford Economic Papers*, and opened the door to new empirical methodologies applied in the field of the theory of the firm.

[179] *Oxford Economic Papers* (1935) and the *Journal of Industrial Economics* (1952). The emergence of the JIE is analysed in chapter 3.
[180] A very detailed and interesting account of this controversy has been written by G.B. Richardson in April 2006 as a support of our first meeting.

CHAPTER 3 – Emergence and Early Developments of Industrial Economics

I. Institutional Developments in Economics After 1945
I.1. Nuffield College Post-War Reconstruction Survey and Courtauld Inquiry
I.2. The Establishment of the B.Phil. in Economics (1947)

II. Industrial Economics: The Process of Emergence (1947-1952)
II.1. Philip Walter Sawford Andrews and Elizabeth Brunner: Biographical Overview
II.2. Philip Andrews' Contribution to the Early Theory of the Firm: The Significance of *Manufacturing Business* (1949)

III. Industrial Economics: The Substantial Developments (1952-1968)
III.1. The Establishment of the *Journal of Industrial Economics* (1952)
III.2. The Weight of Industrial Economics in the Teaching Curriculum (1952-1968)
III.3. The Graduate Seminar in Economics of Industry (1957)

This chapter concludes the first part of the thesis and aims to describe the process of emergence, as well as the early development of industrial economics in Oxford. In particular, research shows that industrial economics in Oxford was mainly the product of one man, Philip Andrews and his assistant and colleague, Elizabeth Brunner[181]. Both fellows of Nuffield College, Andrews and Brunner started their intellectual partnership during the Nuffield College Reconstruction Survey which, initially, was an inquiry commissioned by the British Government to study the location of industry and distribution of population in the post-war economic and social climate. Andrews and Brunner's view of industrial economics was based upon the Marshallian tradition (earlier used by David MacGregor to develop his own theory), and saw economics to be both a theoretical and an applied science. Consequently, the need for empirical content and practical information concerning the firm and industry studied by the economist appeared to be a necessary condition to develop industrial economics. Andrews and Brunner argued that the concept of industry could be acceptable only if it emerged from a natural extension of the theory of the firm, and therefore aimed to link the economics of industry with the theory of the individual business. Their methodology, which will be described in this chapter, was often contested by 'mainstream' economists in Oxford, who adopted a marginalist interpretation of the Marshallian theory of the firm. This was the case of Sir John Hicks[182], for instance, with whom Andrews was in dispute before he and Elizabeth Brunner left Oxford for Lancaster in 1968. Beyond the development of an existing theory of prices, mainly initiated by the Oxford Economists'

[181] Extracts of this fourth chapter have been published as a chapter for a book entitled *Marshall, Marshallians and Industrial Economics* (Routledge Studies in the History of Economics), edited by Tiziano Raffaelli, Tamotsu Nishizawa and Simon Cook (2011).
[182] For further details about Hicks on the firm, see chapter 5.

Research Group[183] in the 1930s, the development of industrial economics in Oxford also revived an old controversy about the concept of the firm in economic theory, first raised by Marshall's *Principles of Economics* half a century earlier. In Oxford, this controversy divided two sides: one side argued that firms sought to maximise profits under normal circumstances (when price equalled marginal revenue and marginal cost). The other side instead claimed that firms priced a product at its "full unit cost" (costs added to margins). While the first side based its theoretical developments on the theory of rational choice; the second used empirical tools to show business reality.

Consequently, this chapter is composed of three parts. First, it seeks to provide a general background of post-war institutional developments which took place in economics in Oxford. One of the major landmarks for the discipline was the establishment of Nuffield College – which although created in 1937, did not really come into existence until 1945, mainly because of architectural-based issues. In particular, the College, which aimed to promote social science in Oxford, became involved with the Social Reconstruction Survey (1941) and with the Courtauld Inquiry (1943) which both used empirical methods to study issues relating to firms and industries. The establishment of the B.Phil. in Economics in 1947 also paved the way for further seminars and research activities in industrial economics. Second, the chapter aims to provide a detailed account of Andrews and Brunner's contribution to the emergence of industrial economics through the study of their lives, works and interactions with other Oxford economists. The third and final section aims to analyse substantial developments in industrial economics between 1952 and 1968. Specifically, the publication of the *Journal of Industrial Economics* in 1952, the increase in the number of lectures in industrial economics and the

[183] For further details about the Group, see last section of chapter 2.

activities of the graduate seminar in industrial economics were all evidence of the new found importance and popularity of the discipline in Oxford.

As in the previous two chapters, this part of the thesis combines different sources, mixing original material from Andrews and Brunner's archives at the LSE, and David Stout's personal archives; mainly used in regard to the Seminar in the Economics of Industry.

I. Institutional Developments in Economics After 1945

Inevitably, the outbreak of war in 1939 transformed economic research in Oxford and provided some new war-related research topics to the Oxford Institute of Statistics and the Oxford Economists' Research Group[184]. This new range of issues soon became institutionally based and gave rise to new developments within the University. The following section scrutinises three of these developments, namely the Nuffield College Post-War Reconstruction Survey (1941-1944), the Courtauld Inquiry (1943-1947) and the establishment of the B.Phil. in Economics (1947).

I.1. Nuffield College Post-War Reconstruction Survey and Courtauld Inquiry

In 1937, the philanthropist, Lord Nuffield, expressed his desire to fund the creation of a new post-graduate residential College in Oxford which would be devoted to the study of engineering and to the study of accountancy, as a specific branch of business studies[185]. However, it soon appeared that Lord Nuffield's generous offer of £900,000 to build a College in the Western area of Oxford city centre was not agreeable to the University

[184] The shift of the OERG's research inquiries after the war has been scrutinised in chapter 2. See in particular, section two, part one.

[185] William Richard Morris (1877-1963) was the founder of the Morris Motor Company. He became Baron Nuffield in 1934 and was made a viscount in 1938. The Nuffield Foundation, he established in 1943, sought to advance education and social welfare. For further details about his life, see Andrews and Brunner's commissioned biography of him published in 1955.

authorities[186]. Hence, while the form of the offer proposed by Lord Nuffield did not match the University's desire, it was still received as a major opportunity to provide some coherence within social studies in Oxford. Two weeks later, the potential offer was discussed between Alexander Dunlop Lindsay (Vice-Chancellor of the University, Professor of Philosophy and Master of Balliol College) and the economist William Beveridge (at the time, Master of University College), the latter clearly disapproving the idea of Lord Nuffield's project, on the grounds that it was not sensible to focus exclusively on research in social studies (Taylor, 2008)[187]. Not convinced by Beveridge's argument, Lindsay claimed that academics and businessmen should get closer to do relevant research in the discipline and that should be acquired

> "[...] by using the opportunities for intimate talk, discussion and understanding which an Oxford college can give. The coping stone of the scheme which we have been trying to work out would be a college of post graduate studies, especially devoted to the facts and problems of contemporary society" (Taylor, 2008: 23).

Eventually, Lindsay convinced Lord Nuffield to fund a College in social studies, rather than in engineering, as he initially planned[188].

In May 1940, the Warden of the College, Harold Butler proposed to the college committee to contribute to the problems of post-war economic and social

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[186] At the time, Alexander Dunlop Lindsay (1879-1952), later Baron Lindsay, was Vice-Chancellor of the University and Master of Balliol. His time as a Vice-Chancellor is often remembered as a powerful partnership with Douglas Veale, the then University Registrar. These years, as mentioned in the *History of the University of Oxford*, "made much progress with resolving disputes about allocating space within the science area, diverted unused university funds to laboratory building, launched Lord Nuffield's scheme for promoting clinical medical research in Oxford, and built a similar bridge between theory and practice in social studies by setting up Nuffield College" (Harrison, 1994: 691)

[187] William Henry Beveridge (1879-1963), later 1st Baron Beveridge, was a British economist and social reformer. He is probably best known today for his report (The *Beveridge Report*) which served as the basis for the post-war welfare state put in place by the labour government.

[188] This is evidenced by Lord Nuffield's formal proposal to the Hebdomadal Council on 8 October 1937: "[...] I have been wondering during the past year whether there is any way to bridge the separation between the theoretical students of contemporary civilisation and the men responsible for carrying it on; between the economist, the political theorist, the student of government and administration on the one hand and on the other hand the businessman, the politician, the civil servant and the local government official, not to mention the ordinary every day man and woman".

reconstruction[189]. At this stage, Cole[190] and Lindsay (also members of the Committee) suggested that Butler's research project was too focused on a post-war context, and should, rather (in order to match the College's aim to resolve contemporary issues in society) deal with the changes concurrently taking place in the economy, such as the effects of the redistribution of population. During the following months, Cole and Lindsay were in search for government financial support for their project and, eventually, in April 1941, with Government support and under Cole's enthusiastic direction, the survey soon began to expand its scope and included an inquiry into the post-war economic and social prospects of the main industrial regions of Great-Britain (Young, Lee, 1993: 142)[191].

Over the next two years, Cole invested the majority of his time and energy in this survey whose purpose was soon being criticised by the University's senior authorities and by some of his Nuffield colleagues[192]. In particular, in Hilary Term 1943, the Nuffield Committee started to question the practicality of the Survey and appointed a committee composed of A.L. Bowley, G.N. Clark and D.H. MacGregor to [...][193]

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[189] Sir Harold Butler (1883-1951) obtained a First class degree in *literae humaniores* from Balliol College. In 1905, he was elected a fellow of All Souls College. He entered the local Government Board in 1907, transferring to the home office the following year. According to his entry in the *Oxford Dictionary of National Biography*, "he showed himself to be a man of vision, but not a visionary: a Conservative with strong Labour sympathies and a man of deep-rooted principle". He was Warden of Nuffield College between 1938 and 1943.

[190] George Douglas Howard Cole (1889-1959) was a social scientist who contributed to political as well as economic theory. In particular, he was known as a libertarian socialist, member of the Fabian Society and defender of the cooperative movement.

[191] By June 1941, the other members of the committee were (Chester, 1986: 93-95): A. Lindsay, Miss Grier, Professors A.G.B. Fisher, D.H. MacGregor, G.N. Clark, A.L. Bowley, R.C.K. Ensor, Agnes Headlam-Morley, C.H. Wilson, C.S. Orwin, Margery Perham, Montagu Harris and Patrick Abercrombie. Cole's report for 1941-1942 shows a total of 26 full-time staff.

[192] Chancellor Douglas Veale commented at this stage : "I have come to the conclusion that what is wrong with the survey is that it does not carry the fundamental idea of a College. It is a one-sided one-man production such as would be more appropriate to say a department of economics than a college" (Veale in Taylor, 2008: 46).

[193] In relation to chapter 2, it is worth to note here that David MacGregor was still very much active in these committees, which took place, after his wife's death in 1940.

> "[...] consider the material accumulated by the Survey and to report on the practicability and value of publishing those parts to the publication of which no objection could be raised on the grounds of secrecy" (Chester, 1986: 102)

In reaction to the memorandum, Cole did not believe the charges to be justified but argued that if they were, he would not retain his position as Director of the Survey. After being informed that the 'MacGregor's Committee' appreciated the value of his work, Cole agreed to remain the Director of the Survey, but not later than January 1944[194].

The 'failure' of the Social Reconstruction Survey did not help the promotion of social studies in Oxford. Shortly before Cole's resignation in 1944, he received a letter in March 1943 from Samuel Courtauld, visiting fellow at Nuffield College and wealthy textile industrialist, expressing his doubts about the dictum 'bigger is better'[195]. In particular, he wrote:

> "[...] because I want to break down the barriers between urban and rural life, and see the country unified again and partly because I believe that the biggest evil of modern industrial development is the progressive loss of personal touch – and with it of the feeling of mutual responsibility – between the owner and the worker" (in Young, Lee, 1993: 147)

From this perspective, Courtauld offered to partially finance an investigation which would aim to collect evidence among firms and their accountants, on the issue of the growth of firms, for a few years[196]. On 3 April 1943, Cole invited Courtauld to a meeting also

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[194] This episode in the history of Nuffield College exemplified Lord Nuffield's dissatisfaction which already existed due to architectural issues before the war. Minutes of a meeting at Nuffield College mentioned: "Rumours had come to his ears to the effect that Lord Nuffield now regretted this decision and it was known that Lord Nuffield felt serious misgivings about the Social Reconstruction Survey" (in Chester, 1986: 104).

[195] Samuel Courtauld (1876-1947) was an industrialist (great nephew of textile magnate Samuel Courtauld) who is best remembered as an art collector. According to Taylor (2008: 51), he "built up his family's textile business through a policy of financial prudence and socially-responsible management. He was more than just a successful industrialist. Courtauld played an active part in public life and he pressed for a greater role for the state in the macro-management of the economy. He also took a more sympathetic attitude than most other employers of his generation to the needs and demands of both workers and trade unions".

[196] Interestingly, this commissioned inquiry shared similarities with the methods used by the OERG at this time of its development. For further details, see in particular, section two of chapter 2.

attended by MacGregor, Harrod, A. Bowley, Andrews and Silverman. At the end of the meeting, it was decided that a six-month pilot investigation should be undertaken[197]. This has become known as the "Courtauld Inquiry" and was placed under a special committee called the "Courtauld Committee" within the Nuffield College Committee[198]. As the next section will show, Andrews' role in this inquiry had a significant impact on his further research developments. At the time, he was 29 years old and in addition to his contribution to the Reconstruction Survey, he also became in charge of the statistical and accounting aspects of the Courtauld Inquiry. The theoretical investigation – concerned with the optimum size of a firm – was conducted by Joseph Steindl[199], J.R.L. Schneider and A. Bowley who were all located in the Oxford Institute of Statistics.

In May 1944, the first report of the newly formed committee was sent to Courtauld who particularly liked the statistical investigation conducted by Andrews, "because it dealt with Courtauld's data obtained from the [Courtauld] accountants" (*Ibid.*: 149). As a result, Henry Clay, who was at this stage Warden of Nuffield, agreed with Courtauld that Andrews would pursue his statistical investigation. The latter went one step further

[197] In particular, a summary of the meeting drafted by Cole indicated the purpose of the investigation as follows (Cole, in Young, Lee, 1993: 148): "(a) analyse the theoretical material bearing on the optimum sizes of plants and business units, including a digest of the more important contributions; (b) review the factual material available from studies made in Great-Britain or elsewhere, particularly in the United-States; and (c) to draw up a list of questions to be addressed to Messrs Courtauld's accountant, to be followed up by an analysis on agreed lines of the costs of the firm, from the standpoint of the economies of size of plant and business organisation".

[198] Archival documents about this enquiry can be found in the Andrews and Brunner's archives. See. in particular, Box 056 (which contains an interesting note on relative efficiency of small and big businesses), Box 058 (which contains some paper cuts about big and small business), Box 060 (which contains a report to the Courtauld Committee written by Philip Andrews in 1945) and Box 063.

[199] To a large extent, this theoretical investigation was the roots of Steindl's *Small and Big Business: Economic Problems of the Size of Firms*, published in 1945, which was the first monograph of the Oxford Institute of Statistics. Interestingly, it is reported that because Courtauld and Cole disagreed with his method and analysis, the book was published without acknowledging the Courtauld Inquiry (Young, Lee, 1993: 150). The book combined a theoretical and statistical approach to the economic problems of the size of firms (Florence, 1946: 472).

proposing to Clay and Courtaulds to expand his study to the clothing and shoe industries. Henry Clay agreed:

> "The study of rayon was followed by a similar study of certain branches of the boot and shoe industry. A general survey of the section selected was made, and this served as the basis for an intensive examination, in the light of actual accounts, of the practice and experience of a dozen representative firms. It is hoped that it will be possible to publish the results of this work; but its primary purpose and value was to provide more material for a general study of the Economics of the Firm, suggested already by the rayon investigation" (Clay, 1949: viii).

Over the next two years, Andrews, along with the help of the Oxford Institute of Statistics, carried out this additional investigation with the assistance of his collaborator Elizabeth Brunner. Although Courtauld died in 1947, the funding went on until 1949 and led Andrews to publish his results in *Manufacturing Business*.

I.1. The Establishment of the B.Phil. in Economics (1947)

In February 1945, the Social Studies Board made a series of new recommendations regarding the PPE Honour School[200]. Among those, one was recommending:

> "[...] the institution of a postgraduate course for each of the three subjects of the School leading possibly to a Bachelor of Philosophy (B.Phil.)" (*Minutes of the Social Studies Board*, 1945, (2): 221).

In June 1946, Professor H.J. Paton, Chairman of the Board, wrote about his "long considered attempt to meet a pressing need". In particular, he claimed that there were:

> "[...] widespread complaints that while our Honour Schools have an outstanding reputation, our postgraduate degrees leave much to be desired" (Paton, in Chester, 1986: 163).

In fact, although the D.Phil. (Doctor of Philosophy) degree was introduced in Oxford after WWI, it was the only option (with the Bachelor of Letters) open to those wishing to do

[200] At this stage, the Board was composed of Professor H.J. Paton (Chairman of the Board), Professor H.H. Price, and D.M. MacKinnon (philosophy); Professor Cole and R.B. McCallum (politics) and D.H. Henderson and R.L. Hall (economics) (Chester, 1986: 161).

advanced work in philosophy, politics or economics[201]. Hence, it was felt that the lack of an intermediary post-graduate degree based on coursework was discouraging American students to come and study in Oxford after their first degree. Moreover, the idea of embarking on a thesis immediately after taking his first degree was not the most adequate form of educational development. To a large extent, the Oxford tradition to put the major emphasis on undergraduate courses (especially based on tutorials) was also slowing down the development of postgraduate studies in Oxford, relatively to other universities.

Eventually then, after some opposition, the Statute was approved by Convocation in November 1946 and the postgraduate degree was first examined in June 1948. According to the examination regulations (MT 1953 – TT 1957), the papers and the requirements for economics were as follows:

- Two papers on general economics
- Two papers selected from the following:
    a. Statistics. Theory and Economic Application.
    b. History of Economic Thought before 1914.
    c. Economic Development between 1815 and 1914.
    d. Economic Development between 1919 and 1939.
    e. Economic functions of Government
    f. International Economics

Figure 1 – Requirements for candidates reading for the B.Phil. in Economics (1953-1957)

Candidates for the B.Phil. in Economics were free to replace one of the two papers in (2) by a thesis not exceeding 30,000 words. From this perspective, it was agreed that Nuffield College and the Oxford Institute of Statistics (both exclusively dealing with postgraduate research work) would have to play a significant part in the development of the B.Phil. in Economics.

[201] The B.Litt. (Bachelor of Letters) was also awarded on a thesis usually after two years of postgraduate research.

The introduction of the B.Phil. in Economics was a significant landmark in the development of the University. Until then, D.Phil. students in economics were immediately starting their thesis after the completion of their first PPE degree – which was not specialised in this specific discipline. Therefore, a notable lack of techniques, increasingly required in the new research context, prevented them from developing original research in economics. On this matter, John Hicks had his own view which is reported by Chester:

> "As Professor John Hicks explained [...], candidates for a D.Phil. in Economics usually chose a topic in what might be called contemporary economic history and wrote up an analytical account of a certain series of events. The Sub-Faculty did not wish to discourage theses of this sort but there was place for work which would be 'scientific' in character rather than historical'. Such work would consist in the elaboration of methods and in the application of these methods to problems to which the methods were appropriate. Those who came to do postgraduate work in Economics were not ready to do analytical work of that sort. 'They do not know enough technique'." (Chester, 1986: 168-169).

The introduction of the new B.Phil. was a success: in 1950, there were 4 candidates and by 1970, the number had risen to 17. Over the years, additional seminars were added to the possible options in the B.Phil. and the taught content became increasingly technical. In Hilary Term 1952, in addition to the initial list of courses (see above), two new courses were offered, namely "Introduction to Econometrics" (taught by Mr. Ross and Mr. Winsten) and "Economics of the Long-Run" (taught by Mr Myint). Interestingly, although Hicks' requirement for technical and non-historical courses, a course in "English Economic History" (taught by Professor Habakkuk) was introduced in Trinity Term 1953. However, a B.Phil. student in economics had no possibility to acquire advanced knowledge in industrial economics, until Michaelmas Term 1956 when the course in

"Applied Economics" was divided in two: "Economics of Industry" (taught by 'Andrews and others') and "National Policy" (taught by Miss Ady, Mr. Balogh and Mr. Streeten).[202]

II. Industrial Economics: The Process of Emergence (1947-1952)

As outlined in the introduction, the emergence of, and the shape given to, industrial economics in Oxford was mainly the enterprise of one man, Philip Andrews, and of his assistant, Elizabeth Brunner. Both took part in the Nuffield College Reconstruction Survey and in the Courtauld Inquiry, as well as being members of the OERG. These institutional involvements reflected the importance of the empirical side of the discipline, in their view. Therefore, this section first contextualises their work and provides some elementary biographical elements. Second, the roots of Oxford industrial economics before its formal establishment in 1952 with the first publication of the *Journal of Industrial Economics* are scrutinised through the study of Andrews' (and Brunner's) work.

II.1. Philip Walter Sawford Andrews and Elizabeth Brunner: Biographical Overview

Philip Andrews' life is reconstructed from an original document 'Agenda to Confidential Curriculum Vitae for the Times (1963)', dated of 8 December 1966[203] and from obituaries of him written by Tom Wilson, Roy Harrod, Philip Sargant Florence and Michael Farrell and published in 1971 in the *Journal of Industrial Economics*. Elizabeth Brunner, who was less famous than her collaborator, did not leave any personal archives when she died in 1983. Therefore, her biography is based on personal recollections gathered during my interviews and other archival material which will be referenced throughout the following section as it is discussed.

[202] A detailed historical analysis of the emergence of the B.Phil. seminar in Economics of Industry is provided in section three of this chapter.
[203] This document was given to me by Professor F.S. Lee in 2006.

- **Philip Walter Sawford Andrews (1914-1971)**

Philip Walter Sawford Andrews was born on 12th March 1914, at Southampton. His father, Frederick Walter Andrews was an ex able seaman and retired as chief inspector in the traffic department of Southampton Docks. He graduated from University College in Southampton which, at the time, awarded degrees by the University of London[204]. Andrews obtained a Second Class Honours external degree with economics as special subject. In 1934, his award of a 'memorial research scholarship' led him to become an assistant lecturer in economics at University College in Southampton only for the following academic year, when, in 1936 he was made honorary organiser and tutor at the Workers' Educational Association[205]. The results of the research he conducted at Southampton appeared in his first article "Post-War Public Companies: A Study in Investment and Enterprise", published in the *Economic Journal* (Andrews, 1937)[206]. On 27th July 1936, he married Mary Hawes (daughter of William Thomas Hawes, a master plumber) with whom he had two sons: John Timothy Sawford (born 20th March 1938, and read chemistry at New College, Oxford) and Gregory Norbert (born 30th May 1940, read modern history at New College, Oxford).

In 1937, Philip Andrews moved to Oxford where he became involved with the Oxford Economist's Research Group, then recently created[207]. Roy Harrod remembered:

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[204] The University of Southampton received its full University status in April 1952.

[205] The Workers' Educational Association provides adult education in community and workplace settings. It provides education for all types of people and was set up in Belfast in 1910. The Association still exists today.

[206] The article mentioned the financial assistance made from the Research funds of University College, Southampton (Andrews, 1937: 510).

[207] Andrews mentioned "This was for work on company accounts under the aegis of the Oxford Economists' Research Group, and particularly E.H. Phelps Brown. Suspended in 1939, the material being taken over by Dr. R.S. Hope after the War)" (Andrews, 1966, Agenda to Confidential Curriculum Vitae for the Times (1963), page 2)

> "I was very fond of Philip Andrews. As soon as he arrived in Oxford from Southampton we made him secretary of the Economists' Research Group. [...] Philip Andrews got his original inspiration from the group, but in due course carried on work of his own on a far more extensive scale." (Harrod, 1971: 6)

Whilst working as a member of the Group, Andrews also became part of the Oxford Institute of Statistics where he researched on war reconstruction problems. In May 1940, he registered as a conscientious objector to military service which enabled him to remain in Oxford during the War and to pursue his ongoing research. As already stressed in the previous section, between 1941 and 1946, he was appointed 'statistician' in Nuffield College, for both Nuffield College Social Reconstruction Survey and Courtauld Inquiry. At the same time, he was also appointed Lecturer in economics at New College between 1941 and 1948 (where he was in charge of economics tuition until the return from war service of Professor Phelps Brown). In 1944, he was awarded his M.A. in Economics 'by Decree of Congregation'. As a result of his active involvement within the Oxford Economists' Research Group, he became honorary secretary of the *Oxford Economics Papers* between 1940 and 1952[208]. Thomas Wilson who was also in the Editorial Board of the Journal recalled:

> "Philip's enthusiasm was unflagging and his energy inexhaustible. He was [...] ready to devote unlimited effort to the exacting labour of producing the journal without the kind of secretarial assistance which would nowadays be taken for granted. Philip had a strong sense of continuity. He was anxious to ensure that the lines of research, both empirical and theoretical, with which he had been associated should be carried forward and he became the leading member of the Oxford Economists' Research Group." (Wilson, 1971: 3).

At this stage of his career, Philip Andrews had already expressed his interests in the theory of the firm and in the study of industries. His method of inquiry in economics was based on the one developed by the OERG and he always felt vey much concerned with the

[208] Philip Andrews was also member of the Editorial Board of the journal between 1948 and 1952.

necessity of field work to reach results in his research. On this specific matter, Roy Harrod claimed that:

> "He did field work in a great number of business firms. There was a time after the war when it appeared to me that he had a far more intimate and exact knowledge of the economics of business decisions from the inside than any other British economist at that date." (Harrod, 1971: 6)

Hence, according to the above quotation, Philip Andrews was seen as an applied economist. While Roy Harrod was rather impressed with his industrial knowledge, some other economists were much more critical about his method of investigation and the main assumptions supporting his theoretical framework[209]. In his history of Nuffield College (2008), Robert Taylor after having interviewed Christopher Bliss commented[210]:

> "Andrews was concerned with the economics of the private firm, which was rather an unfashionable interest in the 1960s. "He believed in listening to businessmen and taking what they said seriously", writes Bliss. "It is a potentially fruitful route but one littered with traps. The economist must absorb every scrap of information that his respondents offer him but never "go native"." (Taylor, 2008: 113-114).

Andrews' involvement with the OERG and his publication of *Manufacturing Business* in 1949 evidenced his critical position regarding the marginal theory of the firm. This position in economics was clearly not the most mainstream at the time. As argued in chapter one, the marginalist interpretation of Marshall by Pigou and his colleagues in Cambridge paved the way for a more general trend towards this theoretical view of economics of the firm which made Andrews become a rather isolated figure in Oxford. Thomas Wilson, who co-edited with him *Oxford Studies in the Price Mechanism* in 1951, remarked:

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[209] For further details about his methods and his theoretical developments, see his contribution to industrial economics in the next sub-section.

[210] Born in 1940, Christopher Bliss was a lecturer at Cambridge University between 1966 and 1971. He then became Professor of Economics at the University of Essex (1971-1977) from where he moved to Oxford in 1977 to take a position as reader in international economics at Nuffield College.

> "We were both becoming increasingly critical of the marginal theory of the firm. I had already published an attack on the application of the marginal cost rule to the running of nationalized industries but he was to launch an assault along the whole front. [...] These views were not well received. Philip was advised to confine his attention to an empirical description of particular industries and I was advised to stick to the trade cycle!" (Wilson, 1971: 4)[211]

However, Andrews, who was perceived by some colleagues as "irascible and difficult" (Taylor, 2008: 113), was not ready to give up his position and continued his critical developments over the following years until his departure to Lancaster University in 1968. According to Philip Sargant Florence:

> "He was not content with mere description or vague generalization but connected up behaviour with particular situations. Resisting the temptation – and it is a strong temptation – to stay at home absorbed in speculation, however rational-seeming, he sought out the business community to enquire into their attitudes and springs of action. Empirical, no doubt, but his mingling of enquiry and observation of facts with thought was just what I felt industrial economics required, and still feel today that it requires. Theory is valuable and some of it necessary, but field work such as Andrews carried out is scarce and its marginal utility is relatively high." (Florence, 1971: 8).

As a teacher, Philip Andrews was more concerned with graduate students. In 1951, he was appointed University lecturer in economics at Oxford and more or less gave up undergraduate teaching[212]. The establishment of his graduate seminar in the economics of industry exemplified this and evidenced his interests in linking economic theory with business experience[213]. During his years in Oxford, Andrews published a series of journal articles and some books (including business history)[214]. However, by the end of the 1960s,

[211] Interestingly, Wilson pursued: "Philip was a very sensitive man and I suppose he was in some ways immature. He should not perhaps have been surprised by this impenetrable attitude to new ideas and he should no doubt have recognized that a long, patient and carefully conducted campaign would be necessary." (Wilson, 1971: 4)
[212] This is evidenced by a list of lectures gathered between 1952 and 1968 in the *Oxford University Gazette.*
[213] Thomas Wilson also commented on his colleague as a teacher. He said: "Philip was a first-class teacher and was always ready to take infinite pains with his graduate students, some of whom were later to make distinguished contributions in this field." (Wilson, 1971: 4).
[214] Further details about his contribution to economic theory will be provided in the next section.

his position among Oxford economists became increasingly difficult. Christopher Bliss recalled that

> "[...] his somewhat isolated position owed more to a certain awkwardness of character and to poor communication than to weakness in his work". (Bliss in Taylor, 2008 : 113-114).

Although Roy Harrod remembered Andrews' difficulties to gather with Oxford economists, he personally also [...]

> "[...] found him an easy person to work with. Philip had certain problems in Oxford, which he used to discuss with me at some length. The time is not ripe for a reference to all that was involved. Perhaps it never will be and the matter may be allowed to pass into oblivion. For my own part, I should like to say that I had much sympathy with Philip's point of view, and was deeply grieved that in his later years at Oxford he was not spared these difficulties, which ought not to have proved insoluble." (Harrod, 1971: 7)

Andrews moved to Lancaster in 1968 and died after a long illness in 1971.

- **Elizabeth Brunner (1920-1983)**

Elizabeth Brunner was born in 1920. In the absence of archived private papers, it has been difficult to discover much about her youth and background. I had some contacts in Oxford[215] and at Lancaster University[216], to which she moved together with Philip Andrews at the end of the 1960s and where she stayed for the rest of her academic life. Nevertheless, her contacts and colleagues knew little about her. Even Hugo Brunner (her cousin and Lieutnant of Oxfordshire) and John Brunner (an Australian cousin) only met her twice (during the 1950s)[217]. It may, however, be relevant to know that Elizabeth was comfortably placed as a member of one of the families that founded the Brunner Mond

[215] I have first contacted Dr. David Butler (fellow at Nuffield College, Oxford), who was a pupil of Andrews at New College and who knew Elizabeth and Philip for 20 years at Nuffield. I have also contacted Dr. David Stout (honorary research fellow at University College London) who worked with Philip and Elizabeth at Nuffield College from 1958 to 1976. Finally, I met Joy Withby in London, who was the research secretary of Philip and Elizabeth at Nuffield College, during the year 1953.
[216] I also got in touch with Oliver Westall (Senior Lecturer in Economics, Lancaster University) who knew Elizabeth in Lancaster from 1969 until her death and who was her executor.
[217] These comments are supported by an exchange of e-mails with both John and Hugo Brunner.

concern[218]. For this reason, she was asked in 1982 to referee the Sir John Tomlinson Brunner's entry for the *Dictionary of Business Biography*. According to the *Oxford University Calendar*, her year of matriculation as an undergraduate student at the University of Oxford was 1938. A student at St-Anne's College, she initially was an Oxford Home Student[219]. Her first degree was in English Literature. She did not, therefore, have any formal background in economics when she became a member of the Nuffield College Post-War reconstruction Survey group in 1942. She started working as the assistant- collaborator of Philip Andrews in 1944. Then, in 1948 she became a member of two colleges, namely St Anne's and Nuffield[220]. It was the beginning of an intellectual partnership that lasted until 1971, the year of Philip Andrews' death. In his obituary for Elizabeth Brunner, Wilson remarks:

> "Together they made a good team. Philip was imaginative and creative, immensely vigorous but also impatient and unruly. Although by no means lacking – need it be said – in the capacity for imaginative insight Elizabeth had a more disciplined approach. Moreover she saw the need to compare the normal cost approach as clearly and explicitly as possible with approaches along more conventional lines and to translate, where appropriate, from one language into the other. Her article in *Economia Internazionale* (1952) was a beginning." (Wilson, 1983: ii)

To use Wilson's word, Elizabeth Brunner was also the 'rapporteur' of the Oxford Economists' Research Group. The development of industrial economics in those post-war days motivated Andrews and Brunner to create their own journal in 1952, The *Journal of Industrial Economics*. Editorial assistant at the beginning, and then assistant director, Elizabeth Brunner became general editor in 1971.

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[218] Brunner, Sir John Tomlinson (1842-1919) was one of EB grandfather's brothers. By the late 1860's, Brunner started a partnership with Mond. The Brunner Mond firm's main product was soda ash, soda crystals, bicarbonate and caustic soda. The company profits rose rapidly (from £30,000 in 1881 to £778,472 in 1907). For further details on the evolution of Brunner, Mond & Co., see Watts, 1923.

[219] OHS: The Oxford Home Students were from 1879 to 1893 under the supervision of the Secretary of the Association for promoting the education of women in Oxford. This Society grew out of the Association for Education for Women, which was the origin of women members of the University. Women were first admitted to degrees in 1920 and the Delegacy for Oxford Home Students was as constituted in 1921. In fact, what is now St Anne's College began life as part of the "Association for the Education of Women", the first institution in Oxford to allow for the education of women, then later the "Oxford Home Students Society". In 1942 it became the "St Anne's Society", and received a university charter to be founded as a women-only college in 1952. St Anne's become coeducational in 1979.

[220] Evidence supported by *Oxford Economic Calendar*, year: 1948.

As regards her teaching career, she was an economics tutor at St. Hugh's from 1946 to 1957. Her position at Nuffield College was very precarious. Andrews himself struggled, ultimately unsuccessfully, to maintain his highly contested academic position in Oxford. He fell out with Nuffield College[221] or more precisely John Hicks. It is said that part of the problem was that Nuffield never thought it advantageous to appoint Elizabeth to a permanent post.

They both decided to move to Lancaster University at the end of the 1960s. She was a fine teacher, and this illuminates another aspect of her contribution. She could clarify Andrews' work and made it more accessible to a wider audience. She took over as Head of Department on two occasions. According to Oliver Westall, she was a "careful, caring and conscientious Head of Department here (in Lancaster University)"[222]. Wilson adds that "she made sure that she was always available to her pupils or any young colleagues who were in search of guidance and advice" (Wilson, 1983: iv). Today, her substantial contribution is very often forgotten, perhaps partly because she seems to have been a very shy person: "She spoke very little, always gently and quietly"[223].

All the Andrews-Brunner papers are now located in the LSE archives. No evidence remains of her time at Nuffield College or her stay in Oxford. It was not even possible to find any traces of her being paid by Nuffield College for the period of her appointment. That is, Nuffield College's personal records have not kept any trace of her stay.

As noted, it is extremely difficult to distinguish Brunner's work from that of Andrews, even if she made major contributions to several of his books[224]. Elizabeth Brunner herself commented on this fact to Juli Irving-Lessman, an Australian economics Ph.D. student whom she had in 1975 at Lancaster University: "Some of the things quoted

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[221] Interview with Maurice F. Scott in Nuffield, June 2004.
[222] Interview with Oliver Westall, March 2004.
[223] Interview with David Stout, March 2004.
[224] For instance, Elizabeth wrote most of *Studies in Pricing*, which appeared after Philip's death – though significantly she gave him joint authorship (Andrews P.W.S. and Brunner E., *Studies in Pricing*, 1975). She also contributed substantially to the book of 1952 (Andrews P.W.S. and Brunner E, *Capital Development in Steel: A Study of the United Steel Companies*, 1952)

as "Andrews" were in fact written by me. I can quite see how this happened"[225] and she went on to suggest that Juli include some remarks in her doctoral thesis to the effect that she was unable to distinguish authorship presumably in the publications jointly authored by Elizabeth Brunner and Philip Andrews. To a large extent Andrews recognised her precious help and in the introduction of his last book *On Competition in Economic Theory*, he stated:

> "I should like to end, however, with special thanks to Elizabeth Brunner, who has been my colleague in practically all the studies of businesses which have underlain my theoretical work, and with whom, of course, I have had many discussions of the economic theory of our field of study" (Andrews, 1964: 10).

The bulk of her co-writing with Andrews took place in the postwar period. Brunner's main contribution has been to develop a theory of normal prices, including two articles she wrote on her own, published in the Italian journal *Economia Internazionale* (1952), and in the French *Revue d'Economie Politique* (1967), respectively.

II.2. Philip Andrews' Contribution to the Early Theory of the Firm: The Significance of *Manufacturing Business* (1949)

This sub-section focuses on the theoretical content of Andrews' work before industrial economics was formally established with the first publication of the *Journal of Industrial economics*, in 1952. Consequently, only two of Andrews' publications are considered here: *Oxford Studies in Price Mechanism* (co-edited with Thomas Wilson, in 1951) and *Manufacturing Business* (published in 1949). However, this section focuses on the latter; since the former mainly expressed the pre-war activity organised around the contribution of Hall and Hitch, as it is a series of papers written before the War in the context of the OERG, already presented in chapter two.

The purpose of *Manufacturing Business* is explicitly stated by Andrews. To him, the

[225] Personal correspondence with Juli Irving-Lessman, August 2004.

book is directly concerned with the theory of the firm since its objective

> "[...] is to develop the pattern of ideas which seems most useful for the study of businesses engaged in manufacturing industry. The analysis will necessarily be made in as simple a form as possible, since a general theory which is not simple is useless, and it is necessary to concentrate on the essential factors which are common to all manufacturing businesses, as such" (Andrews, 1949: 251).

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 (presented in chapter one) and was, on the other hand, to a large extent a continuation of the famous Hall and Hitch empirical developments published in 1939 (presented in chapter two). The cost controversies questioned the theoretical meaning of Marshall's work, and especially Pigou's specific interpretation of it. Hall and Hitch, however, followed a more empirical critique and sought to demonstrate that the assumption of short run profit maximization which underlined Pigou's interpretation, clearly contradicted the pricing practices of businessmen. They exposed the famous 'full-cost principle', which emerged from one of the first enquiries into actual business practice made by theorists.

In addition to this theoretical background, it is relevant to recall that *Manufacturing Business* empirically emerged from the initial inquiry set by Samuel Courtauld in 1943, who was willing to provide a better understanding of the growth and size of the firm. Hence, the book was also an attempt to provide some 'practical' tools and empirical evidence of the few existing theories on the internal organization of the firm. On this matter, Henry Clay, who prefaced the book, and who was then, Warden of Nuffield College noted:

> "It should interest businessmen to see how they look from outside to an independent student concerned only to understand their place and function in the present economic system" (Clay, 1949: viii-ix).

At this occasion, Andrews made clear his theoretical inspiration:

> "This mention of a wider experience gives me an opportunity to pay a tribute to a major element in my education as an industrial economist – my association with the pre war Oxford Economists' Research Group [...]. It was the work of this Research Group that developed so strongly the conviction that the behaviour of business men was consistent, and that, accordingly, even though, on many points, it might not seem directly explicable by generally accepted economic theory, there was hope that one would arrive at a consistent theory by studying individual businesses". (Andrews, 1949: xv).

In *Manufacturing Business*, Andrews presented an essentially Marshallian analysis both in his conclusions and methodology. Also, in accordance with Marshall's empirical and inductive preoccupations, Andrews used an approach based on observed industrial complexity at the expense of elementary mathematical formalism. In this context, the first objective of the book was to illustrate the combination of both deductive and inductive approaches, and to emphasise their complementarities. Thus, accordingly, Andrews' *Manufacturing Business* was largely concerned with the complex facts of business life, expressed by a detailed investigation of specific firms and industries. This intellectual orientation is expressed by Andrews in the following note:

> "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 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." (Andrews, 1949: xvii)

The publication of this book in 1949 thus illustrated Andrews's use of a Marshallian approach in the realm of industrial economics, deliberately replacing the normative by a more empirical interpretation of Marshall[226]. In fact, as seen in chapter two of this thesis,

[226] The injection of empiricism in the theory of the firm is thought as a new contribution, as witnessed by Henry Clay, who claimed that in *Manufacturing Business* "[...] [t]he study leads to conclusions which seem to me new and to challenge recent theoretical propositions of importance for public economic policy. It links

the desire for a more empirical approach to the firm was already expressed by David MacGregor in the 1930s. Interestingly, when the question about the theoretical link between Andrews and MacGregor was put to Elizabeth Brunner by Alan Bevan in 1979, she identified both belonging to the same paradigm:

> "The important thing it seems to me is that all these three [Marshall, MacGregor, Andrews] are within the same paradigm (to use current jargon). [...] It is difficult to say how far Andrews was influenced directly by MacGregor or how far any similarity is because both were influenced by Marshall. I think, myself, it is the common source in Marshall. But Andrews admired MacGregor and revered him as a pupil of Marshall and dedicated *Manufacturing Business* to him for this reason." (*Letter from Elizabeth Brunner to Alan Bevan*, March 1979, LSE Archives)

However, while Andrews' desire for empiricism is undeniable, it would be misleading to argue that Andrews's investigations resulted only from the observation of the reality of industrial markets. On this matter, he himself argued:

> "Looking back, I do not think that empirical studies, in themselves, would have led to the development of a general theory. In the first stage of this work, the main concern was simply to make such records of the development of the businesses that were being studied [...] that it would be possible to make detailed comparisons between them later on. [...] The next stage of the Courtauld research [...] made it necessary to think about the inter-relations of business behaviour, and I was impelled to make a stock-taking of the general ideas that had begun to develop." (Andrews, (1949: xvi).

Hence, Andrews tried to develop some analytical foundations of Hall and Hitch's (1939) empirical results, based on surveys of business pricing practices. 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. Andrews's main idea was that in his analysis of the short run, Marshall could clearly be interpreted with the

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on with, and develops, the theoretical work of Marshall and MacGregor a generation ago". (Clay, 1949: viii).

help of marginal tools[227]. His analysis of the long period was, however, considered to be incompatible with these tools and their individualistic foundations[228]. Andrews's interpretation of Marshall's theory particularly stressed the existence of long run supply curves, including economies of scale. To Andrews, the long run expansion of the scale of the firm could not be supported by a marginal approach, which only admitted increasing average costs in the long run[229].

Andrews's expression of normal costs in the long run was, to a large extent, influenced by Marshall's long period theoretical framework, and especially by his concept of the representative firm. 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 considers it as a firm which represented the reality of industry. He made it clear in the following note:

> "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 normal expenses of production and says that for these we must refer to the representative firm not to any particular competitive firm."[230]

Andrews then quoted Marshall and emphasised the incompatibility between his theory and its marginalist interpretation:

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

[228] To a large extent, therefore, Andrews's developments were analytically rooted. 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, 2nd December 1968, *LSE archives*: 2)

[229] As a matter of fact, Andrews argued in his lecture notes that could be quoted *verbatim*: "To put matter in nutshell – Marshall refused to derive from price of competitive market simple marginal revenue function of firm for any questions relating to expansion of scale of firm [sic]." (*Ibid*: 3)

[230] Andrews' lecture notes IV, 2nd December 1968, *LSE archives*: 3

> "In Book V, Ch. XIII, sect. 2, p. 459, he [Marshall] 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 [*sic*] the marginal cost "on which we fix our eyes".[231]

Hence, Andrews refused to see Marshall's contribution to economics as a 'static marginalist equilibrium theory'[232] extended to the long run analysis. According to him, Marshall's representative firm was rather an industrial concept and 'in effect he [Marshall] is 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'.

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

Thus, the content and methodology of *Manufacturing Business* was a direct attack on the marginalist theory of the firm. In this sense, Thomas Wilson, thought that the book did not help Andrews' struggle to keep his academic position in Oxford. In particular, he recalled:

> "I pleaded with him to try to explain as fully as possible, with an appropriate use of the conventional jargon, how his ideas differed from those that were then generally accepted. He replied, however, that he was determined to write his book in a way that would be understood by those who had some real knowledge of industry whether or not his academic colleagues chose to follow his argument." (Wilson, 1971: 4)

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[231] *Ibid.*
[232] SMET. This is the way Andrews referred to the marginalist approach, in his lecture notes.

Retrospectively, though, *Manufacturing Business* appeared as the seed for a modern theory of the firm or as the distinguished Italian economist, Professor Paolo Sylos-Labini, later argued,

> "[...] as the first major organic contribution to what I have called the new theory of the firm." (Sylos-Labini quoted in Wilson, 1971: 5)

This view was also shared by Philip Sargant Florence who claimed that so few economists, at the time, were concerned with the internal organisation of the firm as studied in *Manufacturing Business*. On this matter, Florence remarked:

> "[...] it is surprising that so many economists failed to analyse the structure of firms at all statistically or, indeed, professionally – not distinguishing cases, for instance industries with different degrees of concentration of output in a few firms. Instead, economists dealt in commodities and often in the mythical firms assumed to produce a single commodity (Florence, 1971: 8).

Nevertheless, from the publication of *Manufacturing Business*, emerged Andrews' establishment of industrial economics, as an academic discipline in Oxford.

III. Industrial Economics: The Substantial Developments (1952-1968)

The last section of this chapter deals with the 'formal' birth and evolution of industrial economics in Oxford between 1952 and 1968; when Philip Andrews and Elizabeth Brunner left Oxford to join Lancaster University. This period saw many substantial theoretical and empirical developments of the discipline. This argument is supported by the identification of three major trends, namely the creation of the *Journal of Industrial Economics*, the increasing proportion of industrial economics lectures in the Oxford teaching curriculum, and the organisation of a weekly seminar on the economics of industry.

III.1. The Establishment of the *Journal of Industrial Economics* (1952)

The introduction of the *Journal of Industrial Economics* in 1952 by Philip Andrews is chosen as the starting point of the analysis. As a response to the major wave of interests in empirical studies of industries referred to in the last section of this chapter, 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 also supported by general theoretical assertions:

> "Then in 1952 he [Andrews] 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), LSE Archives: Box 529*: 1-2)[233]

Thus, the *Journal of Industrial Economics* reflected the emergence of industrial economics as a well established subject. In this respect, Elizabeth Brunner saw 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 largely concerned with industrial issues, often supported by industrial case studies. For instance, the first article of the first issue written

[233] From now on, this reference will be renamed Brunner, 1961.

by Mason mainly focused on the specific case of the raw products industry in the USA.[234] 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' – were also a central issue for the *Journal.*

Therefore, the first issue of the *Journal of Industrial Economics* did not only define the purpose of industrial economics as a new discipline, but it also gave this new discipline a particular methodology, strongly influenced by Marshall's intellectual orientation. Interestingly, the "flavour" of the *Journal* after the death of Andrews and Brunner – who took the board after Andrews died in 1971 – became less Marshallian (according to Andrew's interpretation) over time and increasingly marginalist.

III.2. The Weight of Industrial Economics in the Teaching Curriculum (1952-1968)

The second significant indicator of the increasing influence of industrial economics can be found in the organisation of the university lectures of the time. This argument is supported here by an exclusive dataset based on 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 this 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 have been available online since 1990. The *Gazette* provides its reader with information regarding Oxford University, such as lists of events and lectures, the official announcements, the newly appointed professors, and the

[234] Mason's contribution was entitled 'An American view of raw materials problems: The Report of the President's Materials Policy Commission'.

available vacancies. The dataset constructed here covers a time period of 17 years from 1951 (Michaelmas Term) to 1968 (Trinity Term)[235]. The lecture lists comprise undergraduate and postgraduate lectures and seminars for economics, with undergraduate students reading for PPE, and graduate students mainly for the B.Phil. in Economics. In Hilary Term 1966, the B.Phil. in Engineering Science and Economics was created (*Examination Statutes and Regulations of the Boards of Studies and Boards of Faculties*, 1965-1966: 247-248)[236]. This new degree and its corresponding lectures have also been included in the dataset.

Each lecture course and seminar has been categorised by assigning each course a *JEL* code: the system of subject keywords and categorisations 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). Here, the study only considers the first two levels of categorisation (the A1, A2, A3 level)[237].

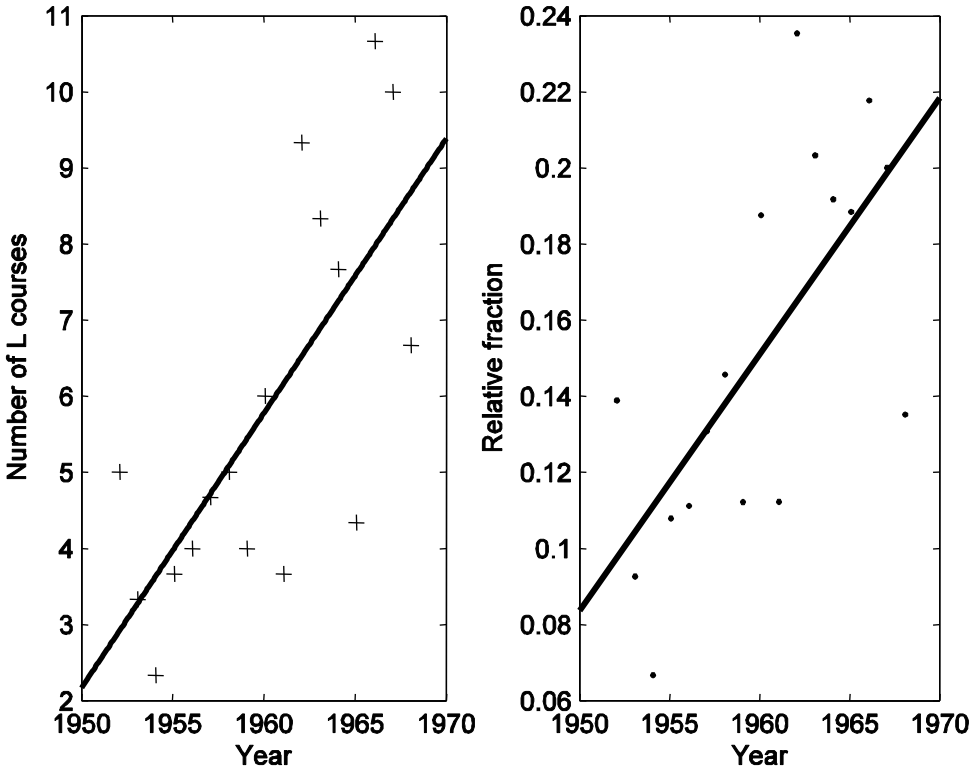
Once the dataset was established, an index file listing all existing undergraduate and graduate economics lectures between 1951 and 1968 (for each term: MT, HT, TT) and their corresponding *JEL* code has been constructed. In the specific case of the evolution of a lecture's title over time (e.g.: the B.Phil. (graduate) seminar entitled "Applied

[235] Oxford University divides the academic year in three terms (Michaelmas Term, Hilary Term and Trinity Term).

[236] The B.Phil. in Engineering Science and Economics stopped existing during the year 1988-1989. From this academic year onwards, only the B.Phil. in Engineering, Economics and Management continued to run (further details about this degree could be found pages 272-273 od this thesis.

[237] 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.

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[238]. The analysis focuses on the 'L' category of the *JEL* classification, which corresponds to 'Industrial organization'. The following graph illustrates the increasing weight of industrial organization in the Oxford courses between 1952 and 1968, at both undergraduate and graduate levels.



a) Absolute number of category 'L' courses.

b) Relative number of category 'L' courses compared to the total number of courses.

Figure 2 – The weight of Industrial Economics in undergraduate and graduate courses at Oxford, 1952-1968

[238] Because of the very large amount of data (446 titles of lectures and seminars), it was a complex matter to analyse them. Therefore, software had to be written to read in the dataset and the index file and process the data. The user then simply needed to enter a JEL code or a collection of codes. The software identifies every course corresponding to the specified JEL codes and counts and plots the number and percentage of courses corresponding to the desired codes against time. The software was written in Matlab and allows the user to implement other investigations such as searching for the distinction between graduate and undergraduate courses. Finally, the software can fit a polynomial or linear function to the data to help identify trends. I would like to thank very much Dr. Ed Tarleton who helped me writing the code.

Two complementary results can be drawn from the above graph. The first one refers to graph a) is that an increasing number of fellows were teaching industrial organization-related topics in the Oxford context. More precisely, in the period 1952-1956, the number of courses organised around industrial organization never exceeded four lectures per year. While in Hilary Term 1960, six lectures in industrial organization were introduced. Between 1962 and 1968, industrial organization lectures reached 10 per year. Even more significantly, graph b) plots the relative number of industrial organization lectures and seminars against the remaining lectures taught in the economics faculty. Whereas in 1960, industrial organization represented less than 15% of the entire taught lectures and seminars in Oxford economics, the discipline reached 22% of the total in 1968.

III.3. The Graduate Seminar in Economics of Industry (1957)

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 on the economics of industry.[239] The B.Phil in Economics has only been introduced since the War, and it originally offered students a choice between one compulsory theoretical and one compulsory Applied Economics paper.[240] Two advanced papers could then be chosen in addition to the compulsory ones, but these were mainly traditional topics, such as international trade or statistics (Brunner, 1961: 1-2)[241]. These seminars gave a new opportunity for the B.Phil students to become more specialised in the topics they were

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

[240] 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 by class instruction. B.Phil. for 2 years (exceptionally 1) primarily for Philosophy, Economics and History.' (Brunner, 1961: 2)

[241] This has been extensively documented in section one of this chapter.

really interested in. One of the senior and most popular seminars among students was the two-year graduate seminar in Applied Economics. The first sessions of the seminar did not seem to be very attractive, and "made a very shaky start [...] with only two people apart from seniors at the first meeting" (Brunner, 1961: 3). However, the attendance rapidly grew to 12 members. Later, in the *Oxford Economics Papers*' supplement in honour of Sir Hubert Henderson, Worswick described this seminar as "the most popular of the numerous graduate classes started after the war primarily to meet the needs of those studying for the new degree of Bachelor of Philosophy." (Worwick, 1953: 66). 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 and covered a very wide field, not only the firm and industries but also national income, employment, and macro-economic topics[242]. Henderson's role in the seminar was central[243]. When he died, Worswick took his place, which caused 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, 1961: 3).

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

[242] Letter from P.W.S. Andrews to David Liston, The Metal Box Company, 10/01/1957, Andrews and Brunner's archives: Box 529

[243] 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)

1957, and re-organised it as a specialised seminar in industrial economics. In a letter to one of the businessmen he invited in the early days 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 P.W.S. Andrews to David Liston, The Metal Box Company, 10/01/1957*, Andrews and Brunner's Archives, LSE library)

Andrews was running the seminar with Elizabeth Brunner, Eric Hargreaves, and Dr. Burchardt who was the Director of the Institute of Statistics. The sessions of this new seminar took 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. During the first term of the session, the group had no visitor and each member learnt to know others by reading literature bearing on practice in industry and discussing practical evidence on particular topics, stressing their implication for theory. For the remaining two terms of the academic year, the seminar invited visitors to enlighten the group from their own practical experience. Each session was opened by a graduate member who had to read a short paper on questions relevant to the seminar, before setting them against the background of generally accepted theory. The organisation 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" (Brunner, 1961: 3)

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, before a general

discussion followed[244]. On the same grounds as for the OERG, all the businessmen were promised complete confidentiality[245].

The topics selected in the seminar were diverse. For example, in Michaelmas 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, these theoretical analyses were completed by the discourse of a 'practical guest', such as: 'businessman who had marketed an 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, 1961: 5). A list of questions to businessmen on pricing is given in *Appendix 3*. On the basis of these questions, the Marshallian orientation of the seminar on a similar line as the intellectual content of *Manufacturing Business* could be stressed. It is clear from the analysis of these questions that the empirical background of Andrews's seminar was firmly based on 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 later. 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 more standard-oriented developments. These developments are developed in the next chapter.

[244] Different Oxfordshire businessmen were speaking at this seminar every week.
[245] '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)

Concluding Remarks

This chapter aimed to use historical evidence to outline the process of emergence, the formal birth and the early developments of industrial economics in Oxford. The study mainly covered the post-war period until Andrews and Brunner left Oxford in 1968. Some concluding remarks could be formulated at both theoretical and institutional levels of analysis.

First, on theoretical grounds, as the product of one man, PWS Andrews, and of his assistant, E. Brunner, industrial economics in Oxford took a form rather distinct from North American developments of the discipline. It was mainly derived from an older generation of British economists, such as Alfred Marshall (studied in chapter one of this thesis) and David MacGregor (studied in chapter two). Following this specific British tradition of thought, the concept of industry was necessarily linked to the concept of the firm, and more particularly to the concept of the representative firm and of the individual business. Hence, for the first time, economics of industry and economics of the firm were brought together in a uniform framework of analysis, combining theoretical and empirical tools of investigation. Interestingly, the novelty of these methods in economics – inherited from the Oxford Economists' Research Group – were to some extent related to the case study method used in the field of business studies[246].

From an institutional perspective, it is interesting to note that research in Oxford was more influenced by what I call 'exogenous factors' than it used to be at the turn of the twentieth century. First, the influence of the war on new research issues was witnessed by the developments made by the Social Reconstruction Survey. Although some might see

[246] This idea will be developed in chapter 6 of this thesis.

the Survey as a 'failure' (Taylor: 2008), it still left a considerable new methodology behind. Second, the Courtauld Inquiry exemplified a new type of research which was commissioned by the industry, paving the way for further empirical and statistical developments on the internal organization of the firm, especially based on the growth and the size of the firms[247]. Undeniably, this new orientation was facilitated by the establishment of Nuffield College whose aim was to link social scientists and men with practical experience[248]. Hence, this episode showed a shift from economists working, to some extent, in an 'ivory tower'[249] to economists who were much more concerned with real problems of their economy. It is, therefore, in this context that industrial economics formally emerged in Oxford and led to the first publication of the *Journal of Industrial Economics* in 1952.

[247] This research interest, could also, partly explain, one of the last investigations about the growth of the firm conducted by the OERG and published in the OEP. See. in particular (Richardson, Leyland, 1964)

[248] Amusingly, though, the purpose of the College has never been entirely clear to outsiders. An article, published in the *Oxford Magazine*, in 2001 and entitled: 'Is Nuffield Really a College?' claimed that a case could be made out for Nuffield as being a "think tank, an ivory tower, a professional school, a monastery, a kitchen cabinet, a department within a department or an interdisciplinary centre".

[249] The best example here is probably the cost controversies of the 1930s in Cambridge (developed in chapter 1) that mainly took place in the *Economic Journal* which was a purely academic periodical, not read by businessmen or civil servants.

PART II – From Industrial Organization to Management Studies: 1950s-1990s

Part two of this thesis covers the second half of the twentieth century, focusing on the new approach to the study of firms and industries in Oxford, which arose after the emergence of industrial economics. The publication of the *Journal of Industrial Economics* in 1952 led the discipline in new directions and three conflicting lines of thought emerged. Chapter four covers the early developments of industrial organization, mainly based on game theory, as an independent discipline from industrial economics. Chapter four also shows why the Andrewsian approach was not used in later developments of industrial organization. Chapter five weights the influence of Oxford on the theoretical developments of the information theory of the firm; especially the contributions of George Richardson and Harald Malmgren, both students of John Hicks. Chapter six describes the formation and development of management studies as, to some extent, a process dependent on the OERG and shows how the management studies syllabus was the result of Oxford's history and institutions.

These shifts in the discipline (in its methodology and theoretical background) were coupled with a series of institutional changes, which partially explained the three lines of thought taken by industrial economics and the theory of the firm[250]. In particular, the main working hypothesis in this chapter is that the weight of exogenous factors on academic developments and scientific ideas is much more significant after the 1950s than in the first period of study discussed in part one. Essentially, this is due to key decisions taken by the Committee on Higher Education in England and to an increasing desire to apply university research to real world problems.

Looking at this period from a more theoretical perspective, despite their substantial

[250] These three lines of thought being industrial organization, the information theory of the firm and business studies.

differences, these three conflicting approaches (represented in the three chapters of part two) shared a critique of marginalist theories of the firm and became more concerned with the internal decision-making process, the information structure, and organisational issues within the firm[251]. This paradigm shift is scrutinized in each of the following chapters and the differences of methodological and theoretical orientations are also considered. Part two also aims to show the present meaning and implications of industrial organization, knowledge-based theories of the firm and management studies.

Part two is based on various sources, outlined in each chapter's introduction. To a large extent, primary sources and exclusive archival material were used[252].

[251] In the 1960s, the behavioural theory of the firm (mainly developed in the United-States through the work of Herbert Simon, Richard Cyert, Charles Hedrick and James March) expressed this shift from the neo-classical theory of the firm to the study of organisational issues inside the firm. More precisely, in their significant survey of the theories of the firm, published in 1972, Cyert and Hedrick noted: "The crux of microeconomics is the competitive system. Within the competitive model there is a hypothetical construct called the firm. [...] The information received from the market enables the firm to apply its criterion decision, and the competitive system then proceeds to allocate resources and produce output. The market information determines the behavior of the so-called firm. None of the problems of real firms can find a home within this special construct. There are no organizational problems nor is there any room for analysis of the internal decision-making process. In fact, all of the empirical content in this neo-classical model lies in the description of the environment within which the firm must operate." (Cyert, Hedrick, 1972: 398-399).

[252] As will be shown later, this is the case, for instance, of personal archives about the Seminar in Industrial Economics (see chapter 4), an unpublished Oxford D.Phil. thesis written by Harald Malmgren in 1961 (see chapter 5) and an archive on management studies held at the Bodleian library in Oxford (see chapter 6).

CHAPTER 4 – Industrial Organization as an Alternative to Industrial Economics?

I. Evolution of Industrial Economics and Industrial organization: An International Overview (1960s-1990s)
I.1. The Case of the United States
I.2. The European Case

II. Institutional Developments in Economics and University Reforms in the 1960s
II.1. The Robbins Report
II.2. The Franks Report

III. From Industrial Economics to Industrial Organization
III.1. Donald Hay and Derek Morris: Biographical Overview
III.2. A Comparison of the Textbook's Successive Editions: A Shift From Industrial Economics to Industrial Organization?
III.3. Developments in Applied Microeconomics and their Influence on Industrial Organization (1950s-1980s)

This chapter is concerned with the institutional environment which shaped the evolution of industrial economics and industrial organization after Andrews and Brunner left Oxford for Lancaster in 1968[253]. It links the first and second parts of the thesis and shows how industrial organization waxes while industrial economics wanes in the context of post-1960s Oxford economics. This dynamic paved the way towards two alternative lines of development to the standard interpretation of industrial organization, namely the information and knowledge-based theories of the firm (developed in chapter five) and the emergence of business studies (developed in chapter six). Industrial organization could be considered to consist of theoretically grounded models of firm behaviour, which incorporate informational constraints, and strategic behaviour, and which are subjected to empirical scrutiny. In this sense, industrial organization did not significantly differ from industrial economics. Both terms were often used synonymously, especially when applied to teaching. It is therefore extremely difficult to assess genuine differences between the two. Essentially, the use of these two terms depended on the institutional context in which the subject areas were shaped. In Oxford, the concept of industrial organization soon implicitly included game theory as a part of the theory of the firm and of strategic interactions and became increasingly influenced by American developments in economics.

In order to evaluate the specific orientation of industrial organization, it is necessary to gain perspective by considering a larger framework and to analyse the theoretical content, the empirical challenges, and the methodology of industrial organization and/or industrial economics in America and Europe at the end of the 1960s. Hence, the first section of this chapter provides a brief, yet as systematic as possible,

[253] Extracts of chapter 4 have been published as an article in an issue of *Oxonomics* (2008).

literature survey of the subject areas within these different institutional contexts. Then, from the perspective of institutional change and academic history, section two deals with substantial changes made in British higher education and focuses, more precisely, on the Robbins and the Franks reports. These reports paved the way for considerable expansion in higher education and expressed an increased desire to change the role of universities to be more closely focused on societal and industrial issues. This, in turn, modified the content and orientation of the theory of the firm and gave rise to new approaches and new types of research, more applied, in Oxford. From this perspective, section three focuses on the Oxford case and scrutinises the evolution of industrial economics and organization mainly conducted under the authority of Donald Hay (who took over the editorial chair of the *Journal of Industrial Economics*, when Elizabeth Brunner died, in 1983) and Derek Morris (who took over the B.Phil. seminar in the economics of industries in the late 1970s[254]), who jointly published the internationally known-textbook entitled *Industrial Economics* in 1979.

In terms of original research material, this chapter is not as substantial as the others, since its function is to link the analysis of industrial economics as it emerged and how it has been institutionalised in Oxford and the new orientation of studies of firms and industries after Andrews and Brunner left Oxford. Because of this, the analysis is mainly supported by primary and secondary literature, which evidences the diverse orientations taken by the discipline in the late 1960s. In particular, the content of the Robbins Report on Higher Education (1963) as well as the Franks Report (1966) will be considered. In addition, the evolution of the content and the editorial board of the *Journal of Industrial Economics* is scrutinised and the orientation taken by the most significant industrial

[254] A detailed analysis of this graduate seminar was provided in chapter 3 of this thesis.

organization textbooks is considered. Finally, in line with the method adopted in chapter 2, a list of lectures and teachers gathered in the *Oxford University Gazette* evidences the weight of industrial organization over the period 1968-1972 and a study of the issues considered in the B.Phil. seminar in economics of industry is also conducted.

I. Evolution of Industrial Economics and Industrial Organization: An International Overview (1960s-1990s)

The confusion between industrial economics and industrial organization lies in the origins of the two subject areas. While the differences between both terms are rather implicit and subject to controversies in the literature, the following section is an attempt at clarification. The location of the terms in a historical perspective is seen as helpful to (briefly) evaluate the national trends in both intellectual developments. Since the British case has been the object of part I of this thesis, the cases of the United States and Europe (France, Germany and Italy) are successively considered in the following section.

I.1. The Case of the United States

To a large extent, the emergence of industrial organization in the United States took place long before its developments in Britain. Four decades after the publication of Marshall's *Principles*, some American economists, such as Knight (1921) and Clark (1922), had succeeded in introducing the main concepts of the discipline. In 1939, the American economist Edward S. Mason (1899-1992), full Professor at Harvard at the time, published a significant article entitled 'Price and Production Policies of Large-Scale Enterprise' in which he coined industrial organization defining it as an object consisting of reducing [...]

> "[...] the voluminous data concerning industrial organization to some sort of order through a classification of market structures. Differences in market structure are ultimately explicable in terms of technological factors. The economic problem, however, is to explain, through an examination of the structure of markets and the

> organizations of firms, differences in competitive practices, including price, production, and investment policies." (Mason, 1939: 66).

Hence, to Mason, industrial organization was essentially the study of the structure of markets and of their interactions, through the investigation of strategic firms' behaviours. In terms of methodology, Mason based his empirical investigation on the famous Harvard case-studies method in order to provide a general knowledge about the real functioning of market structures[255]. The initial publication of Mason's article in 1939 paved the way for further developments in the discipline. This was the case, for instance, of the contribution made by John M. Clark (1884-1963) one year later in his article 'Toward a Concept of Workable Competition', published in the *American Economic Review*. The title indicates Clark's desire for this concept of workable competition to replace the perfect competition framework used in the marginal theory of the firm and industries. Essentially, Clark is less concerned with understanding the theoretical structure of markets than with the dynamic processes explaining real forms of competition. On this matter, he argued:

> "It would be a truism to say that the most effective forms of competition we have, or can have, are imperfect forms, since there are no others. But it will mean something if we can find, after due examination, that some of these forms do their jobs well enough to be an adequate working reliance [...]. And it will be useful if we can learn something about the kinds and degrees of "imperfection" which are positively serviceable under particular conditions." (Clark, 1940: 242).

In 1941, essentially as a result of this series of initial developments, the *American Economic Association* recognised industrial organization as a distinct field of economics (Benzoni, 1991: 129)[256]. Clark and Mason's contributions led, in the 1950s, to a more

[255] The Harvard School produced detailed case-studies of particular industries. The research programme led by Clark and later by Mason sought to learn about imperfectly competitive markets by induction from careful studies of particular examples, which made little use of formal economic theory or of econometric techniques. For a detailed account of the birth of industrial economics at Harvard and of the "Harvard School", see Arena, R. (1991: 55-65).

[256] The 1942 (Vol. 32, No. 1) 'Volume Information' of the *American Economic Review* evidenced this, see in particular page ix.

systematic study of industrial organization and to a more detailed description of the research programme first suggested by its initiators[257]. Consequently, the work of Joe S. Bain (1912-1991) strengthened the pioneering contributions, still through the use of a methodology based on sectors studies and descriptive statistics[258]. In this sense, Bain changed the focus of empirical research in industrial economics by showing the apparent power of statistical studies of industry-level cross-section data. In particular, Bain formulated hypotheses on the relationship between market structure and market performance and firm profitability; he then tested these hypotheses with empirical observations[259]. He advanced a series of hypotheses concerning such relationships [...]

> "[...] emphasizing those of seller concentration, buyer concentration, condition of entry, and degree of product differentiation to profits, selling costs, and relative efficiency of scale and capacity." (Bain, 1951: 293).

Using the eight-firm concentration ratio to measure market concentration, Bain argued that average industry profitability tended to be higher in concentrated industries. From this stage, an indirect relationship between market performance and market structure emerged through firms' conduct. The Structure-Conduct-Performance (SCP) paradigm was born and became the main methodological foundation of modern industrial organization[260].

From the mid-1970s, industrial organization started reaching the limits of its empirical development and the deductive approach to the firm and competition was

[257] These further developments took place in the early 1950s. In his 1951 article, Joe Bain remarked: "Students of industrial price behavior have recently shown much interest in the concept of workable competition and in the potential association between the workability of competition and the structure of the industry. Their evident uncertainty about the nature of such a relationship suggests the need for detailed empirical studies which would formulate specific hypotheses on the relations of market structure to market performance and would then test such hypotheses with available evidence". (Bain, 1951: 293).

[258] It is interesting to note that Joe Bain was Edward Mason's student.

[259] In a very specific way, Bain argued: "The hypothesis in brief is that the average profit rate of firms in oligopolistic industries of a high concentration will tend to be significantly larger than that of firms in less concentrated oligopolies or in industries of atomistic structure" (Bain, 1951: 294).

[260] For a detailed survey of the SCP paradigm, see Hay and Morris (1991). Further developments of the discipline in the United States since the 1930s have been widely explored in the literature (See for more details, Philips, Stevenson, 1974).

revived by some new developments in microeconomics[261]. The SCP triptych gave rise to two main approaches: one focused more on the structures (Baumol, 1982) and the other on the conduct (related to developments in game theory based on Von Neuman and Morgenstern, 1944). William Jack Baumol (born 1922) contributed to the developments of this new microeconomic theory of industrial structures and supported his theory by the notion of contestable markets and competitive sustainability. Contestable markets, formed by a small number of firms, are characterised by competitive pricing since Baumol emphasised the existence of potential short-term entrants[262]. In particular, in his final talk as president of the *American Economic Association*, William Baumol argued that his contribution to industrial organization was a generalisation of economic theories of perfect competition, based on more formal developments than the ones developed earlier by Mason and Bain; he claimed that:

> "[...] in the received analysis perfect competition serves as the one standard of welfare-maximizing structure and behavior. There is no similar form corresponding to industries in which efficiency calls for a very limited number of firms (though the earlier writings on workable competition did move in that direction in a manner less formal than ours). Our analysis, in contrast, provides a generalization of the concept of the perfectly competitive market, one which we call a "perfectly contestable market". It is, generally, characterized by optimal behavior and yet applies to the full range of industry structures including even monopoly and oligopoly" (Baumol, 1982: 2).

Therefore, to a large extent, Baumol's approach was an attempt to reconcile industrial organization and neo-Walrasian economics[263] and to revive the most marginal concepts found in Marshall, such as the representative firm. Baumol's attempt of reconciliation

[261] As will be shown in the last section of this chapter, the American trend of industrial organization is, to a large extent, similar to the Oxford one. Modern developments of microeconomics in the Oxford case will also be analysed in this last section. For now, the study exclusively focuses on the United-States.

[262] William Baumol (1982) based his theory on the fundamental assumptions of low barriers to entry and exit.

[263] For further details about Léon Walras' contribution to economics, see section one of chapter 1 of this thesis. Baumol argued: "In short, a perfectly competitive market is necessarily perfectly contestable, but not *vice versa*." (Baumol, 1982: 4).

illustrates the point made by William Lazonick in his work on the evolution of the theory of economic development at Harvard (Lazonick, 1998). In his contribution, Lazonick depicted the progressive dismissal of Schumpeter's approach (which included a Marxian framework in its own construction) as it waned due to the dominance of what he called the "neo-classical vision of the market-coordinated economy coupled with science as mathematical technique" (Lazonick, 1998: 290). This dominance existed despite the attempt of two significant economic historians (Chandler and Landes) who tried to reconcile historical analysis and economics in line with the Harvard Schumpeterian tradition.

The second line of developments based on Bain and Mason's pioneering contributions is concerned with the emergence and the generalisation of strategic models of game theory and imperfect competition. The concept of imperfect information is central to game theory developments, in which firms can use specific strategies relying on the interaction of their own decisions with those of their rivals. In the 1960s, more than a decade after the publication of Von Neumann and Morgenstern's *Theory of Games and Economic Behavior*, industrial organization theorists developed a "passive indifference" to the theory of games, having lost sight of the reasons for its necessity for the improvement of the discipline (Odhnoff, 1966). However, an interest in game theory re-emerged at the beginning of the 1980s, presenting a new tool for understanding the theory of imperfect competition and strategic organisation. In the United States, later developments showed that game theory could be used for purposes other than strategic behaviour in economic environments. It was shown that game theory could be applied to issues as diverse as: the distribution of information, the design of economic institutions, and the role of players'

expectations and beliefs. To some extent, it could be argued that game theorists used the Marshallian framework of partial equilibrium by focusing on specific markets, all things being equal. However, it would be more realistic to claim that game theory has emerged from theories of rational choice mainly instigated in the United States in the 1950s, leaving aside Marshall's ideas on industrial organization. The SCP paradigm outlined the key influence of strategy on structures and is, to a large extent, incompatible with the main postulates of partial equilibrium developments used in Marshall's original work.

Thus, the increasing developments in new microeconomics (Baumol's contestable markets and game theory generalisation) in the United States influenced industrial organization, giving it a more formal orientation. According to Leonard Weiss's survey of 'Quantitative Studies of Industrial Organization' and subsequent comments made by William Comanor in 1971:

> "Despite the original prescription of Edward Mason, practitioners in this area have moved away from an early reliance on case studies and toward the use of econometric methods of analysis. To a large extent, therefore, a review of econometric studies of industrial organization is a review of much of the content of the field" (Comanor, 1971: 403-404, in Bresnahan, Schmalensee, 1987: 372).

One of the common views at the time was that the lack of empirical work might slow the "growth of practical economic knowledge", since "sound theory is of incalculable practical value" (Roth, 1991: 108). Therefore, on the basis of game theory, an increasing part of the discipline became experimental (Axelrod, 1984) and laboratory-based.

This new orientation is helpful for understanding the methodological differences existing between 'industrial organization' and 'industrial economics'. As mentioned above, in the 1980s, after this phase of theoretical development in the United States, the need for correspondence between theory and reality was increasingly claimed by

economists[264]. Timothy Bresnahan and Richard Schmalensee's introduction to a special issue of the *Journal of Industrial Economics* – devoted to the 1980s burst of empirical work in industrial organization – shed light on this matter and the main message addressed in their article is worth considering here. To them,

> "At the start of the 1980s, then, relatively little exciting empirical work was being done in industrial organization: industry-level cross-section work was suspect, and case studies were no more attractive than they had been a decade earlier. The main action was on the theoretical front." (Bresnahan, Schmalensee, 1987: 372)

Implicitly, Bresnahan's and Schmalensee's view claimed that the renaissance of empirical work in industrial organization moved the subject area towards a new direction in the United States, closer to industrial economics as it was initially studied in England.

In reality, the frontier between industrial organization and industrial economics is thin and contestable, since it is mainly the result of a terminology debate. Yet, it seems that this frontier goes beyond the deduction/induction and abstract/concrete debate in which scholars often try to locate it. Rather, the divergence between the approaches lies in their disciplinary roots and their theoretical bodies of reference. On the one hand, industrial organization generally corresponds to a theory of competition, based on notions of equilibrium and optimum. On the other hand, industrial economics deals with a theory of competition, supported by the concepts of systems and dynamics, in a more empirically-grounded framework of analysis.

[264] To make a parallel with the Oxford case, this need was originally expressed by Philip Andrews and Elizabeth Brunner in their own definition of industrial economics (see chapter 3 of this thesis). As will be shown in the final section of this chapter, the developments of new microeconomics in the United States significantly influenced Hay and Morris' contributions to the discipline, who, to a large extent, transformed the empirical orientation given by Andrews to industrial economics in a more formal and theoretical approach encapsulated in industrial organization.

I.2. The European Case

The developments of industrial economics and industrial organization in Europe differed significantly from their evolution in the United-States. Three main periods of time could be considered here, namely the origins of industrial economics resulting from early national industrialisation processes, the early developments of industrial economics resulting from the industrial concentration movement at the end of the nineteenth century and the post WWII developments of the subject area.

- **Earliest developments**

The first developments of the discipline in Europe were almost exclusively conducted in France and in Germany and were, to a large extent, anterior to the initial contributions made in the United States. In France, this is exemplified by the first Chair in Political Economy organised at the Conservatoire des Arts et Métiers which designated, as early as 1819, the Chair in Industrial Economics (held by Jean-Baptiste Say between 1828 and 1830)[265]. This particular designation was certainly due to Jean-Baptiste Say's early writings about industrial organization. In particular, in 1803, in his *Traité d'Economie Politique*[266], Jean-Baptiste Say was already concerned with the 'Different Kinds of Industry, and the Mode in Which They Concur in Production'. Essentially, in Book I, Chapter II, he distinguished the agricultural, the manufacturing and the commercial industry[267]. Say's desire to provide a more practical understanding of the industrial system

[265] The Conservatoire des Arts et Métiers (National Conservatory of Arts and Crafts) is a doctoral degree-granting higher education establishment regulated by the French government, dedicated to the promotion of science and industry. It was founded in 1794 during the French Revolution and was first designed as a depository for machines and books of the arts and trades. Initially operating with the collection of inventions, it has since become an educational institution. It is now known primarily as a continuing education school for adults seeking engineering and business degrees.
[266] *A Treatise on Political Economy*, in English.
[267] To him, "[c]ommercial, in like manner as manufacturing industry, concurs in production, by augmenting the value of a product by its transport from one place to another. A quintal of Brazil cotton has acquired

became even more pronounced in his subsequent book, published in 1828-1830, *Cours d'Economie Politique Pratique*[268]. More precisely, in part two, chapter 1, Say focused on the 'Application of Political Economy to the Diverse Industries' and developed a historical analysis of the main characteristics of productive structures before the Industrial Revolution. This historical analysis supported his description of the technical operations encapsulated in the different systems of production in France.

Undeniably, the establishment of industrial organization as an academic subject area in Germany initially resulted from the work of Friedrich List (1789-1846) about the development of industrial structures. To him, the driving force of the economy was the manufacturing industry, and certainly it was because of this conviction that he opposed the doctrine of free trade defended by his predecessors and developed instead the infant industry argument. His ideas were strongly in favour of protectionism and insisted on the national idea, supported by the special "requirements" of each nation according to its circumstances. In line with his view of economic policy, List published his *National System of Political Economy* in 1841. In this work, he introduced the main foundations of the German Historical School of Economics in which industrial economics became encapsulated. In particular, he claimed that this area [...]

> "[...] is not founded on bottomless cosmopolitanism, but on the nature of things, on the lessons of history, and on the requirements of the nations. It offers the means of placing theory in accord with practice, and makes political economy comprehensible by every educated mind, by which previously, owing to its scholastic bombast, its contradictions, and its utterly false terminology, the sound sense of mankind had been bewildered." (List, 1841/1909: 8)

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greater utility, and therefore larger value, by the time it reaches a warehouse in Europe, than it possessed in one at Pernambuco. The transport is a modification that the trader gives to the commodity, whereby he adapts to our use what was not before available; which modification is equally useful, complex and uncertain in the result, as any it derives from the other two branches of industry." (Say, 1803/1855: 48).

[268] *Practical Course on Political Economy*, in English.

The view developed by List suggested that economic development was supported by a succession of historical steps leading to its phase of maturity, namely the agricultural-manufacturing-commercial condition[269].

- **Industrial Concentration Movement**

The Historical School of Economics prevailed in German political economy until the 1880s, when a significant industrial concentration movement took place among the various branches of German industry. This economic phenomenon gave rise to a series of studies concerned with industrial concentration and, in particular, the significant contributions made by Wilhelm Roscher (1817-1894) of the Historical School. A special issue of the *Journal of Economic Studies* (published in 1995) has focused on his contribution to economics. Perhaps, as far as this section is concerned, the most interesting article in this special issue is the one written by Erich Streissler on 'Increasing Returns to Scale and the Prospects of Small-Scale Enterprises'. According to Streissler, Roscher's article published in German in 1849 is particularly valuable to competition and the theory of the firm at the time[270]. Roscher's contribution discussed the role of small artisan firms in industry and, as Streissler noted:

> "One would expect Roscher to conclude that handicraft firms are doomed to extinction by the inexorable price competition of large-scale industry. [...] But Roscher's historical education and his thorough use of empirical data make him an uncannily accurate forecaster of actual developments." (Streisser, 1995: 21).

[269] The succession of historical steps mentioned here is described by List in Book II, Chapter 15, Paragraph 12. He wrote: "As respects their economy, nations have to pass through the following stages of development: original barbarism, pastoral condition, agricultural condition, agricultural-manufacturing condition, and agricultural-manufacturing-commercial condition."

[270] Roscher, W., (1849), Ueber Industrie im Groβen und Kleinen, *Ansichten der Volkswirtschaft aus dem geschichtlichen Standpunkte*. Interestingly, Cunningham was one of the only British authors who used Roscher's results, mainly because Roscher's most significant books were not translated into English (Senn, 1995: 53). For this reason, the analysis of his contribution to industrial organization here relies primarily on secondary sources.

Roscher's historical and detailed description of the real components of industry led him to contrast the usual theory of competition of the time, since

> "[...] [h]e points out correctly that when a craftsman and a factory compete in the very same activity, [...] the last factory must win. But that is said only after arguing that in many cases whole branches of artisan manufactures are not threatened by the competition from the large-scale industry: "Least threatened by the competition of factories are those handicrafts whose products have to be adapted in each instance to a locally or individually changing demand" (Roscher, 1839: 137)". (Streisser, 1995: 21)[271].

Interestingly, R. Liefman's work is also an extension of List's initial contribution. In particular, his most significant work translated in English has been published in his book *Cartels, Concerns and Trusts* (1932) in which he provided a detailed historical account of the formation of cartels and trusts (see in particular chapters I and IV)[272]. Liefman's historical approach enabled him to provide a more general framework for understanding the success of some cartels compared to others. From this perspective, Liefman claimed the superiority of trusts on cartels and outlined the economic advantages of concentration processes, at both microeconomic and macroeconomic levels.

In France, according to Richard Arena (1991), Jean-Baptiste Say left behind a tradition of industrial organization in France, predominantly symbolised by the contributions made by Clément Colson (1853-1939) and Charles Gide (1847-1932), at the beginning of the twentieth century. The publications of the seven volumes of the *Cours d'Economie Politique* by Colson between 1901 and 1907 exemplified the early developments of industrial economics in France. In particular, to him, industrial economics was an

[271] Interestingly, the legacy of Roscher has been particularly important in the United-States compared with Britain. For further details on this matter, see Peter Senn's article published in the *Journal of Economic Studies* (1995).

[272] Here, it seems relevant to note that the introduction of the book has been written by David MacGregor. For further details about MacGregor's contribution to the theory of the firm and industrial economics, see chapter 2 section one of this thesis.

application of political economy; he claimed:

> "Industrial Economics or Rural Economics are nothing but Political Economy studied by men who emphasise the prosperity in Industry or Agriculture. However, none of these branches of applied Political Economy could be seriously studied by someone who did not acquire the main principles of science." (Colson, 1924: 196, in Arena, R.: 1991: 31)[273]

Colson explicitly stated his interests in the firm's organization and argued, ahead of his time:

> "Regarding private companies, it is only when applied to their commercial aspects that Political Economy can provide particular elements of investigation; [...] such as large scale production, division of labour, as soon as the discipline goes beyond the simple recording of results whose causes are reduced to technical characteristics [...] the discipline exclusively discusses their commercial causes and consequences, since the rest is not part of its competences." (Colson, 1924: 5-6, in Arena, R.: 1991: 32)[274]

To a large extent, Colson's methodology contrasted with the one developed by industrial economists during the same period in Britain or in the United States. On the one hand, he adopted, in the same way as his Anglo-Saxon colleagues a deductive approach to the firm, supported by marginalist tools. On the other hand, though, Colson combined this formal economic method with an inductive approach. This was particularly evidenced by his own definition of the firm, which was supported by a legal conceptual framework. To Colson, the firm was specified by legal forms of private property and constrained by its legislation. In addition, his theoretical developments on competition were based on a study of market

[273] "L'Economie Industrielle ou l'Economie Rurale ne sont pas autre chose que l'Economie Politique étudiée par des hommes qui portent principalement leur attention sur la prospérité de l'industrie ou de l'agriculture. Mais aucune de ces branches de l'Economie Politique appliquée ne peut être sérieusement étudiée par quelqu'un qui ne possède pas les principes de la science."

[274] "Quand aux entreprises, c'est uniquement par leur coté commercial que l'Economie Politique peut en faire une étude spéciale; même au sujet des conditions d'organisation générale rentrant évidemment dans son domaine ; telles que la production en grand ou la division du travail, des qu'elle fait autre chose qu'enregistrer des résultats dont les causes ont un caractère purement technique [...] ce sont leurs causes et leurs conséquences commerciales seules qu'elle discute, les autres échappant à sa compétence. "

structures and concentration, but admitting that monopoly was a rare and limited case of market structure.

Charles Gide's contribution to industrial economics also differed from the one developed in Britain and in the United States, but from a more historical perspective[275]. In his *Cours d'Economie Politique*, published in 1921, Gide was concerned with the study of various market structures and formulated, to some extent, an early version of the theory of monopolistic competition, developed by Joan Robinson more than a decade later. To him, there was no systematic opposition between competition and monopoly, since

> "[c]ompetition is always imperfect: [...] there is no company which benefits from a monopoly situation more or less accentuated, given either by the situation, the patents, and property rights or by a tacit or explicit coalition, which allow the firm to maintain a selling price higher than the cost price and to make some profit." (Gide, 1921: 204, in *Ibid.*: 27)[276].

- **Post WWII Developments**

This initial tradition of industrial economics in France gave rise to a series of more recent developments in the 1950s. The work of Jacques Houssiaux (1957, 1958) on integration processes in industry and monopoly power has, to a large extent, helped move the subject area forward, paving the way for the doctoral work of Michel Marchesnay[277] (1969), as well as the contribution to the discipline made by Alain Bienaymé (1966). To a large extent, the French tradition of industrial organization developed during the 1960s-1970s took American developments in the discipline into account, while expressing a certain

[275] Interestingly, Charles Gide was the founder of the *Revue d'Economie Politique* in 1887.

[276] "La concurrence n'agit jamais qu'imparfaitement: [...] il n'y a guère d'entreprise qui ne jouisse d'un monopole plus ou moins accentué, tenant soit à la situation, soit à des brevets, soit à des droits protecteurs, soit à une coalition expresse ou tacite, ce qui lui permet de maintenir un prix de vente supérieur au prix de revient et de réaliser ainsi un profit."

[277] Michel Marchesnay wrote his Ph.D. thesis on a dynamic interpretation of the theory of the firm (Analyse dynamique et théorie de la firme, Thèse de Sciences Economiques, Paris I). Interestingly, Marchesnay became a Professor of Management in 1970 in Montpelier. This evidenced the links between the theory of the firm and management studies which will be analysed in greater details in chapter 6.

distance from it. As demonstrated regarding the American case in the last sub-section, the contributions to the subject were often categorised either as putting the emphasis on the firm or on industry, often considered in a deterministic framework of analysis[278]. In France, the desire was not to understand firms' behaviour as such, but to comparatively analyse different industrial structures through a series of investigations about firms' incentives, diversity, size, performances and technological progress. Besides, in the 1970s, the firm soon became perceived as playing an active role in competition outside a given structure of industry. French industrial economists then became aware that the exclusive study of strategic interaction (as developed in the United States) was not enough to understand these unexplored issues. Hence, this led them to locate the 'meso-economic' level of analysis at the heart of their conceptual frame to capture industrial reality. As a result, on the one hand, industrial economics in France aimed to understand agents' strategic action followed in their particular microeconomic framework emerging from their interaction in a competitive structure. On the other hand, the macroeconomic constraints were considered as determining these social interactions. This particular approach determined the pre-1980s developments of the subject in France, which became officially institutionalised with the first issue of the *Revue d'Economie Industrielle*, in 1977.

Generally speaking, Italian economists of industrial organization followed the British and, in particular, the Marshallian tradition. The tradition was dominated by Paolo Sylos Labini (1920-2005). A distinguished economist of the firm and industries, Sylos Labini built an academic reputation outside Italy and developed his ideas in collaboration with

[278] To a large extent, while the SCP paradigm in the United-States was considering both firm and industry levels, it still provided a static deterministic approach to the firm and industrial structures.

economists all around the world. At his 70th Birthday, Paul Samuelson addressed a speech to the participants to a conference, which gathered a series of essays given in honour of the Italian economist. At this conference he recognised the international popularity of Sylos Labini:

> "Economists around the world, from Cambridge to Cambridge and Osaka to Omaha, admire you for a lifetime of Schumpeterian innovation, Keynesian brilliance, Ricardian rigor, and Smithian realism". (Samuelson, in Roncaglia, 2005: 9)

With the publication of his *Oligopolio e progresso tecnico* in 1957 (translated into English in 1962), Sylos Labini obtained a firm place in the field of industrial organization all over the world. His theoretical contribution was combined with his political involvement in Italy, which meant his work covered a wider field than traditional approaches to economics. A recent detailed biography of Paolo Sylos Labini (2007) written by his pupil and colleague Alessandro Roncaglia throws light on his theoretical contribution[279]. In particular, his various research stays in Chicago, Harvard (where he collaborated with Joseph Schumpeter), and Cambridge (where his work was directed by Dennis Robertson – loyal contributor to Marshall's tradition of thought) enabled him to create a series of life-long friendships which influenced his own work. He also developed subsequent relationships with John Hicks in Oxford and with Kenneth Galbraith, Franco Modigliani (despite their intellectual divergence) and Paul Sweezy in the United States. In 1955, the Italian Prime Minister of the time, Antonio Segni, mandated Sylos Labini to lead an investigation on the organisation of the oil industry in Canada, Mexico and the United

[279] The biography was written in French and published in a special issue of the French *Journal d'Economie Industrielle* (2007, No. 18) dedicated to Sylos' life and work.

States, and this prompted him to develop his theory of oligopoly[280]. This empirical investigation gave rise to the publication of his *Oligopolio e progresso tecnico*, two years later: a landmark in the theory of market organisation. A distinctive feature of this contribution was its unusual combination of a rigorous theoretical framework with applied tools of investigation, both framed within a historical perspective. In particular, the book showed how oligopoly, considered as a specific institutional construct, influenced the historical evolution of capitalist economies after the first Industrial Revolution. The relationship between the evolution of oligopolistic structures and the macroeconomic performance was also a specific feature of his work, which was, at the time, rarely considered by more traditional approaches to economic theory. Sylos Labini's book was simultaneously published with Joe Bain's *Barriers to New Competition* (1956) and paved the way for further research related to the concept of barriers to entry in industry. The publication of Franco Modigliani's article on 'New developments on the oligopoly front' in 1958 in the *Journal of Political Economy* provided a particular interpretation of Sylos Labini's contribution. According to Marcella Corsi's obituary of Paolo Sylos Labini,

> "[...] it is in Modigliani's version that they came to be accepted as part of the mainstream theory of noncompetitive market forms. However, Modigliani with his model brought Sylos Labini's oligopoly theory out of the original (classical) context by leaving aside the dynamical aspects which occupy the second part of the 1956 book" (Corsi, 2006: 608).

In reality, to Sylos Labini, oligopoly constituted the general case on the market, since "when there are barriers to entry, there is oligopoly" (*Ibid.*). Consequently, the cases of competition (no barriers to entry) and monopoly (insurmountable barriers to entry) were limited cases, rarely observed in practice. By contrast with Modigliani's interpretation,

[280] Interestingly, Sylos Labini's educational background was initially in law. He wrote his Master thesis on the economic consequences of innovations. This thesis led him to leave Italy for the United States in 1948, when he was 28.

Sylos Labini's research programme focused on a systematic study of these barriers to entry which led him to claim that they depended on [...]

> "[...] the size of the market, on the optimal size of new plants, on the elasticity of demand (which determines by how much the price should fall, following the increase in supply brought out by the new plant), on the rate of growth of the market (which determines how long the fall in price will last)." (*Ibid.*)

Therefore, the dynamic nature of barriers to entry (absent in Modigliani's interpretation) made the most significant specificity of Sylos Labini's contribution to industrial organization, which challenged mainstream approaches to the discipline, mainly developed in the United States at the time. To a large extent, then, it could be argued that the Italian tradition of thought in the area inherited from *Oligopolio e progresso tecnico* was closer to Andrews' definition of industrial economics in Oxford. Indeed, the importance given by Sylos Labini to technical change, the implications of oligopolistic market forms for the economy and the use of mark-up pricing shared some important similarities with Andrews' theory of oligopoly[281].

Today, Italian theories in the subject area are still encapsulated in a series of recent contributions written by various authors, such as Beccatini (1990) and Raffaelli (2006). The common ground between these authors is that following Marshall, they all argued (in line with Sylos Labini's contribution) that modern microeconomic theory did not do justice to the complexity of observed industrial realities. This series of empirical investigations made important contributions to the development of modern theories of forms of industrial organization, such as industrial districts, regional networks or particular markets. In this context, most Italian economists of industrial organization used and developed a reinterpretation of Marshall's analysis, coupled with an evolutionary and

[281] Sylos Labini's concept of mark-up pricing was considered as a rule of thumb for pricing policy rather than as a way for determining equilibrium prices.

cognitive analysis of economic agents and modes of coordination. One of the most significant examples can be found in their analysis of the context and the typology of industrial districts, a concept already present in Marshall's *Economics of Industry* and *Principles*[282]. The investigation of these districts led to a better understanding of inter-firms relations, technological change and of the emergence and development of local and regional industrial networks. Hence, the concept of industrial district

> "[...] gained a new lease of life with the interpretative efforts undertaken after the end of the 1960s and aimed at understanding seemingly distinctive paths of industrialization in certain Italian regions" (Bellandi, 2007: 7).

Thus, the traditional idea of industrialization based on the central role of big firms was challenged by the empirical case of small firms that contributed to the popularity of the 'Made in Italy' label, and became increasingly competitive in national as well as international markets. This series of empirical approaches to the theory of industrial organization and of the firm showed a significant effort to bring Marshall's theoretical framework closer to industrial realities, in line with the initial programme in industrial economics developed in Oxford after the 1950s.

II. Institutional Developments in Economics and University Reforms in the 1960s

The new wave of theoretical and empirical developments associated with industrial economics and industrial organization in the 1960s took place in a context of substantial institutional changes and university expansion in higher education environments all around the world. In Oxford, industrial economics and industrial organization developed

[282] Alfred Marshall defined industrial districts as follows: "[...] the customary method of treating the advantages of division of labour and of production on a large scale appears to me in one respect defective. For the manner in which these advantages are discussed in most Economic treatises is such as to imply that the most important of them can as a rule be obtained only by concentration of large masses of workmen in vast establishments", (Marshall, 1975, Vol. II: 195).

with a series of university reforms aimed to modernise Oxford's teaching and research programmes, bringing them closer to the real world and accessible to larger numbers. The following section throws light at the two main reforms in England, which led to significant institutional changes in the Oxford context, namely the Robbins Report of the Committee on Higher Education (1963) and the Franks Report of Commission of Inquiry, applied to the Oxford context (1966).

II.1. The Robbins Report

In the 1950s, the increasing demand for higher education in Britain raised the problem of the expansion of the size of the universities in the country[283]. On this matter and in his 'personal retrospect' of British higher education, Lord Annan remembered[284]:

> "[...] in the Grammar School, more and more boys and girls were staying on in the sixth form and the number of places in the universities was not keeping pace with the numbers qualified and wanting to be admitted." (Annan, 1982: 1)

As a result, in 1959, although many of the British Universities' leaders were opposed to expansion, the Prime Minister, Harold Macmillan appointed Lionel Robbins to head a committee on the subject[285]. More precisely, the Committee was officially appointed by Treasury minute dated 8th February 1961:

> "to review the pattern of full-time higher education in Great-Britain and in the light of national needs and resources to advise Her Majesty's Government on what principles its long-term development should be based. In particular, to advise, in the

[283] The increasing demand for higher education resulted from a combination of demographic reasons (with the explosion of population) and social phenomena (with significant changes in conceptions of eligibility for higher education).

[284] Lord Noel Annan (1916-2000) was a British military intelligence officer, author, and academic. He was Provost of King's College (Cambridge), Provost of University College (London), Vice-Chancellor of the University of London and a member of the House of Lords.

[285] To a large extent, this Committee was the first one of this type in history, as the following quotation outlined: "Since the days of their foundation, the universities have played an important part in the life of western societies [...]. But on the whole, while this role has been self-conscious enough, its relationship to the general purposes of society has been more or less unconscious: in the past it was the exception rather than the rule to ask whether the universities provided enough places and what their relation should be to other sections of the community as a whole. [...] It is safe to say that never before in history was there such an incessant process of self-examination as ours." (Robbins, 1966: 2)

> light of these principles, whether there should be any changes in that pattern, whether any new types of institution are desirable and whether any modifications should be made in the present arrangements for planning and co-ordinating the development of the various types of institution" (*Robbins Report*, 1963: 1).

At the time, Lord Robbins (1898-1984) was a prominent economist at the LSE as well as a public figure in the UK, but he hesitated to take up this appointment, since, as he claimed in his autobiography (1971), he had [...]

> "[...] always been rather bored by abstract statements on this subject by Vice-Chancellors and prominent educationalists [...]." (Robbins, 1971, in Moser, 1988: 5)

In addition, when the proposition to chair the Committee on Higher Education was made to him, Lionel Robbins was in the process of writing a major book in economics; yet he strongly believed that

> "[...] another work on general economics had less potentiality of ultimate usefulness than an attempt to tackle what [he] had to recognise to be one of the most important political and social problems of the day [...]" (*Ibid.*)

According to Claus Moser, his decision changed the course of Higher Education (Moser, 1988: 5) and led to further significant developments in British Universities[286]. Undeniably, although he declared his "embarrassment at the prevalent habit of describing the report of that committee as the Robbins Report", Robbins dominated the commission, composed of thirteen members overall (Robbins, 1966: xiii)[287]. After two years, 111 meetings and 400

[286] Claus Moser had worked on the statistical research for the Committee. He was also secretary with Richard Layard. Lionel Robbins dedicated his 1966 book '*The University in the Modern World*' to both of them ("To Claus Moser and Richard Layard – Comrades in difficult country"). Interestingly, in the late 1980s, Moser wrote a report on management education and the role of MBAs in Oxford. The recommendations of his report were strongly criticized by the management academic community in Oxford (mainly lecturers and fellows at Templeton College).

[287] In addition to Lord Robbins, the Committee included Sir David Anderson, Dame Kitty Anderson, D.B.E., Mr. A. Chevenix-Trench, Professor J. Drever, Mr. H.L. Elvin, Miss H.L. Gardner, Sir Edward Herbert, O.B.E., Sir Patrick Linstead, C.B.E., F.R.S., Sir Philip Morris, K.C.M.G., C.B.E., Mr. H.C. Shearman, Mr. R.B. Southall, C.B.E., with Mr. P.S. Ross of the Treasury as Secretary (Robbins Report, 1963: iii). Lionel Robbins pursued: "For that indeed was the result of a collective effort in which each contributed his or her full to the common pool; and as a participant with less experience than others of some of the most important problems, I certainly learnt much more than I gave" (Robbins, 1966: xiii). However, Claus Moser outlined his central role in the Committee: "He was a powerful figure with a fine mind, a superb chairman who

written submissions of evidence, the Committee's Report was published in 1963 and became well-known in the history of British Higher Education. Its main recommendations were concerned with the aim of expanding student numbers in higher education from 216,000 full-time students in 1963-1964 to 560,000 in 1980-1981 (*Ibid.*: 20-21). Overall, the Report formulated 178 recommendations, which left few aspects of Higher Education untouched. These recommendations included:

> "[...] institutional patterns, the CATS, teacher training, financing, post-graduate studies, staffing, adult education, a strongly urged broadening of university degrees, the creation of CNAA, a strengthening of the UGC and the Vice-Chancellors' Committee, the setting up of the two Business Schools, and much else" (Moser, 1988: 6)[288].

One of the few questions which had not been dealt with in the Report was specifically related to particular fields of study (and to our main concerns, industrial organization and management studies). However, the Report acknowledged this lacuna and claimed that:

> "if our recommendations are accepted, it should in future be possible to deal no less effectively with detailed than with general topics" (Robbins Report, 1963: 1)[289].

Thus, beyond the expansion of the Universities, one of the objectives relevant to this thesis was the desire for the production of more workable knowledge taught to undergraduate and graduate students. The Report wanted University education to relate more to the changing needs of businesses and professions of the modern world. This desire was expressed in the Report, as a result of the circumstances of the modern world and the appropriate Universities' policies to meeting them. In particular, in his 'address

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approached our complex task with a consistent vision, and a more open mind than has sometimes been suggested" (Moser, 1988: 5-6).

[288] The recommendation concerned with the setting up of two business schools in the UK will be developed in further details in chapter 6 of this thesis.

[289] As shown in the following sub-section, this inquiry was conducted systematically by the Franks Report (1966) which explicitly formulated the need for teaching in management studies and suggested the creation of two Business Schools in the UK.

delivered to the Conference of European Rectors and Vice-Chancellors at Göttingen on September 2nd 1964', Robbins emphasized [...]

> "[...] the contribution to the progress and texture of civilization which [...] universities have to make, not only as centres of training, but also as centres of thought and learning." (Robbins, 1966: 4).

Interestingly though, while the final Report expressed the desire to develop more practical and specialized knowledge, Robbins still believed that general areas of study should be taught (especially in the students' early years at University)[290]. However, he recognised the increasing specialization of knowledge both within disciplines, and from a research perspective[291]. From a training perspective, the Report outlined the need for a change in the nature of teaching; in particular, Robbins expressed the necessity to abandon the old tradition of teaching designed mainly for the training of teachers and specialists. Rather a new way of teaching, more appropriate for the training of those who will have less differentiated tasks to perform later on, should be considered (*Ibid.*: 11). This change in the nature of teaching was expressed in line with the preparation of students for various careers[292]. The explicit philosophy of expansion provided by the final Robbins Report embodied a detailed plan of the recommendations planned between 1963 and 1967. The mechanics of this plan were thus:

1. Forecast the A level output

[290] On this matter, Robbins claimed: "To attempt to understand the world, to contemplate and to analyse its values – these are activities which, even if they were never associated with practical advantage, would still lend meaning and dignity to life on this planet". (Robbins, 1966: 5).

[291] The reference to the specialization tendency within his own discipline exemplified his statement; he argued: "I think, for instance, of my own subject, Economics. Forty years ago it was still possible for a single professor with two or three assistants to keep in effective touch with what was going on in the main language areas. Today it would be quite out of the question: only a department of at least ten, and better considerably more, is really adequate to the task [...]." (*Ibid.*: 8)

[292] The issue about specialization vs. broader background (mainly raised at the undergraduate level) directly resulted from the variety of careers. As pointed out by Lionel Robbins, "there are some careers, preparation for which even at this stage demands specialization; there are others which definitely require a broader background". (*Ibid.*: 12-13).

2. Multiply this by the proportions above to obtain numbers of entrants.
3. Assume certain lengths of course to convert entrants to places for home students.
4. Add in overseas students.
5. Calculate needs for staff and finance. (Layard, King, Moser, 1969: 21)

As soon as the Robbins' Report was out, the Chairman of the University Grants Committee (UGC) contacted the Universities and asked them to draft some suggestions on how to achieve the target (especially set up in terms of universities expansion) and how much it would cost them. As a result of their response, the UGC produced the quinquennial grants for the years up to 1966-1967. Interestingly, Oxford and Cambridge did not play a significant role in this wave of expansion, since between 1963 and 1969 they only increased their students by 2500 between them (against 6000 at London and 25,000 in the older civic Universities). Therefore, as regards the theme of this thesis, the most relevant aspects of the Robbins Report are those linked to post-graduate studies, the urge to broaden University degrees and the setting-up of two business schools in the country. According to later commentators, the Robbin's Report was also perceived as a critique of the Oxford system[293]. In particular, and probably for the first time in history,

> "Oxford was challenged to explain itself to the outside world while responding internally to the many tensions resulting from its enlarging scale and modified shape. There was not a simple opposition of left and right. Oxford's critics attacked from all quarters. From the left the thrust was against a traditional bastion of privileged inequality. But the *Times* and *Encounter* also carried the views of a wider group who felt that Oxford was not responding adequately to the meritocratic requirements of the scientific and managerial professions" (Halsey, 1994b: 722).

The gap between knowledge taught in the social sciences at university and practical knowledge required to enter the managerial world was identified. The need to reduce this

[293] In particular, the Report "[...] went on to criticize Oxford for the obscurity of its statistics, its grasshopper vice-chancellorship, its open scholarships (which he wanted transferred to postgraduates) and its syndicalist approach to its own government. [...] It was, however, still unclear at the end of our period how far British higher education, and Oxford within it, could follow the path which Robbins had sketched out for them." (Halsey, 1994a: 605).

gap was seen as a top priority for the future. This Robbins Report gave rise to the creation of a specific commission on Oxford University, chaired by Lord Oliver Franks, and in which Lord Robbins also became involved. The stand taken by this commission on Oxford economics and industrial organization and its implication for the development of the subject are assessed in the following sub-section.

II.2. The Franks Report

To a large extent, the 1963 Robbins *Report on Higher Education* had accused Oxford (as well as Cambridge) of possessing a cumbersome and non-transparent decision-making process based on peculiar institutional arrangements and of providing poor value as a national and international institution[294]. In particular, admissions and the Scholarship System were thought "socially unjust"[295] and it was felt that:

> "while availing themselves of the privileges of the present state-subsidized system, the ancient universities are unwilling to acknowledge the obligations – that they take it as a matter of course that their position should be recognized as different and that they should therefore be treated differently". (Robbins, 1966: 66).

Consequently, Oxford was threatened with change forced on it from outside. The *Robbins Report* characterised the ancient Universities as being "incoherent, involuted and inert", and Oxford was criticized on the basis of its "expensiveness, backwardness, richness and smugness"[296]. The Report dropped a bombshell on Oxford and Lord Robbins remembered:

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[294] The Report referred to "the difficulty Oxford has in reaching rapid decisions on matters of policy with its present constitutional arrangements, and the general obscurity in which so many of its administrative and financial arrangements are shrouded" (Robbins, 1963).

[295] Lord Robbins claimed: "In 1961-62 some 34 per cent of all undergraduates at Oxford and 21 per cent at Cambridge were from schools maintained by local education authorities. At the remaining Universities in England and Wales the proportion was 70 per cent." (Robbins, 1966: 62)

[296] To a large extent, these characteristics also concerned the University of Cambridge, which as much as Oxford relied on a rigid system of decision and in this sense, found difficult to reach rapid policy decisions (although an inquiry into the administration of the University of Cambridge was made before the Robbins Report was published). In particular, according to Lord Annan, Provost of King's College, Cambridge:

> "[...] the one paragraph in our report in which the reference to Oxford and Cambridge, despite many heartfelt tributes elsewhere, suggested that improvement in some respects was still possible, had provoked [...] much aggrieved comment and even personal abuse." (*Ibid.*: xi).

As a result, the University of Oxford was strongly encouraged to appoint a commission of enquiry into its own administration and governance, as a prelude to considering the changes suggested as necessary in the Robbins Report. On 18 March 1964, Council adopted this recommendation and appointed Lord Franks as chairman[297]. At the time, Lord Oliver Franks was the Provost of Worcester College (where he remained until 1976), after a successful career as a civil servant and a significant position as Chairman of Lloyds Bank[298]. Surprisingly, in 1963, Lord Franks (in collaboration with the British Institute of Management) had already suggested that there was a need for business schools to be established in England (Franks, BIM, 1963)[299]. His familiarity with both business and university life provided what the Government, the academics and the industrialists needed – a well-informed authority who could understand all sides of the debate.

"Proposals of Council may be over-ruled by the vote of the whole body of resident dons (Congregation and Regent House); the colleges are autonomous corporations and traditionally control admissions and tutorial teaching; and at all levels naked voting prevails. Decision-taking and planning are, therefore, difficult and diseconomies are frequent; and it was these difficulties which led the Robbins Committee to note the inability of Oxbridge to reach rapid policy decisions and the 'obscurity which shrouded their financial and administrative arrangements'." (Annan, 1966: 389). Further biographical details about Lord Annan can be found in the previous section of this chapter.

[297] The other members were: Sir Lindor Brown, Fellow of Magdalen College, Waynflete Professor of Physiology; Mrs. J. Floud, sociologist and Fellow of Nuffield College, Principal-elect of Hertford College; Miss M.G. Ord, fellow, tutor and Dean of Lady Margaret Hall, university lecturer in biochemistry; Mr. M. Schock, fellow, tutor and estates bursar of University College; and Mr. J. Steven Watson, Student and tutor in history at Christ Church, Mr. B.G. Campbell, fellow of Merton College, a deputy registrar of the University, was seconded to be secretary to the Commission. (Franks Report, 1966: 13; Halsey, 1994b: 724)

[298] Lord Franks (1905-1992) was a Professor of Moral Philosophy at the University of Glasgow between 1936 and 1946. He played a major role in Britain's post-war reconstruction and became the British ambassador to the United-States between 1948 and 1952. In 1960, he became a close second to Harold Macmillan, the then Chancellor of the University of Oxford (1960-1986) and was then elected Chancellor of the University of East-Anglia between 1965 and 1984. At the end of his life, he was also chairman of the Rockfeller Foundation which supported the development of the Oxford University Institute of Statistics and the OERG after WWII. For further details on this matter, see chapter 3 of this thesis.

[299] Further details about this specific report will be provided in chapter 6 of this thesis.

Essentially, the purpose of the Franks commission was to advise and make recommendations on the future of Oxford University, mainly through centralisation issues; although changes could only be made by the governing council of the University[300]. According to Lord Annan, the Commission was composed of:

> "[...] resident dons who were intimately acquainted with Oxford's tradition and structure; they were willing to devote the greater part of their time to the task and given a first-class secretarial and research team; and they were prepared to let the chips fall where they might. As a result they were able to make practical recommendations in far greater detail and over a far wider field than the Royal Commissions of the past had been able to do." (Annan, 1966: 393)

After two years of inquiry and oral evidence, the final draft of the Franks Commission emerged and drew a series of recommendations. The Report was in two volumes: the first included a statement of 170 recommendations (summarised at the end of the Volume); the

[300] The Commission of Inquiry was appointed "to inquire into and report upon the part which Oxford plays now and should play in the future in the system of higher education in the United Kingdom, having regard to its position as both a national and an international University, and in the light of its findings on this subject to consider in particular:

I. Whether the present powers, composition, procedure, and mutual relation of the central institutions of the University – Congregation, Council, General Board and Fcaulty Boards, Curators of the Chest – are such as to ensure that the making of decisions upon future policy and the conduct or control of administration can be carried out with adequate speed and efficiency. [...]

II. Whether the present arrangements concerning the appointment and term of office and the present functions of the Vice-Chancellor require consideration.

III. Whether with its present organization the University is equipped adequately to make its proper contribution to the discussion and formulation of policy in relation to national institutions concerned with higher education [...].

IV. Whether the University and the colleges have available for themselves and for each other the information (including statistical information) needed for internal and external purposes [...].

V. Whether in general present relations between the autonomous colleges and the University require consideration.

VI. Whether the present finance, staffing, and organization of research [...] is adequate, and, if not, what changes in the structure should be made.

VII. Whether the methods of teaching in the University and colleges are effective and economical, and, if not, what changes in the structure should be made.

VIII. Whether the present methods of selecting undergraduates, including the system of entrance scholarship and exhibitions, are justified on educational grounds.

IX. Whether the present organization of the First and Second Public Examinations in the University is satisfactory, and, if not, what changes should be made.

X. What propostion of postgraduates to undergraduates Oxford should aim to achieve over the next fifteen years, and whether the present methods of selecting and supervising postgraduate students need further consideration. (*Franks Report*, 1966, Preamble: 12).

second was a digest of relevant statistics[301]. It came before Congregation on 31 May 1966 as a "resolution to take note of the Commission's findings and as a signal that a process of legislating changes in the statutes of the University would now begin" (Hasley, 1994b: 731). In the following two years Congregation approved new statutes arising out of the report, and the need for administrative reform was generally accepted. The University stood poised to adopt a more active role in the search for funding, as outlined by the 38th recommendation of the report:

> "(38) The General Board, though its Committee on research, should play a more active part in the securing of money for research from governmental and non-governmental sources and should be prepared to put the full-weight of Oxford behind suitable applications." (Franks, 1966: 414).

In the course of expansion, greater emphasis was to be placed on applied science and social science. The favourable evaluation of Nuffield College expressed in the Report exemplifies this trend. It was written that Nuffield (along with St Anthony's) had been [...]

> "[...] the pace-setters for the whole body of Colleges. What they do has immediate repercussions upon the "traditional" colleges" (Chester, 1986: 129).

In particular, Nuffield [...]

> "[...] developed special techniques for dealing with post-graduate work and the whole range of Social Studies; its seminars have brought Oxford social scientists into touch with each other and with men of distinction from outside Oxford to their mutual benefit." (*Ibid.*).

While the main consequences of the publication of the Franks Report are often seen as purely organizational, the impact it had on social sciences should not be underestimated[302]. It was in this very specific new institutional context that industrial

[301] According to Halsey's account of the Franks Report, "the whole constitutes perhaps the best sociological account of the working of a single University in this century." (Halsey, 1994b: 726)

[302] According to some commentators though, the changes in the administrative structure were not substantial. It is reported: "There was no Franks revolution. The Commission had staged an impressive performance of advanced organizational analysis and had met the Robbins challenges on external coherence

organization developed in the University. This evolution was mainly conducted by Donald Hay and Derek Morris, who published an internationally known textbook in this subject area.

III. From Industrial Economics to Industrial Organization

In line with the introduction of this thesis, this section shows how the lives and positions of two Oxford economists influenced the general orientation of the subject of industrial economics in Oxford during the second-half of the twentieth century. From this perspective, biographical sketches of Donald Hay and Derek Morris are provided to shed light on their intellectual roots and their role in Oxford economics. Then, a detailed comparison between the two successive editions of their landmark textbook is considered as historical evidence of the evolution of these subject areas. Finally, the increasing weight of new microeconomics in Oxford is seen as highly influential in the theoretical generalisation made by the discipline, which moved further away from the empirical approach to the firm, which had hitherto been developed[303].

III.1. Donald Hay and Derek Morris: Biographical Overview

Donald Hay and Derek Morris are often associated in the industrial economics community. This is mainly because of the publication of their internationally known textbook, but also because both have been influential forces in Oxford economics. Hay and Morris were both undergraduate and graduate students in Oxford, and they represent key characters in the development of the subject area, both at a scientific and institutional level.

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and administrative dispatch. [...] Yet, for better or for worse, the ancient anatomy was essentially undisturbed. When an Oxonian, senior or junior, made a new acquaintance inside or outside the University he or she could expect the same old inquiry: 'and which college are you from'?" (Halsey, 1994b: 736).

[303] Further details about this specific approach can be found in chapter 2 of this thesis.

Donald Hay came to Oxford, as an undergraduate, to complete a BA in Geography which he obtained in 1965 with First Class Honours. He was a student at St Catherine's College where he stayed until 1967, when he left to become an M.Phil. student in economics at Nuffield College. He obtained his M.Phil. in Economics in 1968 and was also awarded an MA in Geography in 1969. Donald Hay remained continuously in Oxford, except for occasional Visiting Fellowships in Brazil[304]. His life as an Oxford academic was diverse, as he took up, in turn, positions of senior tutor at Jesus College (1977-1980), Chairman of the Economics sub-faculty (1987-1989), Member of the Social Studies Board (1985-1990), Chairman of University Working Party on Academic Programme of the proposed School of Management (1989), Chairman of the Interfaculty Committee on Management Studies (1991-1992), Vice-Chairman (1997-1998) and then Chairman (1998-2000) of the Social Studies Board[305]. Hence, his contribution to Oxford economics was made not only through his publications, but also his active involvement in University administration and governance. It is interesting, here, to take a closer look at Donald Hay's publications as they indicate the evolution of his research interests. Hay's contribution falls into two categories. The first category, the least relevant for our purpose, emerged in his later career and dealt with the links between Christianity and economics. This series of publications (Hay, 1993; Biggar, Hay, 1994; Hay, Kreider, 2001) started at the beginning of 1990s and is independent of his initial research interests. The second category of publications is more relevant here. His early collaboration with Derek Morris was not reduced to the publication of *Industrial Economics, Theory and Evidence* in 1979.

[304] Donald Hay was away from Oxford during 1969-1970, where he was a Visiting Research Fellow in Brazil, based at Fundacao Getulio Vargas in Rio de Janeiro; he directed a project at INPES. In 1981, he was also a Visiting Professor at CEDEPLAR, Federal University of Minas Gerais, Belo Horizonte, Brazil.

[305] More recently, Donald Hay became Head of the Division of Social Sciences, University of Oxford, (2000-2005) and Acting Pro Vice Chancellor (Planning and Resources) (2006-2007).

In effect, the publication of the famous textbook paved the way for further collaboration with Derek Morris, concerned with monetary issues (Hay, Morris, 1981), or with the role of unquoted companies in the British economy (Hay, Morris, 1984). This collaboration was supported by a series of major grants jointly awarded, especially for their inquiries into Chinese State owned manufacturing companies (which was published by Oxford University Press in a book co-edited with G.S. Liu and S. Yao in 1994) and into competition policy analysis for firms with market power (grant awarded by ESRC and Office of Fair Trading in 1994)[306]. Donald Hay was also very much involved in the proliferation of Oxford economic journals. He was successively part of the editorial board of *Oxford Economic Papers* (1978-1983), general editor of the *Journal of Industrial Economics* (1983-1988), and part of the editorial board of the *Oxford Bulletin of Economics and Statistics* (1993-2000)[307]. As a result of these key positions, Hay enjoyed significant influence on the orientation taken by industrial economics, industrial organization and even – to a lesser extent – management studies[308].

Sir Derek Morris was educated at Harrow County Grammar School for boys and came to Oxford as an undergraduate to study PPE at St Edmund Hall at the beginning of the 1960s, where he obtained First Class Honours. In 1964, he started a B.Phil. in

[306] (1979-1980) Unquoted Companies Group: unquoted company sector in the UK: £21k; (1989) Leverhulme Trust: behaviour and performance of Chinese State Owned manufacturing enterprises, 1979-88: £8.4k; (1989-1991) ESRC: ownership reform of state owned Chinese manufacturing enterprises: £36.8k; (1990-1991) Unquoted Companies Group: the performance of quoted and unquoted UK companies in the 1980s: £50k; (1990-1993) ESRC: dynamic efficiency and corporate performance, £105.0k; (1994- 1996), (with Professor J S Vickers) ESRC and Office of Fair Trading : Competition and competition policy analysis for firms with market power: £160k.

[307] Donald Hay took up the general editorship when Elizabeth Brunner died in 1983. In a personal conversation with Donald Hay, it was reported that before taking over the position, Hay had a discussion with Elizabeth Brunner about the future of the *Journal*. Brunner was worried about the *Journal* becoming too game-theory oriented, which according to Donald Hay was inevitable for its survival: A more detailed analysis of the new orientation taken by the Journal is provided in section three of this chapter.

[308] As will be shown in chapter 6, Donald Hay was appointed chairman of a committee investigating the need for an MBA in Oxford. The report was known as the Hay report and further details about its content and its influence can be found in chapter 6.

Economics, supervised by John Wright, and in 1968 he became a probationer student for the degree of Bachelor of Letters in Nuffield College, which led to a D.Phil. award in economics a year later. Derek Morris did his doctoral research on investment behaviour in the UK and was supervised by David Stout – last chairman of the OERG (see chapter two of this thesis)[309]. Before taking up his position as Fellow and Tutor in economics at Oriel College, Oxford, and as a University Lecturer (subsequently Reader) in 1970, Derek Morris spent a year at the University of Warwick doing research at the Centre for Business and Industrial Studies. He then returned to Oxford and like his colleague, Donald Hay remained there, by and large, for the rest of his career. Successively, he held a series of University positions which lent him authority within various commissions inside and outside Oxford. For instance, between 1981 and 1984 while he was a Fellow and Tutor at Oriel, he was also appointed economic director of the National Economic Development Council. Then, from 1984 to 1998, he became Chairman of Oxford Economic Forecasting Ltd. before being appointed Chairman of the Competition Commission (formerly the Monopolies and Mergers Commission) in 1998[310]. In addition to his collaboration with Donald Hay, Derek Morris' practical experience led him to publish on a diverse range of economic issues, including trade-policy and performance, productivity growth, industrial policy, the Chinese economy, exchange rates, the stock market and corporate control. In 2003, he was awarded a knighthood for his service to industry[311]. Like Donald Hay, the

[309] *Oxford University Gazette* (HT, TT, MT, 1964; 27th March 1968).
[310] Derek Morris joined the Competition Commission in 1991. He was first a member of the Commission (1991-1994) and then a Deputy Chairman (1994-1997) before becoming its Chairman in 1998. He held his position of Chairman until 2004, when he became Provost of Oriel College.
[311] *Times Higher Education*, 3rd January 2003, New Year Honours.

position he held within the Oxford community placed him at the centre of decision-making within the University, both at academic and administrative levels[312].

III.2. A Comparison of the Textbook's Successive Editions: A Shift from Industrial Economics to Industrial Organization?

The first edition of Hay and Morris' textbook on industrial organization in 1979 constituted a landmark in the development of the subjects of industrial economics and industrial organization. The textbook served as a basis for teaching even decades after its publication and, therefore, exemplified the orientation taken by the academic disciplines in Oxford and more generally in England. In the preface of the book, Hay and Morris made the objective of their publication explicit:

> "In recent years Industrial Economics has emerged as a major area of economic analysis both in terms of theoretical and empirical research and in terms of the number of courses at undergraduate and graduate level. This book, stemming originally from lecture and seminar series at both levels, is designed for those pursuing such courses." (Hay, Morris, 1979: Preface)[313]

This first edition was a standard textbook in which industrial economics was described as a field in which debates and controversies were ongoing. It tried to provide students with synthetic overviews of different approaches. In their introduction, Hay and Morris immediately outlined the difficulty in finding a single definition of industrial economics and raised two particular matters related to it: the disagreements on both theoretical and empirical issues and the confusion over the scope, concepts and methodology of the

[312] For instance, today, Derek Morris is still involved with Oxford as Provost of Oriel College, Chairman of the Trustees of the Oxford University Pension Fund, Chairman of Oxford University's College Contributions Committee (which redistributes resources from colleges with high endowment to those with low endowment), Chairman of the Advisory Board for the Centre for Business Taxation at Oxford University, but also with external institutions concerned with economic policy exemplified by his membership in the Committee for Standards in Public Life (formerly the Nolan Committee) and his role as senior consultant in regulatory and competition economics for Frontier Economics. During the year 2004-2005, Morris chaired the Morris Inquiry into the actuarial profession in the UK, the recommendations from which are currently implemented.

[313] The increasing number of courses at both undergraduate and graduate level has been evidenced in chapter 3 of this thesis.

subject[314]. To a large extent, the authors of the textbook agreed with the explanation of these differences provided in this chapter, since arguing that "the basic problem underlying the current state of industrial economics lies in the nature and multiplicity of its origins" (*Ibid.*)[315]. The historical links between the theory of the firm and industrial economics, located at the heart of this doctoral research, was also acknowledged in the textbook; yet, Hay and Morris made clear that industrial economics emerged as a distinct perspective from the traditional theory of the firm. In particular, they claimed that:

> "First, there is an important sense in which the traditional theory of the firm represents a long detour in the history of the study of firms' economic behaviour. Second, the development of industrial economics can partly be seen as a consequence of several inadequacies and faults of analysis in the theory of the firm. Third, while the latter provides a main foundation for the study of industrial economics, several important influences from outside have given a totally different character to industrial economics." (*Ibid.*: 4)

Nevertheless, while Hay and Morris' approach to firms and industries rejected the standard version of the theory of the firm; their contribution to the subject still constituted a break away from the Oxford tradition of industrial economics, as shaped by Andrews and Brunner in the 1950s. This judgment is reinforced by comparing the first edition (1979) with the second edition, published in 1991, under a slightly different title (*Industrial Economics and Organisation – Theory and Evidence*). The first edition of *Industrial Economics – Theory and Evidence* referred only twice to Andrews' normal cost theory. The first reference appeared in a chapter dedicated to 'pricing behaviour' in which

[314] "First, as in several areas of economics, there is often disagreement on both the theoretical and empirical issues involved. [...] Second, and more serious, there is both confusion and conflict on over the three main elements of this (or any) discipline – its scope or purpose, its concepts and its methodology. [...]" (Hay, Morris, 1979: 3).

[315] More precisely, they argued that "People have been interested in the economic behaviour and performance of industries since the beginning of the industrial revolution, but the delineation of a specific area of economics under the title of Industrial Economics is a phenomenon of the last forty years only. The period in between was characterized by several different approaches to the topic, each with its own objectives and practitioners, with its own method and terminology." (Hay, Morris, 1979: 3)

Manufacturing Business was mentioned only for its empirical evidence on pricing. The book was depicted as a series of empirical investigations, which supported the validity of the cost-pricing principle and tried to incorporate this into a theory of competition. It is clear, however, that in the authors' minds, Andrews' book only constituted new evidence to support the 1939 Hall and Hitch article on pricing. Hence, an obvious conclusion from the first edition of Hay and Morris is that their mention of Andrews is rare and their assessment of his contribution limited. As regards Marshall, Hay and Morris adopted a very cautious approach, their references to him being limited to their historical introduction to the textbook. They argued that Post-Marshallians have lost a part of Marshall's message in dedicating too much work to purely empirical studies. Finally, they indicated their support for an approach to industrial organization that will, once again, combine empirical and theoretical aspects, as Marshall had done.

The second edition of Hay and Morris's textbook confirmed these comments. Andrews was again mentioned infrequently, but now *Manufacturing Business* was only considered among various empirical contributions, its theoretical developments being completely neglected. Marshall was mentioned along exactly the same lines as in the first edition and reduced to a historical benchmark. The main difference between the editions lies in the ebbing of controversy within the field of industrial organization between 1979 and 1991, mainly because of the increasing domination of game theory in the theory of imperfect competition and strategic interaction. Interestingly, the change in title between the two successive editions did not merit comment or explanation from the authors[316]. However, the second edition indicated a shift away from empirical studies towards

[316] A shift from *Industrial Economics – Theory and Evidence* (1979) to *Industrial Economics and Organization – Theory and Evidence* (1991).

formalisation, which had initially emerged in the United States. Overall, the publication of Hay and Morris's textbook in Oxford depicted the waning influence of Marshall's work and the empirical approach to the firm on the new industrial organization.

III.3. Developments in Applied Microeconomics and their Influence on Industrial Organization (1950s-1980s)

The development of industrial organization by Hay and Morris was conducted in harmony with advances in general microeconomics. In Oxford, microeconomics was taught at undergraduate level in PPE and at graduate level in the B.Phil. in Engineering Science and Economics[317] and in the B.Phil. in Economics (graduate level). The first Microeconomics lecture addressed to PPE students was introduced as late as Michaelmas Term 1968 and was taught by Mr. P.M. Oppenheimer. Before then, studies of firms' behaviour were encapsulated in the 'theory of the firm', 'structures of industry', 'industrial organization', 'theory of prices', 'welfare economics' and 'theory of demand'[318]. From 1968 onwards, microeconomic theory was taught by P.M. Oppenheimer and G.B. Richardson to PPE students; by C. Allsopp, N.H. Dimsdale and L.E. Baragwanath to B.Phil. students in Engineering Science and Economics; and by G.B. Richardson, Prof. J. Mirrlees, W.M. Corden and occasionally by J. Hicks to B.Phil. students in Economics[319]. The first lectures in the theory of games were introduced in Hilary Term 1954[320]. This increasing amount of

[317] As mentioned earlier, the B.Phil. was introduced in Hilary Term 1966.

[318] On the basis of the dataset (list of lectures for undergraduates and graduates) built for this research and described in chapter 3 of this thesis, the lectures about the theory of the firm and industries were mainly taught by P.W.S. Andrews and E. Brunner (1952-1968). Professor Jewkes was mostly in charge of the lectures entitled 'structures of industry' (1952-1969) and 'industrial organization' with Mr. Hugh-Jones (1953- . 'Industrial organization' was also taught by N. Leyland (essentially during the year 1954). The theory of prices was successively taught by Mr. Streeten (1952), Prof. Hicks (1952-1953/ 1958), Mr. Richardson (1953-1954) and Mr. Wright (1955-1960). Welfare economics was taught by Prof. Hicks (1954-1958/ 1961-1963). The theory of demand was taught by Prof. Hicks (1961-1963).

[319] In particular, John Hicks taught 'Microeconomics IV: 'Value and Capital' Revisited during Hilary term 1970.

[320] The lecture was taught by Mr. Newman. In 1956, Mr. Klein started teaching it.

teaching of microeconomics, applied microeconomics and game theory confirms the new orientation taken by industrial organization, suggested by the successive editions of Hay and Morris's textbook and reflects a more general tendency in the mid-1970s/ early 1980s towards developing more deductive and normative approaches in the discipline.

When Andrews and Brunner left Oxford in 1968, David Stout was left in charge of the B.Phil. seminar in industrial economics and, he in turn, left Oxford in the early 1970s, losing touch with its organisation in 1974. Then Derek Morris became its organiser and reoriented the topics in a different direction. For instance, during the Michaelmas Term, 1974, programme of the seminar, the seven weeks of term were structured as follows:

1) "The principles and significance of company accounts",

2) "The profit maximising hypothesis",

3) "Price formation",

4) "Game theory and oligopoly",

5) "Mergers and concentration",

6) "The organisational structure of the modern corporation", and

7) "Multinational corporations".

Figure 3 – Michaelmas Term 1974 Programme for the Economics of Industry Seminar

A closer look at the reading lists for each topic (per week) mentioned above shows that the reading list for Week 2 includes references to Berle and Means, Marris and 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 in Oxford. It has been argued elsewhere that Marris and Williamson developed approaches to the firm significantly supported by concepts of optimum and equilibrium, far from Andrews' interpretation of

industrial economics (Arena, L., 2005). As a comparison with the first topics of the seminar, the program for Michaelmas Term 1957 was 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. On the reading lists, the complete absence of references to Marshall's works expresses independence from any Marshallian influence. Interestingly, the emergence of game theory paved the way for an alternative theory of oligopoly, which was non-existent when Andrews was still in Oxford. Last but not least, as shown in Figure 3, an entire week was dedicated to the internal structure of the firm (week 6), which clearly provided the first background for a managerial and business approach to the firm.

This Oxford orientation could be contextualised in a broader picture. The introduction of the theory of contestable markets by Baumol, Panzar and Willig (1982) was indeed considered a generalisation of the theory of perfectly competitive markets in which the determination of industry structure was made endogenous[321]. According to Baumol,

> "[...] in the limiting case of perfect contestability, oligopolistic structure and behavior are freed entirely from their previous dependence on the conjectural variations of incumbents and, instead, these are generally determined uniquely [...] by the pressures of potential competition." (Baumol, 1982: 2)

The concept of 'potential competition' central to the theory of contestable markets was already referred to by Marshall and Walras' works and was now systematised by Baumol and his colleagues as the key for their theory of industrial structures based on notions of contestability and sustainability. The new research programme in industrial organization

[321] For further details about Baumol's contribution to industrial organization in the United-States, see section I.1. of this chapter.

also highlighted the need to understand economics not only as the production of theoretical knowledge but as policy. The formulation of a competition policy as needing to maintain the threat of potential competitors in order to ensure the efficiency of new entries/ exits contrasted with the SCP paradigm which was clearly more concerned with stabilisation of structures through insiders' behaviours. This new line of reasoning enlarged the validity conditions of theories of perfectly competitive markets questioned by some industrial economists, especially with the introduction of multi-product firms based on differentiation.

In addition, new models of strategic interaction were also seen as an alternative to standard microeconomics and as a contribution to industrial organization, as shown in Hay and Morris (1991). Price strategies were now studied in the context of duopolies and oligopolies with the help of new modelling techniques. These new issues in strategic interaction (developed with an intensive use of game theory) corresponded to a new substantial methodological element in industrial organization.

In Oxford, John Hicks made a major contribution to applied microeconomics, with the publication of his *Value and Capital* in 1939. While it is agreed that John Hicks did not bequeath a homogeneous tradition of thought, yet, as probably one of the most emblematic figures of Oxford economics, he stimulated a series of young researchers at that time to initiate research on risk, uncertainty and equilibrium. Exemplars include G.B. Richardson and H.B. Malmgren whose work is introduced and analysed in chapter 5.

The theoretical and empirical orientation taken by the *Journal of Industrial Economics* after Elizabeth Brunner left the editorial board is also indicative of the increasing interest in applied microeconomics and game theory. In particular, when

Donald Hay took over the editorship, he made a specific effort to align the *Journal*'s issues with research in game theory. Although Elizabeth Brunner did not share this diagnosis, Donald Hay was convinced that such a reorientation was the only strategy to keep the *Journal* successful within the academic community[322]. As a result, the issues published from the beginning of the 1980s became increasingly formalised and less and less empirical in Andrews and Brunner's sense.

Concluding Remarks

This chapter aimed to show the triumph of formalism through the decline of industrial economics and the rise of industrial organization as an academic subject. Overall, a general understanding of the various institutional frameworks in which industrial economics and industrial organization were shaped in the United States and in Europe between 1960s and 1990s supported this result. In line with the purpose of my thesis, the chapter sought to assess the specific contribution made by Oxford economists to industrial organization after Andrews and Brunner (seen as the main investigators of 'industrial economics' as an academic subject) left Oxford in 1968 and in a context of University reforms expressing the increased desire to get Oxford programmes closer to industrial reality.

Through a combination of different methods (review of primary and secondary literature, archival data and interviews), the chapter pointed out some differences between industrial economics and industrial organization in Oxford. Research programmes in industrial organization commonly studied firms', industries' and markets' behaviours through the lens of strategic interaction, thus using game theory and other recently

[322] Oral conversation between E. Brunner and D. Hay mentioned in an interview with Donald Hay on the 18th July 2006, Social Science Faculty, Oxford University.

introduced modelling techniques. The internationally known textbook published by Hay and Morris in 1971 facilitated the diffusion of this subject area in Oxford. The institutional role of both authors depicted as established and influential Oxford figures, coupled with University reforms in the 1960s favoured the rapid development of the discipline within applied microeconomics. By contrast, industrial economics (more in line with the definition introduced by Andrews and Brunner) waned in the context of post-1960s Oxford economics. It was less formalised than industrial organization moving away from optimisation and theories of perfectly competitive markets.

This historical dynamic of non-coexistence between both subject areas set the stage for further developments in Oxford, less formalised, closer to reality and/or more empirically grounded during the 1960s. The following chapters will depict two of the most significant lines of alternative development of industrial organization: developments in knowledge-based studies on firms and the introduction of business studies as an academic discipline.

CHAPTER 5 – The Knowledge-Based Theory of the Firm

I. George Richardson and Harald Malmgren: Towards an Alternative Theory of the Firm
I.1. George Richardson and Harald Malmgren: Biographical Overview
I.2. The 'Richardson-Malmgren Coordination View' of the Firm

II. The Impact of the Richardson-Malmgren View of the Firm on Modern Approaches
II.1. The Malmgren-Richardson Coordination View of the Firm: The Roots for a Modern Contractual Approach to the Firm?
II.2. Impacts on Information and Knowledge Based Theories of the Firm

As seen in chapter 3, the emergence of the *Journal of Industrial Economics* in 1952 led the discipline in new directions; these revealed three conflicting channels of interest. This chapter constitutes the second conflicting channel of interest and weights the influence of Oxford economists on the modern knowledge-based theory of the firm developments. Hence, less than a decade after the emergence of the *Journal of Industrial Economics*, a new trend in the economics of industry and competition emerged with the contributions made by two Oxford economists: George B. Richardson and Harald B. Malmgren, both students of John Hicks. Like Philip W.S. Andrews, they both looked back to Marshall's work to resolve some discrepancies between standard theories and the real economic world and outlined the need for the construction of a microeconomic model which would provide a better understanding of modern market economies[323]. As pointed out in chapter 3 of this thesis, Andrews' critique – based on his empirical work – was mainly destructive and failed to provide a serious alternative to the existing trends in microeconomics. His critique was mainly based on the lack of realism offered by standard microeconomic developments, and resolved by observed industrial reality[324]. From a methodological perspective, Andrews did not attack a lack of realistic assumptions in the Cambridge developments regarding the firm, but rather their lack of useful conclusions regarding the real industrial world[325]. It can be

[323] For further details about Andrews' interpretation of Marshall, see Arena, L. (2006)

[324] For instance, chapter 3 of this thesis has shown that Andrews's approach was aiming at reconciling economic theory with the real industrial world. This idea is present, in an answer made by Andrews to Robertson, in which Andrews showed his strong link to Marshall's desire for realism: "I do argue that, whenever in my field one gets shown to realistic thinking, there is Marshall already. I wish that I had been trained to use the representative firm – by Marshall – I am sure that it was an important tool in his thinking, and that great book Industry and Trade – completely and undeservedly neglected here, how is it in Cambridge? – shows how good his thinking was" (Andrews, 1993: 119). In 1951, Andrews admitted, in this respect that "Professor Pigou played a special part in the subsequent development of Cambridge doctrine, which was marked by the avoidance of any detailed contact with the actual world."

[325] Cf. chapter 2 of this thesis.

recalled here that, according to Andrews, "the validity of a theory is entirely a matter of the extent to which it is a better predicting instrument than any alternative theory" and "should be judged by its results and not by its assumptions" (Andrews, 1952: 73). Consequently, Andrews' approach was mainly based on empirical analysis, as a tool to confront theoretical conclusions to the real world. The Malmgren-Richardson view of the traditional theory of the firm was rather different: in a nutshell, Malmgren and Richardson developed a similar idea, stating that the Cambridge developments on firms, industries and markets lacked realism and the models developed in Cambridge were inadequate. In accordance with this line of thought, Richardson's work challenged the assumption of perfect and complete information and emphasised the role of "informational requirements" which might allow the working of a competitive market economy (Richardson, 1960: vi). In fact, as argued by Richardson, "by neglecting the whole problem of information, the perfect competition model condemns itself not only to unrealism but to inadequacy even as a hypothetical system" (Richardson, 1960: 69). Hence, by contrast with Andrews, Richardson did not reject the marginal theory of the firm for its descriptive unrealism, but rather for its logical inconsistencies and its neglect of co-ordination problems (Foss, 1998: 142). By contrast, Malmgren, referring to the Cambridge developments on the firm, argued that difficulties to apply the standard theory of the firm to the real world arise to a large extent because of the unrealistic assumptions on which this theory is based, and not usually because of internal contradictions in its logic (Malmgren, 1961(b): 13).

In the context of the thesis as a whole, the main argument developed here is that the Richardson-Malmgren co-ordination view of the firm was a third way of treating firm-related issues as an alternative to, on the one hand, the standardization of industrial economics made by Hay and Morris[326] or, later on to business studies, strongly built upon a case studies methodology[327]. This third way of studying the firm constituted a genuine contribution to organizational theory, which was idiosyncratically rooted in the context of Oxford University in the 1960s.

It seems important to note that this chapter does not constitute an exercise of History of Economic Thought *per se*. Its main purpose is not to understand the origins of both authors' works, but rather lies in a more intellectual history-based approach. In this sense, this chapter seeks to evaluate Malmgren and Richardson's theories – in the light of their lives, education and career – to assess the extent to which they influenced modern theories of the firm, especially based on concepts, such as economic organisation, firms' capabilities and knowledge. Only few contributions linked Richardson and Malmgren's work, in this perspective. Among these few contributions, the main effort has been oriented towards the analysis of their work through the framework of a history of economic thought. For instance, Nicolai Foss's analysis focuses on showing the Post-Marshallian nature of Malmgren and Richardson's contributions (1996: 8), while Richard Langlois (2007) located their contributions at the heart of the Austrian School of Economics[328]. Moreover, while these contributions largely referred to all the relevant contributions made by George Richardson, they limited Malmgren's contribution to his

[326] For further details, see. Part II, chapter 4 of the thesis.
[327] For further details, see. Part II, chapter 6 of the thesis.
[328] More precisely, according to Foss (1995: 23), Malmgren "kept burning the original Marshallian torch, mixing Marshallian ingredients with Austrian spices".

1961 article published in the *Quarterly Journal of Economics*. As Malmgren stated himself in private correspondence, this article gathered the initial ideas behind his thesis written a year before he completed his D.Phil. at Oxford. As a result of various suggestions made by fellow economists at the time, Harald Malmgren published it immediately, "without the usual preparation or else the usual follow up in a sequence of publications" (Malmgren, 2008: E-mail correspondence). For this reason, this chapter also considers the integral version of Malmgren's D.Phil. thesis which, as suggested, gives a more complete picture of his analytical framework on the theory of the firm and on economic organization.

Therefore, according to its main purpose, the chapter falls in two main parts. The first section outlines Richardson's and Malmgren's contributions to the field of the theory of the firm and of industries. Within this first section, one will first successively introduce authors' lives, works, and intellectual roots in order to assess Richardson's and Malmgren's similarities and synthesises the Richardson-Malmgren coordination view of the firm. The second part of the chapter evaluates the extent to which Richardson's and Malmgren's developments on the firm grounded more substantial contemporary work, such as the knowledge-based view of the firm. Both authors, independently, stressed the importance of information for firm behaviour, which led two decades later to the modern knowledge-based view of the firm and of industry. It will be argued that these Oxford economists did make an original contribution to the field, as today taught and studied. They also succeeded in providing a serious alternative to the traditional theory of the firm developed in Cambridge in the 1930s[329], which is still taken as a reference in modern developments of firms, industries and competition. Hence, within the second section, one

[329] For further details, see. Part I, chapter 1 of this thesis.

first focuses on the misleading link in the literature made between the co-ordination view of the firm and the modern contractual approaches, such as the ones successively developed by Ronald Coase and by Oliver Williamson. Rather, one then highlights how the modern evolutionary developments on the firm and on industries have roots in these Oxford developments, based on an early knowledge theory of the firm. This final section focuses, in particular, on the resource- and knowledge-based view of the firm, also independently influenced by Edith Penrose (1959).

The chapter relies on two main primary sources. The first is interviews with George Richardson and Harald Malmgren, themselves. Both of them strongly inspired and contributed to the construction of this work. The interviews focused on their lives and their work, as well as the way they have been influenced by institutions and other academics both inside and outside Oxford. The second source is the unpublished Oxford D.Phil. thesis written by Harald Malmgren in 1961 and held at the Bodleian archives. I obtained Dr. Malmgren's personal authorization to read and to cite his 1961 unpublished work.

I. George Richardson and Harald Malmgren: Towards an Alternative Theory of the Firm

The following constitutes an intellectual history exercise, and stresses the influence of Malmgren's and Richardson's lives and careers orientation on their theoretical developments. It suggests that these authors shared some common trends in their professional lives. Both students of John Hicks, their contributions have met, to a certain

extent, with an apparent lack of interest by fellow economists in the 1960s[330]. They both turned their back on academia, and became managers of big businesses. Their ideas have been revived in more recent theoretical developments in industrial organization. Overall, it is argued that Malmgren's and Richardson's similarities in their theoretical developments were not an unintended consequence, but were rather, on the contrary, explained by common trends in their education and early academic careers.

I.1. George Richardson and Harald Malmgren: Biographical Overview

Malmgren and Richardson simultaneously sought to develop an alternative theory to the Walrasian general economic equilibrium (GEE) framework used in John Hicks' *Value and Capital* (1939), and to the Cambridge developments on the firm and on competition. As an alternative, they both contributed to the early development of an informational approach to the firm. The theoretical content of their work was incontestably strongly Hicksian, but also influenced by various other theoretical developments, inside and outside Oxford. While Richardson developed very self assessed and independent ideas rooted in economic logic – "as if applying logic in his armchair" (Earl, 1998: 17), Malmgren's account was rather more the result of a mix of various theoretical contributions. The following analysis argues that their lives and careers respectively formed their intellectual developments and theoretical orientations.

[330] Foss argued that Malmgren packed too much into too little space, too early in the development of a information-based theory of Economic Organisation (Foss, 1996). Richardson 'abandoned his career in economics, because of a lack of interest in his work by fellow economists and his own dissatisfaction with the trend of economic thinking' (Foss 1998: 1). It could also be argued that Richardson's ideas were, as Malmgren's, too new. He himself expresses this idea, in the introduction of the second edition of *Information and Investment*: "I learned, the hard way, that it is difficult to get a hearing for new ideas, the more so when asking for the abandonment of old ideas long establishments, in constant use, and apparently fundamental to a large part of accepted theory." (Richardson, 1997: xvii).

- **George Barclay Richardson**

George Barclay Richardson combined his university education with the experience of the Second World War. He was first trained as a scientist, having read mathematics and physics at Aberdeen University for his undergraduate studies. In 1944, he worked for the offices of the Royal Navy in the Admiralty Scientific Research department, and became Lieutenant of the Royal Navy Volunteer Reserve a year later. In 1946 he joined the Government Intelligence Division for a year. He was admitted to Oxford in 1947, at the age of 23, and switched from science to PPE. His scientific background led to his links with John Hicks, who then became his B.Phil. thesis tutor[331]. In 1950, John Hicks - who already occupied the Drummond Chair of Political Economy at All Souls College - managed to convince his student to stay at Oxford and secured for him a doctoral scholarship at Nuffield College, even though Richardson's first wish was to pursue a diplomatic career[332]. George Richardson remained a Fellow of St John's College between 1951 and 1989. He remains (now an honorary) Fellow of the College. During his fellowship at St John's, he was also a University reader in Economics between 1969 and 1973. Between 1974 and 1988, he accepted the prestigious position of Chief Executive of

[331] Richardson was first assigned Frank Burchardt as his supervisor, but "after Richardson showed off his mathematical skills in presenting a paper on Keynes's theory of employment, Burchardt asked Hicks to tutor Richardson instead", (Earl, 1998: 17). As rightly pointed out by Peter Earl, "the irony is [...] that much of what he was subsequently to write points away from analysing economic problems with the aid of mathematics and leads instead to recognition of the need to become familiar with institutional details of devices that firms use to assist co-ordination." (Earl, 1998: 16).

[332] Interestingly, this is significant to understand the differences between Richardson and Andrews in terms of backgrounds and relation to John Hicks. The ease with which Richardson got established at Oxford in the early 1950s could be, here, contrasted with the difficulties that Andrews had in retaining his Fellowship at Nuffield College in 1953. As seen in chapter 3, John Hicks had a very low opinion of Andrews as an economist and did not support the renewal of Andrews' fellowship who finally left Oxford to Lancaster University in 1968. (Lee, 1993: 22; Earl, 1998: 17).

Oxford University Press, and kept his links with the academic world, still making contributions to academic books[333].

Regarding his theoretical contributions, as early as in his last year of undergraduate studies, Richardson was trained by his mentor, John Hicks, not to read the latest journal contributions and the secondary literature, but rather the original writings of authors concerned with his weekly essays (Richardson, 1997: xviii). As a result, he read Edgeworth, Marshall, Menger, and Walras. The Hicksian nature of Richardson's contribution cannot be contested, and is commonly agreed on by historians of economic thought (Arena R., Charbit, 1998; Earl, 1998; Foss, 1995). This influence is especially clear when one looks at Richardson's knowledge of the Walrasian GEE conceptual framework. As commonly known, Hicks' *Value and Capital* (1939) was itself an explicit Walrasian contribution, since John Hicks explicitly defined his work as a continuation of the Lausanne School of Economics, including Léon Walras (Hicks, 1939: 2)[334]. The irony is that if Hicks contributed to Richardson's knowledge of GEE theory, he also indirectly contributed to its critique. In fact, George Richardson soon realised that

> "[...] there is, in fact, a genuine gap in our theoretical presentation of the working of the competitive economy. The theory of the maintenance or the attainment of equilibrium under perfectly competitive conditions fails to account for the process of adjustment in terms of investment decisions by individual entrepreneurs, who have expectations which they could reasonably be presumed to form, on the basis of information which can reasonably be presumed to be available" (Richardson, 1960: 28).

That is, Richardson's contribution was about to cover various economic topics, such as: the theory of the firm, economic organization and welfare economics, all of which had a common background and respected a unity of analysis, linked to a critique of the GEE

[333] See, for instance, Richardson (1997; 1998).
[334] For further details about Walras' contribution to the field, see chapter 1, section 1 of this thesis.

theory. However, unlike Andrews, Richardson's critique was not purely destructive and offered an alternative theory of the firm and of economic organization, based on non-Walrasian traditions, such as the Marshallian or the Austrian ones (Arena R., Charbit, 1998: 84).

Despite his achievements "of which most academics can merely dream", his work has had a smaller impact on the intellectual community than he might justifiably have expected (Earl, 1998: 14)[335]. Yet, less than two decades after the first publication of *Information and Investment*, Richardson's contribution has been revived, with the development of the evolutionary knowledge-based theory of the firm. After having been unjustifiably ignored, he then became considered as one of the 'founding fathers' of the theory of the firm and the market (Foss, Loasby, 1998: Preface).

- **Harald Malmgren**

Harald Malmgren was an undergraduate at Yale University, where he was elected Scholar of the House[336]. At the same time, he was chosen as Nobel Laureate Thomas Schelling's research assistant. Schelling, at this stage, was just beginning to develop his game theoretic approach, which was later expanded in his publication, *Strategy of Conflict* (1960). During his undergraduate studies at Yale, Malmgren was introduced by Schelling to "great minds at the Cowles Commission (which had just come to Yale from Chicago) and a number of senior faculty at Harvard and MIT"[337]. The 'Cowles Commission for Research in Economics' was founded by the economist and businessman Alfred Cowles in

[335] Richardson makes his disappointment clear in his introduction to the second edition to *Information and Investment*: "In any event and to my disappointment, the book made little impact. Its arguments were not rejected but simply ignored". (1990: xvii)
[336] At Yale University, A Scholar of the House got the opportunity to take one year of independent study.
[337] Malmgren, 21/08/2008: Private correspondence.

1932 and was aimed at linking economic theory to mathematics and statistics[338]. This commission was dedicated to further developments of two fields of the economics discipline, namely the GEE theory and econometrics. As a result, for different reasons as to those which led Richardson to the Walrasian framework, Malmgren was introduced to the GEE theory early. Harald Malmgren graduated from Yale in 1957, from where he obtained his BA in Economics *summa cum laude*.

In 1957, Malmgren decided to pursue his education at Oxford University. Encouraged by Thomas Schelling who approached Charles Hitch[339] – at that time, Provost of Queen's College – the young Malmgren arrived in Oxford on a doctoral Yale Fellowship. During these Oxford years, Malmgren regularly attended the B.Phil. Seminar in Economics of Industries organised by Philip Andrews and Elizabeth Brunner[340]. On this occasion Philip Andrews offered to publish one of his seminar papers in his *Journal of Industrial Economics*. This paper, based on Malmgren's "direct experience in costing at the multi-product firm Minneapolis Honeywell in the summer months of 1956", was then published in 1959, when Malmgren was still a second year D.Phil. student [341] (Malmgren, 2008: private correspondence). His Oxford stay gave Malmgren the opportunity to develop personal interactions with Roy Harrod, George Shackle, Jacob Marschak and James Meade[342]. A year before he wrote his thesis, Malmgren published his main ideas as

[338] The Cowles Commission was directed by Jacob Marschak from 1943 to 1948, and then by Tjalling Koopmans from 1948 to 1954. Both economists have been referred to by Malmgren, at several occasions in his contributions.
[339] In 1957, Charlie Hitch was still Provost of Queen's College. He left Oxford to go to America very soon before Malmgren joined Queen's College. In 1959, Hitch was elected President of the Operations Research Society of America.
[340] For further details about this seminar, the reader might be interested to go back to chapter 3 of this thesis.
[341] Malmgren, H.B., (1959), "What Conclusions have to be Drawn from Empirical Cost Data?, *Journal of Industrial Economics*, 7(2): 136-144.
[342] At this time, Marschak had gone to the US and Meade was in Cambridge.

an article, that was published in 1961 in the *Quarterly Journal of Economics*[343]. The acknowledgments made by the author at the beginning of the article indicate the many and different connections Harald Malmgren made in Oxford[344]. It could be argued that the heterogeneous body of writers cited did not help his paper to be used very much by his contemporaries. Nicolai J. Foss (1996(c)) defended this idea and noted that "the reasons why the paper has not been used are not difficult to figure out. [...] it bristles with (too) new and provocative ideas and draws on too many different writers" (Foss, 1996(c): 350)[345]. Harald Malmgren submitted his D.Phil. Thesis in Trinity Term 1961, and left Oxford for good soon after that. After four years at Oxford, he went back to the United States, and began his academic career by taking the Galen Stone Chair in Mathematical Economics at Cornell University.

However, one year later, "as happens in life", he decided not to pursue "this avenue of exploration" initiated during his Oxford experience[346]. In 1962, Malmgren joined the US government service, and ceased to play an important role in terms of academic publications. More precisely, he moved to Washington and joined the Administration of President Kennedy to reconstruct the Defense Department's military and procurement strategies. He then joined President Lyndon Johnson's office and started a new career in international negotiation. In 1969, Harald Malmgren left government service and became the manager of an international consulting company, advising many

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[343] Malmgren, H.B., (1961), Information, Expectations, and the Theory of the Firm, *Quarterly Journal of Economics*, 75: 399-421

[344] Harald Malmgren is grateful to "Professor J. Marschak, , C.L. Lloyd, and P.P. Streeten for detailed comments on an earlier version of this paper, and also to P.W.S. Andrews, M.H. Dobb, C.P. Kindleberger, I.M.D. Little, R. Lubitz, E.J. Nell, L.L. Pasinetti, and E.T. Penrose for remarks" (Malmgren, 1961(a): 399).

[345] Malmgren, somehow, confirmed this idea, arguing: "I was fortunate to have John Hicks as my supervisor, and I luckily was able to get to know Dennis Robertson, Joan Robinson, George Richardson, Ian Little, Roy Harrod, and many other economists of the Marshallian School, but I also had interaction with an entirely different group with different perspectives" (Malmgren, 2008: private correspondence).

[346] Malmgren, 2008: private correspondence.

corporations, banks, investment banks, and asset management institutions. His company also helped various governments to access and negotiate financial markets, currencies and trade. Harald Malmgren is currently head of the Malmgren Group in Washington and is Managing Director of Malmgren, Gold, Kingston, Ltd., international trade consultants.

In the same way as George Richardson, Harald Malmgren came from a science background, was supervised by John Hicks in Oxford, stressed the limits of GEE theory by using informational concepts, published significant and substantial articles which were ignored by his contemporaries, worked for government services and left academia to join the management of a big business. These similarities between Richardson's and Malmgren's education and careers are also present in their theoretical developments, which might strengthen the hypothesis according to which their lives, education and early careers strongly influenced their intellectual contributions. The following analysis outlines these intellectual similarities, and synthesizes what can be called the Richardson-Malmgren co-ordination view of the firm, which laid the groundwork for organizational theory as well as for modern approaches to the theory of the firm.

I.2. The 'Richardson-Malmgren Co-ordination View' of the Firm

The development of the Malmgren-Richardson co-ordination view of the firm was not a coincidence or an unintended consequence of their isolated respective work, but on the contrary was largely influenced by the intellectual context of Oxford University in the late 1950s and at the beginning of the 1960s. This is not to say that there was, at the time, an entire group of researchers working on the informational aspects of the firm and of the economy as a whole. On the contrary, Harald Malmgren and George Richardson were not aware of each other's work until late in their respective developments. Rather, this section

states that the Richardson-Malmgren co-ordination view of the firm largely contributed to a new strand of industrial organization, mainly as a reaction to Hicks's contribution to economic theory. It is also argued that, though in appearance very similar, this novel approach to the firm based on strategic firms' interdependence is, however, far different, from any game theory framework and therefore from Hay and Morris's developments, presented in the previous chapter.

▪ Richardson's and Malmgren's Contributions to a New Strand of Industrial Organization

The Malmgren-Richardson co-ordination view stressed the role of information and knowledge in the explanations of firms' behaviours. Several remarks could be made about the similarities existing between both authors. George Richardson contributed to a new strand of the field of industrial organization, stressing the role of information in the evolution of firms. Richardson opened *Information and Investment* (1960) with a critique of the concept of perfect competition and of the Walrasian GEE[347]. This stressed the fundamental importance of information and knowledge in the discipline and led to Richardson's more general critique of the suppression of the co-ordination problem in neoclassical microeconomics. In fact, according to Richardson, informational factors within the firm are essential, mainly because 'no direct connection can exist between objective conditions and purposive activity; the immediate relationship is between *beliefs* about relevant conditions and *planned* activities which it may or may not prove impossible to implement' (Richardson, 1959: 224). That is, Richardson's critique of GEE was made

[347] In doing so, Richardson theoretically attacked his former supervisor, John Hicks, who prefaced *Value and Capital* with the idea that 'Reason is also choice'.

on the basis of the existence of informational factors[348]. Firms performances largely depend on what Richardson called the market conditions in the GEE. To the author, market conditions include both 'primary' conditions (that are concerned with technical production possibilities and the current state of consumer preferences) and 'secondary conditions' meaning the "relevant projected activities" of other economic agents (Richardson, 1959: 229). As Richardson puts it,

> "[firms'] mutual interdependence clearly presents, for entrepreneurs, a barrier to obtaining the necessary secondary information, and, if we are to hope to show how a system can work, we cannot escape the obligation to explain how the barrier is overcome." (*Ibid.*: 230)

This concept of mutual interdependence able to provide more information to the firm represents the rationale behind the emergence of co-ordination.

Harald Malmgren worked on very similar issues, but seems not to have been aware of Richardson's work until he was very far advanced in writing his thesis[349]. Malmgren published a short note in the *Economic Journal* at the request of Harrod for the Hicks' *Festschrift*. He spent much time discussing period analysis with his supervisor, John Hicks, after the publication of *Value and Capital*[350]. In line with Richardson's argument, this work on the concept of time period made him realise the importance of new flows of information in the process of decision-making, and located the informational factors at the heart of his theory of the firm. In fact, Malmgren argued that firms entered into co-operation to stabilise the expectations of managers, and could therefore reduce transaction

[348] This idea does not present any particular originality and has been defended by various authors. It will not, then, deserve much of our attention. For further details about this issue, the reader can refer to secondary literature, such as Foss, Loasby (1998).
[349] Malmgren (2008: private correspondence).
[350] Harald Malmgren comments on these discussions at All Souls: 'Hicks was abstract, but he spent much of his time in conversation with me on the practical challenges facing decision makers, particularly breaking up problems into modules with time parameters, and taking into account the need to interrupt the continuous flow of new information to make a decision at any given moment in time' (*Ibid*).

costs (in the same way as Richardson). His contribution was very original at the time, and constituted a first attempt in paving the way to a new kind of industrial organization, mainly based on organizational and firm theory. His contributions favoured a multi-disciplinary approach, incorporating ideas not only coming from economics, but also from organizational theory, game theory and information theory.

- **The Hicksian Influence on the Malmgren-Richarson Coordination View of the Firm**

It could be easily argued that the Malmgren-Richardson coordination view of the firm adopted an "Hicksian style" in the way that both authors wrote and presented ideas (Foss, 1995: 25). Indeed, despite their science background, Malmgren and Richardson both wrote in a dialog non-mathematical way, which made their reading much more attractive than the more mathematical writers of this period[351]. To some extent, this Hicksian written style fits both authors' idea of reconciling economic theory with the normal practice of business, and making economics much more accessible and useful to advise economic policy and international governments – idea which can justify both authors' later career developments as academic advisers for various institutions[352].

In a way similar to Hicks's analysis of markets, the Malmgren-Richardson co-ordination view of the firm puts the concept of uncertainty at the heart of its analysis. In this respect, both authors formulated a critique of Marshall's long run cost curve, mainly based on the strategic nature of uncertainty. Hence, the Malmgren-Richardson co-ordination view of the firm took Hicks's idea of uncertainty one step further. While Hicks

[351] For instance, this style can be contrasted with some contemporary American developments, such as Arrow-Debreu 's(1954) contribution which was much less accessible to a general audience in the field.
[352] For instance, Malmgren insists on the fact that "there has to be a theory of optimal decision-making against which practice can be measured. Without such a theory there can be no concept of efficiency, for efficiency is a relative concept: How well are we doing compared to what we are capable of doing?" (Malmgren, 1961(b): 257).

considered a world with *imperfect but complete* information, the nature of information in the Malmgren-Richardson view is, by contrast, *imperfect and incomplete*[353]. Richardson's critique is the essence of *Information and Investment* and states that the right interpretation of this Marshallian curve would have been to interpret it as an *ex ante* function relating expected price to planned supply (1960: 14-17). Similarly, as early as 1960, in his short note entitled "How Long is the Long Run?" published in the *Economic Journal*, Malmgren interpreted Marshall's long run supply curve as a *planning* curve for the individual firm, and not as stated by the standard theory of the firm, as an effective curve, where the various possible methods of organisation of factors were given. In this respect, Malmgren adopted the Andrewsian interpretation of Marshall who stated that firms would take time to reach various positions on the long run cost curve since they faced risk and "surprises" as well as technological development, which cannot be given and has to be considered as an expected value (Malmgren, 1960: 412). In this sense, Malmgren used the idea of "non convergent expectations" (Helfat, Teece, 1987: 48), and the concept of "interdependent planning uncertainty" which is particularly present in oligopolistic markets (Malmgren, 1961(a)). The solution offered by Malmgren for reducing this kind of uncertainty is to use a "risk factor" as adjustment to the *set* of distributions, and not only to a single distribution of events as stated by Hicks in *Value and Capital*[354].

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[353] Put differently, the concept of uncertainty in Hicks's *Value and Capital* has to be understood as "there will be some degree of uncertainty as to the outcomes of a set of plans even in the case in which the economy is in a state of complete information (all planners know what all other planners know, but no more)." (Malmgren (1961(b): 71). By contrast, the Malmgren-Richardson coordination view of the firm considers "the case of a firm with incomplete information, where "there will also be uncertainty arising out of a lack of knowledge about what some others could do" (*Ibid*).

[354] More precisely, this idea is stated by Malmgren, as follows: "Then, given experience with similar plans in the past, a 'risk factor' might be used to give a downward adjustment to the expected value. (The expected value is of course an average of the alternative outcomes in the set which may eventuate). This is,

Both students of Hicks, Malmgren and Richardson were inevitably influenced by *Value and Capital*. Hicks's book spearheaded the revival of Walrasian theory, and introduced – among other new concepts - the temporary equilibrium framework[355]. While Malmgren briefly mentioned that he was using a full intertemporal equilibrium model, it seems that he was more interested by the issues related to the attainment process of this equilibrium rather than by its existence (Malmgren, 1961(a): 400). In this respect, Malmgren's 1963 article – very similar to Richardson's view – implicitly dealt with the way the equilibrium position could be reached[356]. It is in this particular sense that the Malmgren-Richardson view of the firm also constitutes a reaction to the temporary equilibrium framework instigated by John Hicks in *Value and Capital*[357]. Malmgren and Richardson both rejected the 'tâtonnement' process which was used by Walras, and reinterpreted by Hicks to justify the way of reaching the equilibrium position. In this respect, Richardson referred to Hutchison's term, associating Walras's concept with "the brief dynamic fantasia of the tâtonnements" (Richardson, 1960: 13). Rather, Richardson

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for example, the procedure used by Hicks in Value and Capital for a single distribution of events. For instance, his 'expected price' is not the most probable price, but the most probable price minus an allowance for risk. But I am suggesting a broader interpretation, an interpretation in which a set of distributions or hypotheses may be considered simultaneously with a single risk factor as adjustment" (Malmgren, 1961(b): 79).

[355] Our analysis of Hicks's concept of temporary equilibrium is limited to his developments made in *Value and Capital* (1939). In his *Capital and Growth* (1965), Hicks developed a self critique of the temporary equilibrium framework. At this time though, Richardson and Malmgren already achieved the contributions which are of interest for this paper (mainly Malmgren, (1960; 1961(a), (b), (c); 1963) and Richardson (1961)).

[356] This is the case, even though; Malmgren's article is mainly concerned with differences between international rates of economic growth.

[357] Hicks' aim in *Value and Capital* was to make Walras' static analysis more dynamic. In this sense, his first objective was to provide more room to uncertainty and to the concept of expectations. Keeping this in mind, Hicks proposed a new concept of equilibrium which presented the characteristic to be intertemporal. To Hicks, temporary equilibrium was identical to Walras' static equilibrium, except that expectations about the future were explicitly introduced. The realisation of this temporary equilibrium required agents to have perfect foresight. However, as pointed out by De Vroey, "As this assumption was deemed too heroic, the welcome next step was to amen it by assuming that agents were making forecasting errors" (De Vroey, 2004: 3). Hicks's temporary equilibrium framework aimed at treating "a process of change as consisting of a series of temporary equilibria" (Hicks, 1946: 127). For convenient purposes, the length of each single period corresponded to a week with trade taking place every Monday (Hicks, 1946: 122-123).

considered that the way of reaching equilibrium required one of the two following conditions, "either institutions to stabilize the market and direct information unevenly, or cooperation and consultation among firms in the market, to do the same thing" (Duguid, 2005). Hence, information does not appear as an independent variable as it has been outlined by GEE theory, but rather depends on the institutional structure of the economic system. Consequently, as nicely added by Paul Duguid, "such institutions and networks will not, indeed cannot, be transformed from their ugly state when kissed by the charming princess of perfect information." (Duguid, 2005). That is, according to the Malmgren-Richardson view of the firm, equilibrium might be seen as an overworked metaphor borrowed from mechanics, where there is no place for knowledgeable agents (*Ibid*).

Richardson assumed that producers could obtain information about the other firms' projected activities in three main ways. The first way corresponded to explicit collusion and went against the whole principle of free competition, which still remained in Hicks' *Value and Capital*. Richardson suggested that the second way relied on 'implicit collusion' (Richardson, 1959: 232-233) and was based on conventional and extrapolative behaviours. The last way was concerned with co-operative agreements between entrepreneurs (Arena, R., 2008: 12).

In 1961, it was Malmgren's turn to reject this Walrasian process, alternatively arguing that firms can find *ex-ante* agreements before any contract has been signed. Hence Harald Malmgren argued that Walras's solution to the attainment of equilibrium, according to which "in the absence of universal omniscience, buyers and sellers would have to be allowed to explore the market, by crying out prices without transacting or by making provisional contracts until a stable equilibrium was reached" was "hardly

acceptable" (Malmgren, 1961(a): 402). In 1963, Malmgren confirmed this idea, stating that the essential question is to know "how much co-ordination there is to be between independent decision units in the economy" (Malmgren, 1963: 77)[358]. In a very similar way to Richardson's analysis, to Malmgren, there are three means of co-ordinating decisions among firms. Thus, he refers to "explicit collusion", "tacit, or implicit collusion", and "mergers" (Malmgren, 1961(b): 270-271)[359].

Therefore, the Malmgren-Richardson co-ordination view of the firm argued that it was in the concept of firms' interdependency, rather than by any kind of Walrasian tâtonnement process, that any equilibrium position could be reached.

- **The Malmgren-Richardson Coordination View of the Firm: A Rejection of Game Theory**

The desire for realism expressed by the co-ordination approach to the firm does not, however, imply that Malmgren's and Richardson's contributions were purely empirical. On the contrary, their publications remain theoretically grounded, especially regarding their developments on the importance of coordination and individual interactions, in a decision-making process. A modern theorist of the firm, reading their texts for the first time, would inevitably link their decision-making analyses to early game theory developments, considering the importance of strategic interactions in both authors' works.

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[358] "Why is it, in other words, that the price mechanism fails to convey the necessary information for "correct" decisions? One of the most powerful arguments in defence of the use of the market price mechanism is that market prices are informationally efficient; that is, that prices are a sufficient signal to allow for an efficient allocation of resources in an economy. The signalling characteristic of the market price mechanism is distinct from the incentive characteristic, of course, and the two aspects taken together provide the rationale for the doctrine of the invisible hand." (Malmgren, 1963: 75)

[359] His accurate definitions of the three means are as follows: "There is **explicit collusion**, by which firms agree to charge certain prices and supply certain shares of their respective markets. This may occur between retailers and manufacturers, as with resale price maintenance, just as it may occur among competitors. There is **tacit, or implicit, collusion**, whereby competitors and buyers and sellers agree not to make inroads into each other's market through specified means. **Firms may also merge** in order to maintain even closer co-ordination of activities" (Malmgren, 1961(b): 270-271).

However, this interpretation would be misleading, as they made it clear that, even though aware of game theory, they would not consider it in their developments on firms and on markets. Richardson's contribution could not be framed in terms of game theory, mainly because, in his framework of investment coordination, before "placing their bets" entrepreneurs are first trying to improve the information they have about other agents, since others' actions necessarily influence the outcomes of their own choice (Earl, 1998: 18). That is, Richardson was much more interested by the way agents search for and collect information, than by strategic choices *per se*[360]. In this respect, it could, once again, be argued that Richardson's early experience in the government intelligence division after the Second World War, *did* influence this novel way of thinking about strategic interactions in an initial imperfect knowledge framework. Similarly, Harald Malmgren, in his D.Phil. thesis, made clear his rejection of game theory. Indeed, he argued that the solution of strategic interactions could only depend on the initial nature of the information available to each competitor and, therefore, on the degree of communication between these competitors. In this respect, Harald Malmgren rejected the "theory of games"' approach, "which ordinarily requires perfect information", and which realistically "turns out to be a non-zero-sum game" with an indeterminate solution (Malmgren, 1961(b): 253). While, for Richardson, it has been assumed that we could link this idea to his experience spent at the intelligence division during his early diplomatic career, Malmgren's consideration of game theory has been influenced by his former tutor, Thomas Schelling and his connection to Gerard Schackle, who both imported trust issues in economics. Both authors argued that "any threat must be conditioned by the effectiveness of that threat in later bargaining rounds (if you back down, I will be less

[360] The collection of this information could be done by the three ways previously described.

inclined to believe you next time)[361]" (Malmgren, 1961(b): 253). In reaction to these developments, Harald Malmgren furthermore questioned "the idea that one's own estimate of another's probability of going to war can be accurate. Each partner to a bargain would have an incentive to deceive the other about its own strength and readiness to risk conflict, so that any estimate would rest on shaky ground indeed" (Malmgren, 1961(b): 253).

This analysis has shown the reflection of Harald Malmgren's and George Richardson's own lives and careers developments on the large number of similarities between their contributions. These similarities justify the existence of what has been called the Malmgren-Richardson co-ordination view of the firm, which appeared as a genuine contribution to the field of organizational and firm theory. The novelty of this approach is mainly due to its success in providing an alternative framework to the GEE theory, which remained predominant in Oxford after having been revived by the publication of Hicks's *Value and Capital,* twenty years before their contributions[362]. The Malmgren-Richardson co-ordination view of the firm, as it stood, also offered an alternative to its contemporary developments in game theory, which were mainly concerned with strategic choices, and much less with the nature of information and knowledge at an individual level. As stated in the introduction of this chapter, the next stage is to assess the importance of the Malmgren-Richardson approach to the firm, as an Oxford contribution to later developments on firms and industries.

[361] Schackle, Expectation in Economics, 1952, Chapter VI; Schelling, The Strategy of Conflict.
[362] For further details about the role of applied microeconomics in Oxford, see the last section of chapter 4 of this thesis.

II. The Impact of the Richardson-Malmgren Coordination View of the Firm on Modern Approaches

There are difficulties involved in linking the Malmgren-Richardson view of the firm to Ronald Coase's contribution, and, therefore, to use the Oxford information-based theory of the firm as a root for modern contractual approaches. Rather, this section emphasises the importance of the Oxford Malmgren-Richardson coordination view of the firm for contemporary knowledge-based developments on the firm, reviving Hayek's earlier contribution (1937, 1945).

II.1. The Malmgren-Richardson Coordination View of the Firm: The Roots for a Modern Contractual Approach to the Firm?

As previously outlined, Malmgren and Richardson's analyses focused on economic organization and the importance of the division of knowledge in the understanding of the economic system as a whole. Mainly for this reason, Nicolai Foss argued that the originality of their work lay in "the broader problem of understanding how knowledge and the boundaries of the firm interact" (Foss, 1996:8). Foss's argument has also recently been referred to by Richard Langlois, who argued that Harald Malmgren (1961(a)), inspired the revival of Coasian orientations in the economics of organization beginning in the 1970s with the work of Alchian and Demsetz (1972), Williamson (1975) and others (Langlois, 2007: 5). Moreover, according to Ronald Coase himself, Harald Malmgren's 1961 article constituted "the only serious discussion of the firm along somewhat similar lines of which [he was] aware to appear before the 1970s" (Coase, 1988: 33). Finally, this link between Coase and Malmgren has also been underlined by Armen Alchian and Harold Demsetz (Alchian, Demsetz, 1972: 783). The nature of the link between the Malmgren-Richardson co-ordination view of the firm and modern contractual approaches to the firm is, however,

often very unclear. For instance, Foss argues that "*this is not to say* that Richardson's theorizing should be thought of as directly anticipating Williamson, Alchian and Demsetz *et al*", while shortly later, still in the same paragraph he adds that "Richardson provides a perspective on the "organization of industry" that is overarching and more explicitly processual than modern neo-institutionnalist thought of, for example, the Williamsonian variety, *also he clearly anticipates this current*" (Foss, 1995: 24).

In this respect, the construction and the interpretation of a potential bridge linking the Malmgren-Richardson co-ordination view of the firm to more modern contractual approaches to the firm is risky. In fact, while it seems undeniably obvious that the Malmgren-Richardson view located institutions at the heart of their various analyses of economic organization, its part in the revival of Coasian approaches remains highly questionable.

- **The Nature of Agents' Rationality**

Although Harald Malmgren defined the aim of his thesis as "laying the foundations for a theory of the institutional framework of an economy", it would be misleading to argue that its content revived contractual approaches to the firm (Malmgren, 1961(b): 3). Undoubtedly, Malmgren raised the question of the existence of the firm, as originally done in Coase's famous article, more than twenty years earlier[363]. What Malmgren's contribution really meant was not to explain that firms existed because co-ordination of production was required, but rather to understand "why firms, in the form of wilful

[363] This is made clear by the fact that the Chapter I of his thesis entitled "The Nature of the Firm", and the section C is entitled: "What about the Institutions which make economic decisions?". For further details, regarding the structure of Harald Malmgren's thesis, the reader could report to the Appendix 1. Similarly, in his 1961 article, Malmgren defines the aim of his paper, quoting Robertson's famous question: "Why, then, do we find islands of conscious power in this ocean of unconscious co-operation like lumps of butter coagulating in a pail of butter-milk?" (Malmgren, 1961(a): 399).

entrepreneurs, organize production in areas where the market could do so also" (Malmgren, 1961(a): 400-401). However, in our view, the interpretation of Malmgren's theory of the firm as a revival of Coase's work, as well as more general and modern contractual approaches, could be questioned mainly because of his specific analysis of economic behaviour. Put differently, Malmgren's view of the firm is not necessarily inconsistent with Coase constitutes an attempt to go further and extend it by including more contemporary concepts, dealing with individuals making decisions in a bounded rationality framework.

Hence, it is commonly agreed, that in Coase's 1937 famous article, agents follow a perfect / substantive rationality, based on rational choice theory. In this respect, the perfect nature of agents' rationality has been subsequently characterised by Herbert Simon as leading to behaviours aimed at achieving a specific goal within limits imposed by an agent's external environment (Simon, 1976: 130). Put differently, frameworks involving perfect rationality emphasise final outcomes and tend to ignore features of decision-making, as well as psychological theory of behaviour. In contrast, it is easy to show that Harald Malmgren's contribution followed a bounded / procedural rationality framework, in the sense that his work put strong emphasis on decision-making processes. As seen previously, Malmgren's D.Phil. thesis is built on the assumption of limited knowledge and limited abilities to acquire and process information. In a footnote, Harald Malmgren makes clear that it is the imperfect *and incomplete* nature of information that justifies the existence of firms:

> "I think that what is involved from an *economic* point of view is the bringing about of a convergence of expectations about the time pattern of services to be supplied where

> an uncontracted, and therefore uncontrolled, pattern of services would be erratic overtime because prices were insufficient indicators of future events"[364].

Harris, Wachter, and Williamson (1975), also acknowledged Malmgren's rejection of perfect rationality. According to these authors, Malmgren's rejection was mainly based on the existence of communication difficulties and language limitations[365]. Overall, Malmgren's rejection of the perfect rationality assumption made by Coase fitted his aims of more realistic descriptions of expectations formation and decision-making processes, considered as major themes of his thesis, and his articles. As outlined by Herbert Simon, Harald Malmgren was one of the first economists to consider not only the concept and the role of uncertainty in his economic analysis, but to go a step further and to consider the treatment of reduction of uncertainty as an economic activity (Simon, 1962: 4).

The same comments can be made regarding George Richardson's contribution. In the same way as Malmgren's approach, Richardson refers to bounded rationality, as an explanation for the internal mechanisms of a firm, and as a rational response to information costs (Casson, 1998: 204). This comment is especially true in Richardson's 1972's article on the *Organization of Industry*, which anticipates the bounded rationality of managers and stands in opposition to Coase's rational choice theory (Dosi, Teece, Winter, 1990: 210).

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[364] As a matter of fact, this argument constitutes a response to a letter sent by Maurice Dobb, questioning Malmgren's argument on the basis that "each system of production has its own requirements regards discipline, "and the firm as a managerial unit, exercising powers of control, coordination and coercion, embodies these requirements, and presumably exists by reason of them" (Malmgren, 1961(a): 400).

[365] These authors argued the following "As Malmgren has observed in a somewhat different, but nevertheless related context, 'some [individuals] will see opportunities, but will be unable to communicate their own information and expectations favourably to bankers, and thus be unable to acquire finance, or need to pay a higher charge for the capital borrowed' (Malmgren, 1961(a): 416). The communication difficulties referred to are due to language limitation (attributable to bounded rationality) that the parties experience" (Harris, Wachter, Williamson, 1975: 267).

- **Bilateral Contractual Issues, Bipolar World *versus* More Complex Strategic Problem of Market Co-ordination between Firms**

Coase's substantial contribution outlined contractual issues of uncertainty within a bilateral bargaining framework (Coase, 1937). As outlined earlier in this development, although the nature of information is not perfect any more, it remains complete in the sense that knowledge about other market agents is available to all participants. Every player knows the payoffs and strategies available to other players. Here, the main argument states that, by contrast, the Malmgren-Richardson view of the firm was concerned with a broader and more complex problem than the one outlined by standard game theory, as well as by Coasian developments, which deal with strategic uncertainty and which assume imperfect but complete information. Rather, the Malmgren-Richardson coordination view of the firm develops a more general framework of strategic interaction in situations of market coordination. This analysis is, therefore, much more general, in the sense that simultaneous decisions made by several firms on a market are taken in an incomplete information framework. That is, the global outcome of the market coordination is the result of the aggregate unexpected consequences provoked by individual decisions. Therefore, as has been shown, individual decisions involve other agents in the market, as coordination is a highly influential factor of economic organization.

As a result, George Richardson did not consider the bipolar world considered by Coase (1937), and later by Williamson (1975), which opposed the firm and the market. Richardson's main idea reflected the existence of co-operation between firms, which emerged as a third way between the hierarchical vertical integration of the firm and the price mechanism offered by the market. His idea was that it was mainly firms which

developed "complementary activities" that required this specific co-ordination (Richardson, 1972: 891). More precisely, Richardson described this co-ordination, such as a "dense network of co-operation and affiliation by which firms are interrelated" (Richardson, 1972: 883). As a result, the transaction cost argument was no more than a "harmless first approximation" (*Ibid*). In this context, the choice between contractual and industrial organizations is not the result of a comparison between transaction or information costs. Rather, this choice is constrained by the existence of technical complementarities, and by the way the firm is trying to reduce uncertainty. As Richardson wrote, he was once

> "in the habit of telling pupils that firms might be envisaged as islands of planned coordination in a sea of market relations. This might seem to [him] a highly misleading account of the way in which industry is in fact organised" (Richardson, 1972: 883)[366].

In the same way, Harald Malmgren argued that

> "where output and profitability of various production units are closely interdependent, the firm is formed to undertake decisions concerning all or some of the production units simultaneously when the provision and exploitation of options involve activities that are strongly complementary, the firm is formed" (Malmgren, 1961(a): 412).

As outlined by Foss, according to Malmgren, "the firm is needed when there is strong interdependence between the various learning processes that result in new options." (Foss, 1996(a): 16).

Hence, undeniably, the significant role played by market co-ordination and economic organization in the Malmgren-Richardson view of the firm confirms the

[366] In 1998, Richardson confirmed his earlier idea and clearly distinguished his own contribution from Coase's, by stating that "According to Ronald Coase, 'The main reason why it is profitable to establish a firm would seem to be that there is a cost of using the price mechanism'. Although this proposition has proved exceedingly influential, having given rise to a school of thought prominent in the analysis of industrial structures, it seems to me misleading." (Richardson, 1998(b): 4)

influence made by the Oxford context, and more specifically by John Hicks, on its developments, which has been previously outlined. This coordination issue is rooted, indeed, in the concept of temporary economic equilibrium and Hicks' distinction between present and future prices.

According to this statement, the next section argues that the Malmgren-Richardson coordination developments on the firm rather stimulated later knowledge-based developments on the firm than revived Coase's contribution and inspired contractual approaches. Hence, the concept of division of knowledge as a way of improving co-ordination phenomena lies at the heart of the Malmgren-Richardson coordination view of the firm. This view is therefore rather "at base, a theoretical challenge to the way economists think (or fail to think) about knowledge", than "an empirical elaboration of earlier theory" (Duguid, 2005).

II.2. Impacts on Information and Knowledge-Based Theories of the Firm

The impacts of the Malmgren-Richardson co-ordination view of the firm on modern approaches to the firm can be observed in the modern evolutionary theory of the firm based on the concept of capabilities and competences. This knowledge-based approach of economic organization is influenced by Marshall's idea – shared by Richardson and Malmgren – that knowledge plays an important role in production and represents a fourth factor of production[367]. The modern knowledge-based approach sought to develop the most dynamic aspects of the theory of the firm. Essentially, on the basis of Richardson's and Malmgren's ideas, economists see the firm as a complex and organised combination of competences and resources that is continuously faced by uncertainty. Moreover, they

[367]"Knowledge is our most important engine of production; it enables us to subdue Nature and force her to satisfy our wants. Organisation aids knowledge [...]" (Marshall, 1920: 115).

emphasize the importance of the tacit and elusive nature of skills. This implies that knowledge cannot be taught; it is the [...]

> "[...] result of learning, but learning in the form of personal experience [...] experience itself can never be transmitted, it produces a change-frequently a subtle change in individuals and cannot be separated from them" (Penrose, 1959: 53).

In this respect, the modern knowledge-based theorists believe that the law of increasing returns to scale, as emphasised by Marshall, was directly related to the role of knowledge. This is well explained by Brian Loasby, who remarked that

> "firms are continually looking for ways to achieve a more effective balance of processes, [...], and changing their organization, in conformity with Marshall's law of increasing return, to align their increasing knowledge with their productive opportunity." (Loasby, in Pitelis, 2002: 52).

Knowledge-based theorists' contribution is to view firms not just, and not in the first place, as price (and output) takers whose access to extra profits is limited to situations of high degrees of market power (imperfect competition). Instead, they emphasise that the firm is also, and foremost, a device for innovation, problem-solving and cumulative learning through production. Hence, managers or entrepreneurs play a central role, as they bring information from the environment to the firm, based on a constant interaction between the firm and its environment. This modern knowledge-based theory of the firm contributed to a deeper understanding of the concrete organization of firms, and threw light on the emergence of more recent knowledge-based economies.

The significant role of knowledge in economic organization was largely anticipated by the Malmgren-Richardson coordination view of the firm. In his D.Phil. thesis, Harald Malmgren makes this knowledge-based theoretical orientation extremely clear. In the construction of his own theoretical development about decision-making processes, Malmgren is concerned with the way individual agents might determine *a priori*

probability distributions, to help them make a strategic choice. Hence, Malmgren argued that

> "by using his experience and ordering events which fluctuate within an acceptable range, the entrepreneur may substantially reduce the complexity of his environment and utilize the investment or money laid out for information in previous planning periods" (Malmgren, 1961(b): 113).

Therefore, in the same way as Richardson's developments, Malmgren is more concerned with the way agents gathered information rather than by strategic choices *per se*[368].

The Malmgren-Richardson coordination view is, therefore, significantly concerned with notions such as practice, learning, and experience that lead to the emergence of firms' capabilities. As a matter of fact, these concepts do have a strong Penrosian flavour (1959), especially when George Richardson refers to the "economics of experience" (Richardson, 1960: 60).

Just as Hayek (1945) argued more than a decade before their contributions, Malmgren and Richardson both acknowledged Adam Smith's idea of division of labour, which in turn implies a division of knowledge (Arena, R., Charbit, 1998: 94). As a result of the lack of attention given to this theme by the economics community at the time, the co-ordination view of the firm expressed its novelty, by raising the question of the way knowledge would be coordinated between firms on the market. In this respect, as argued by Paul Duguid, economics "had (and continues) to dodge the question by talking instead of "information"" (Duguid, 2005), even though Richardson, argued that knowledge is "rarely reducible to information". Then, is not it ironical that Richardson originally named his first book as "The Economics of Imperfect Knowledge", which had to be changed to *Information and Investment*, after OUP and Hicks' interventions?

[368] This argument has been defended earlier in this chapter.

Coase's contribution to the firm eliminated the idea of intelligent agents, and Williamson's extension introduced bilateral agency relations, based on selfish opportunism (Coase, 1937, Williamson, 1975). By contrast, the Malmgren-Richardson co-ordination view of the firm lies elsewhere, and considers – in opposition with Williamson's selfish agents – knowledgeable agents able to make plans and to develop long-term contracts and relationships which are directed neither by market nor hierarchy alone, as stated by contractual approaches to the firm. Hence, as argued by Richardson himself, the role of managers is not pure supervision or patrolling, but rather to create and be able to modify a system of working relations, when needed (Richardson, 1998). Harald Malmgren was also keen on this idea, arguing that past knowledge and experience matter in the decision-making processes. In his thesis, he argued, indeed, that

> "[...] in hardly any sense, can the entrepreneur be thought of as starting out fresh. Regardless of his productive capital commitments, he has a complex information structure built up through experience, in his company and in other companies where he may have worked, in school and in his general social environment." (Malmgren, 1961(b): 114).

Thus, the Malmgren-Richardson co-ordination view of the firm has to be considered as a significant influence on modern knowledge-based theories of the firm, also largely influenced by Edith Penrose's work (1959). In particular, the novelty of the Oxford co-ordination view of the firm offers an economic rationale for firm-related knowledge issues[369].

[369] As Harald Malmgren himself outlined regarding his own thesis, "in some limited respects, [Edith Penrose's] theory overlaps the discussion of this thesis, and may be considered as complementary to it. My argument is founded on broader considerations, however, and offers an *economic rationale* for some of the ideas which appear in her book, but which are postulated on more *sociological considerations"* (emphasis added); (Malmgren, 1961(b): 146).

Concluding Remarks

The initial aim of this chapter was to evaluate the Malmgren-Richardson co-ordination view, in relation to more modern theories of the firm. Hence, after having described Philip Andrews' "unsuccessful revolution", and Hay and Morris' standardisation and 'Americanisation' of industrial economics with early game theory developments, this chapter has shown the success encountered by the Oxford co-ordination view of the firm. This actual success – mainly measured by its impact on the most popular contemporary theories of the firm – has to be contrasted with its early neglect by the economists' community. The Malmgren-Richardson view seemed to have been an ill-timed work, for various reasons exposed in the literature and in this chapter (e.g. coincidence in time with Arrow-Debreu developments, developments of new ideas requiring the abandonment of old ideas, *etc.*).

While the chapter has shown the influence of Malmgren's and Richardson's lives, education and careers on their theoretical developments, it also outlined the similarities between the authors, which enabled us to refer to the "Malmgren-Richardson co-ordination view of the firm". Then, the analysis has also shown the potential applicability that the authors' early ideas might have on "political organizations and decision-making, and also to bureaucratic decision processes", as well as on knowledge-based economies (Malmgren, 2008: private correspondence). This analysis has been done by stressing the dynamic nature of the Oxford co-ordination view of the firm, which outlined the insufficiencies raised by Coase's and Williamson's contributions in their developments of contractual approaches to the firm. Rather, the second section of this chapter, based on Harald Malmgren's unpublished D.Phil. thesis, points out that the concept of knowledge lies at the heart of the Malmgren-Richardson coordination view of the firm. Duguid's comment about George Richardson's

developments that stating, "for all his modesty, Richardson nonetheless manages to raise topics about firm capabilities, collaboration, networks, and degrees of co-operation and control within supply chains that make many a contemporary discussion look banal", could then apply to Malmgren's contribution, as well (Duguid, 2005).

Yet, with regard to the thesis as a whole, the Malmgren-Richardson co-ordination view of the firm presents the first Oxford challenge to the Cambridge economics of imperfect competition as assumptions and elegant models, outlined in the first chapter of this thesis. Undoubtedly, this challenge is accompanied by an increasing focus on realism (over formalism) in their developments. As argued in this chapter, this bequest for realism shared by both authors could be seen as leading to their later business careers, which underlines their interest in studying the real functioning of firms and markets. This approach also coincides with early developments of business studies in Oxford, which sought to offer an alternative methodology to the study of firms and industries. Ironically, George Richardson has been chosen by John Hicks to take part in the Oxford Committee on Management Studies, which aimed at evaluating the need of business studies, in Oxford University in the early 1960s[370].

[370] Further details about this Committee can be found in the following chapter.

CHAPTER 6 – Management Studies in Oxford

I. Towards the First Needs of Business Studies (1949-1965)
I.1. The Unsuccessful Attempts to get Business Training Programmes in Oxford University (1900-1949)
I.2. Towards a Cooperation between the University and the Business World: The Oxford University Business Summer School (OUBSS) (1953-Present)

II. The First Developments of Business Studies (1965-1983)
II.1. Towards the Establishment of a New Discipline in Oxford: From the Oxford Centre for Management Studies (1965) to the Creation of Templeton College (1983)
II.2. The Introduction of the B.Phil. in Management Studies (1965)

In the 1960s, developments in applied microeconomics, industrial organization and embryonic versions of the knowledge-based theory of the firm in Oxford after the emergence of industrial economics (as shown in the two previous chapters) are, to a large extent, part of a more unified research program in economics which aimed to develop theoretical understanding and/or policy tools potentially relevant for the functioning of industrial markets[371]. Over the years, these issues became increasingly related with the internal organization of the firm through processes of decision-making, learning, and coordination. As a result, the role of management within these research themes started to attract a new community of scholars. These studies made a major contribution to the evolution of business and management studies in Oxford. Management education and its first graduate schools were initially thought in the United-States. In effect, in the 1960s, American graduate schools of business administration constituted a reference model in terms of management education for several European universities. American business education inspired the British system, which was soon to develop various institutions, promoting business studies at the university level. These developments sparked off a controversy over the legitimacy of university involvement in management education and led the whole subject to become a matter for public debate. An increasing number of British businessmen gathered to establish the Foundation for Management Education (FME)[372] and the more informal 'Savoy Group' – aiming to work

[371] This chapter has inspired further publications on the subject. I am in the process of editing a special issue in the business history Journal *Entreprises et Histoire*. The special issue includes an article (co-written with R.J. Dang) on the comparison of management education in Oxford and Cambridge (Forthcoming, 2011).
[372] The FME financed the establishment of London and Manchester Business School, a few years later. The FME still exists and seeks to encourage business leaders to make the transition between the private sector and business school academia. For further details on this institution: http://management-education.org.uk

on the creation of a "British Harvard"[373]. These establishments were soon followed by the creation in 1961 of the National Economic Development Council (NEDC) to reconcile trade-unions, industry, and government. Two years after its creation, this Council reported the need for "at least one very high-level new school or institute, along the lines of the Harvard Business School, or the School of Industrial Management at the Massachusetts Institute of Technology" (NEDC report, 1963: 5-6). From this conclusion, the FME, the Savoy Group and the NEDC appointed a Committee, led by Lord Franks, which sought to provide detailed recommendations about the implementation of these new schools of business in the UK. Lord Franks' enquiry was made easier by the conclusions drawn from the Robbins report a month earlier, which suggested that "two major post-graduate schools should be built up in addition to other developments already probable in universities and other institutions" (Robbins, 1963: 65).

This chapter describes and analyses the formation and the development of business studies in Oxford and shows how the syllabus was unique to Oxford, reflecting its history and its institutions, yet representing a critical case in the history of management education in England. The chapter moves forward on three fronts. First, it provides an account of the emergence of management studies in Oxford. While the Harvard Business School was founded in 1908, Oxford University only founded its version of a business school in 1991, with the creation of the University of Oxford School of Management Studies. Why was this development so tardy by international standards? The story starts in 1949, as this is when the first evidence exists that business studies was needed at Oxford, and ends in 1983 with the creation of Templeton College, which contributed to the birth of business as

[373] The members of the Savoy Group differed from the FME's work, mainly because their main idea was in favour of the need for a 'completely new type of college which would be tailor-made to fit industry's requirements', created independently from any existing structures (Whitley, Thomas, Marceau, 1981: 44).

an academic discipline[374]. Secondly, the chapter analyses the form taken by early management education at Oxford University. Specifically, it stresses the content of the teaching in business studies during the 1960s, and seeks to evaluate how different the curriculum was from American business schools. Thirdly, the chapter shows how management studies at Oxford struggled to establish itself as an independent discipline, separate from existing subjects but also concerned with firm-related and organisational issues, such as economics, sociology and even engineering science, suggesting tensions between Oxford academics. In line with the main hypothesis of the D.Phil, this work argues that the main reasons for this struggle are found in the nature of Oxford's history and formal or informal academic institutions.

More generally, the chapter shows that the origin of management studies in Oxford is neither the result of a conscious desire to acquire the subject expressed by the University administration, nor the result of a clear vision provided by academic leaders of the time. Rather, this chapter demonstrates that management studies in Oxford emerged from a combination of muddle, confusion, personal antagonism, vested interests, Oxford's way of building new disciplines on existing ones, shortage of academic staff in management, and inherited ambivalence about vocational education. The chapter argues that management studies was an unintended ironic consequence of these factors, and that this explains the lateness, the peculiar structure, and the academic orientation of management studies in Oxford, highlighted above.

[374] The reader might be interested to know that Templeton College was not a formal college of Oxford University until 1995. Therefore, the first academic institution of Business Studies recognised by the University was the University of Oxford School of Management Studies, created in 1991, which became in 2001, the Said Business School. The period of analysis of this chapter ends in 1983, as we consider Templeton College as the first move towards the establishment of management as a discipline. The emergence of the University of Oxford School of Managements Studies will be studied in the main thesis, as an extended version of this chapter. For further details about the evolution of management studies during the 20th Century at Oxford, see Figure 4 of this chapter.

In accordance with its main purpose, the chapter falls into two main parts, structured chronologically, as each in turn divides into two sections. The first part of the chapter covers the years 1949-1965, and focuses on the institutional establishment of management studies and the first stumbling attempts at co-operation between the University and industrial leaders in Oxford, before the first B.Phil. in management studies in 1965. Within this first part, section one outlines the unsuccessful attempt made by the Oxford University Career Service to establish a training programme in business at Oxford before 1949. Section two illustrates the first *rapprochement* between the business world and Oxford University through the analysis of the early years of the Oxford University Business Summer School. The second part of the chapter covers the years 1965-1983 and focuses on the content of the first courses taught in Management and the early analytical developments of management studies in Oxford. This period of analysis is associated with various substantial theoretical and empirical changes in the discipline, idiosyncratic to the institutional context of Oxford University. While the first section focuses on the history of the early years of the Oxford Centre for Management Studies, which later became Templeton College, the second illustrates the evolution of the content of business studies, observed from the various lectures composing the then-introduced B.Phil. in Management Studies[375].

The chapter relies on three main primary sources. The first is interviews with students, tutors, academic fellows and administrative personnel who participated in, or at least witnessed, the emergence and the development of business studies in Oxford in the period

[375] Although there was a common trend in the 1960s that Universities (especially Oxbridge) oriented their academic programmes towards undergraduates and aimed at research graduate programmes, rather than taught ones, early business education in Oxford did not fit this trend. For further details, see page 14 of this chapter.

1940s-1980s [376]. Copies of unpublished papers dealing with the theory of the firm and of industry were also used[377]. The second source is *archival data*. These archival data took three forms: first, documents related to the introduction of business studies in Oxford, held in the Bodleian Library and the Andrews' and Brunner's (LSE) archives and specific newspapers such as the "Oxford University Gazette", "Oxford Today" and the "Oxford Magazine". Second, documents on the theoretical content of the first courses taught in Management through an analysis of the list of lectures proposed by the Board of the Faculty. And third, examination questions addressed to economics and management students, as well as examination decrees and regulations during the period 1965-1975.

I. Towards the First Needs of Business Studies (1949-1965)

In England, management studies has been essentially a post-World War II development. It was not until the early 1950s that Oxford University started considering business studies as sufficiently academic to be taught at University level. Before this time, one of the few institutions which was strongly in favour of the establishment of this new discipline was the Oxford University Appointments Committee (OUAC) - originally concerned with the placement of both Oxford undergraduate and graduate students[378]. The first section argues that the main reasons for the unsuccessful attempt made by the OUAC to introduce a training programme in business in Oxford are: the inherited ambivalence about vocational education (exaggerated by the nature of British capitalism itself), as well as the established vested interests, and the lack of specialised resources. It was only after 1949 that the first

[376] In particular Professors Clark Brundin, Michael Earl, Desmond Graves, Donald Hay, Derek Morris, George Richardson, Dick Smethurst, David Stout, Dr. Harald Malmgren and Dr. Rosemary Stewart.
[377] These documents were given to me by David Stout, 16th February 2006.
[378] The Oxford University Appointments Commitee started in 1892, and changed name in 1991. Since then, it is called the Oxford University Careers Service.

co-operation between the University and the industrial world began to flourish. This *rapprochement* was especially reinforced by the organisation of the first Oxford University Business Summer School (OUBSS), outlined in the second section.

I.1. The Unsuccessful Attempts to get Business Training Programmes in Oxford University (1900-1949)

As described in the first chapter of this thesis, the general opinion at the beginning of the twentieth century was undeniably hostile towards any suggestion to introduce the study of business and of management as an academic discipline potentially taught at the University. The rejection by the Convocation of the first potential Oxford Business Diploma in 1913 exemplifies this[379]. The reasons for the failure of the proposed Diploma in Commerce and Economics were various. The first explanation for the lack of popularity of business education was the lack of interest displayed by businessmen in recruiting undergraduate or graduate candidates. The denunciation of management education was shared by the academic circles as well as by businessmen themselves all around the country. For instance, in 1914 Sir Herbert Morgan, a wealthy English businessman knighted in 1917, claimed that [...]

> "[…] if a man has to make business his career, to make his own way in life, I should strongly urge in probably the majority of cases, that he enter the office direct from school" (Morgan, 1914: 64-65).

This personal statement illustrates a more general trend of the time, in which only few businessmen saw an advantage in recruiting their staff from higher schools of education. This ambivalence about vocational education was idiosyncratic to the UK and was, to a certain extent, exaggerated by British industrial capitalism itself. It could be argued, indeed, that capitalism in England, which used to be a "proprietary capitalism", based on

[379] *Oxford University Gazette*, 1913: 189

small and family-owned firms, did not encourage managers to recruit at the university level[380]. In fact, the personal culture of British Management differed from German or American capitalism which was mainly built on a meritocratic system which emphasised technical and managerial skills[381] (Dore, Lazonick, O'Sullivan, 1999). As Philip Sargant Florence emphasised, British managers were born rather than made:

> "You were either born to a great business as the son and heir of a family concern, or you achieved greatness by successful competition against rivals [...]. You never trained for business as for the law or the church or medicine" (Florence, 1961: 325).

As a result, the personal style of British management, based on family-owned firms, made the need for university education 'preposterous' (*Ibid*). As Chandler pointed out,

> "[...] in these British companies, selection to senior positions and to the Board depended as much on personal ties as on managerial competence" (Chandler, 1990: 242).

Thus, the lack of interest in business studies as a worthwhile academic discipline was partially caused by industrialists' failure to realise that a university degree could provide its possessor with useful skills to apply to managerial practice. The rejection of business studies as a worthwhile academic discipline did not only come from the side of business but also from the attitude of university functionalities. They considered business to be a vulgar and ignoble profession. The second explanation is the general view then shared by

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[380] For further details, see Kirby and Rose (1994: 63) who argued that, during the nineteenth century and the beginning of the twentieth century, "family partnerships proliferated in Britain in most branches of manufacturing, commerce and finance".

[381] The British industrial structure of the early twentieth century inherited from the popularity of the family oriented enterprise in eighteenth and nineteenth century Britain. One of the reasons for the British "personalised capitalism" was the fear of bankruptcy at the time. As Kirby and Rose (1994: 64) argued: "With the spectre of bankruptcy ever present, a combination of the common law partnership and unlimited liability meant that many businessmen preferred to be associated with their family connections than with outsiders". On the contrary, the American industrial structure of the mid-twentieth century was made of big scale capitalist companies based on multidivisional forms, built on vertical integration (power concentrated in the top management), but decentralised into autonomous decisions units. Chandler (1990) and Lazonick (1992) regard the survival of this "personalised capitalism", as the principal cause of the economic decay in the 20th Century British Industry. They argue that family firms cannot provide a sufficient number of qualified managers to run and develop the multidivisional structure which is the key factor of industrial success.

Oxford academics on business education at Oxford. In the Congregation debate, this common view was well expressed by the Warden of New College, Dr. Spooner[382], who pleaded against 'too much of the brains and vigour of the country' being attracted towards the 'wealth-amassing career of commerce or business' to the neglect of 'the more ennobling careers of the clergyman [...], the lawyer, the doctor, and even the public servant' (Snow, 1991: 16). Alternatively, it is possible to interpret this statement on the basis of a purely institutional reason, underlying the fear that students would be attracted away from the Diploma in Economics and Political Science which had been recently introduced in 1909. Oxford disliked proposed courses 'that encroached on established vested interests' (Brock, Curthoys, 2000: 613). In addition to the high degree of competition for students, the importance of vested interests at Oxford also suggests a lack of resources able to establish a proper Management degree at the University level.

Moreover, the vocational nature of business education fuelled the debate about the merits of establishing it as an academic discipline. Prejudice existed against business education at Oxford (Chester, 1986: 24). Here, it could be argued that the denunciation of the principle of vocationalism mainly resulted from the transmission of the British cultural heritage of the Victorian period[383]. Oxford dons were more concerned to preserve this heritage than to help the University to keep ahead of its competitors[384]. Then, to that extent, the danger of establishing business education at Oxford was that it might 'bring young men to Oxford merely to follow a technical preparation for business' (*Oxford*

[382] William Archibald Spooner (1844-1930), Warden of New College (1903-1924)

[383] It could be, however, argued that the denunciation of the principle of vocationalism was not that consistent in Oxford. A University that taught military surveying might as well also teach managerial techniques (*Oxford and the Nation*, 1907: 21).

[384] This idea relied on two easily made assumptions, 'first, that Britain would retain its leading industrial and financial position, and secondly that, when an undergraduate chose his career, he might well put the likely material reward above all other considerations: his chief temptations would be towards materialism and avarice'. (Brock, Curthoys, 2000: 855)

Magazine, 22: 176). Until the First World War, although the Oxford University Appointments Committee was preoccupied with the integration of students into businesses, it seemed very difficult to establish a business training programme for young men in the Oxford context, that is, Oxford had no particular hostility to business, but did not consider it an academic discipline. To some extent, according to Morgan, Oxford was developing 'an astonishing and profound ignorance of all that business means[385]', preserving a very 'detached and theoretical outlook' in its studies of trade and business (Morgan, 1914: 72-74)[386]. As it has been shown in the introduction of the thesis, before the Great War, trade and business or even economics were not studied inside the University. It was only in 1909 that the first Diploma in Economics and Political Science[387] was introduced, still depending on the Schools of *Literae Humaniores* and Modern History but leading in 1920 to the creation of the Honour School of Philosophy, Politics and Economics. Even then, the content of the lectures was very much theoretical, mainly focusing on political economy (Chester, 1986; Young, Lee, 1993) and was not orientated towards the understanding of real managerial practical issues. During the Inter-War period, although a few fellows were in favour of business education, no more was heard about the idea of setting up a business education programme at Oxford[388].

It was as late as 1949 that the first needs for business education were more seriously mentioned. To a certain extent, this confirms the idea of an existing correlation between

[385] Morgan even added that Oxford 'regards advertisement with horror and as necessarily associated with dishonesty' (Morgan, 1914: 72-74).
[386] We assume here that Morgan referred to the existing theory of the firm at the time (for further details, see Part One, Chapter 1 of the thesis).
[387] The Diploma in Economics was mainly based on the most historical approach to political economy (Young, Lee, 1993: 21).
[388] For instance, Lionel Hichens (New College), wanted a recognition that 'industry was primarily a national service', the object of those engaged in it being 'first and foremost the good of the community as a whole' (Hichens, 1918: 22).

Oxford's lack of interest in business education and the very nature of British capitalism. In fact, the increased interest of Oxford fellows in management education corresponded to the success of the "managerial revolution" in the United States[389]. Family capitalism was giving way to the economy of the modern business enterprise. An increasing number of businessmen started wondering why business should remain a profession which needed no academic training and was considered on a lower level than medicine or engineering[390]. It is in this context that Oxford welcomed the annual Conference of the Federation of British Industry which gathered fifty-five representatives of industry and sixty university members in 1949 (Weston, 1994: 129). The Committee's Annual Report for that year revealed that:

> "Management Studies for undergraduates were deprecated. [...] More Arts men should be recruited into industry, but medium- and small-sized firms who have not previously recruited inexperienced graduates find practical difficulty in working them in during their first year or two… To this problem is related the Conference's preoccupation with the need for vacation courses for Arts men in industrial companies." (*Ibid*).

The needs of business education were now formulated explicitly for the first time and stated the requirement for the creation of educational training programmes in business.

I.2. Towards a Cooperation between the University and the Business World: The Oxford University Business Summer School (OUBSS)[391] (1953-Present)

The 1949 Federation of British Industry Conference expressed the first needs of business education and gave Ewart Escritt, the Oxford University Appointments Committee's secretary (1947-1970) of the time, the idea to set up three years later, "some sort of young managers' education on an experimental basis" (Weston: 129). At this stage, management

[389] Berle and Means (1968) used this term to characterise the divorce of ownership from control in US firms

[390] At the end of the 19th Century, Oxford University began to recognise Engineering as a discipline. After some struggle, the Department of Engineering Science was originally established and first recognised by Oxford University in 1908. Engineering appeared as the interstice of applied maths and mechanics (Borthwick, 2008; Howatson 2008).

[391] The Oxford University Business Summer School is still running and has been renamed the Oxford University Business Economics Program.

started to be professionalized and was made respectable and attractive to the British business community. It was, therefore, agreed that the priority was [...]

> "[...] to bring together groups of young men in the age bracket 27 to 33, who have varied specialist experience, but are not yet in high administrative or technical posts"[392].

This need for some type of general education for business executives was coupled with the unstable economic climate of the country. As a result of the election of a Labour Government in 1945, many industries had been brought into public ownership. Business was mainly opposed to these nationalizations, fearing the establishment of a 'Communist Regime' (Harryman: 1). As, Harryman, former OUBSS chairman, stated:

> "[...] after all, France had been close to a Communist Government in the immediate post-war period and Russia was exercising her new power across Europe" (*Ibid.*).

The British economic climate strengthened the idea of diffusing business education in England and led a group of business leaders and government figures to meet informally at Oxford University. From these informal meetings emerged the more concrete idea of a vacation course for young business executives. As a result, the first Oxford University Business Summer School took place in the summer 1953 at Worcester College. According to Harryman, this gathering would enable 'leaders of tomorrow' to make better predictions of the future of the business world[393]. Originally known as the 'Summer School for young business executives', this four week-course aimed at a closer association

[392] University of Oxford Appointments Committee for men and women. Reports for 1952: 7.

[393] « [...] It was probably too late to change the attitudes of those individuals who held the power of the day, but that it could be extremely beneficial to bring the 'leaders of tomorrow' from the public and private sectors together, to better understand modern economic thinking and therefore the bigger picture in which they would one day operate. It was also understood that by better understanding the goals, challenges and priorities of different sectors, the general economy and society could benefit." (Harryman: 1).

between Oxford University and the business world[394]. In 1954, mainly because external courses were not operated by Oxford University itself, the Appointments Committee was placed in charge of the Summer School, and, in turn, appointed a board to run the School[395]. The School was considered as elite and the forty participants were organised around four syndicates of ten 'students' led by one of the tutorial staff, who were mainly Oxford economists[396]. These University lecturers included Norman Leyland, George Richardson and John Wright[397]. During the length of the course, candidates were not expected to be in touch with their offices. The course was an immediate success, being quickly oversubscribed, which led to the introduction of interviews by the Committee to select the best applicants. The lectures given in this Summer School were taught by economists and involved mainstream economic theory, namely microeconomics (theory of the firm and of industries) and macroeconomics (labour economics and government issues).

The School was not officially recognised as part of Oxford University, but was considered as an "associated institution"[398]. Although its successive runs were primarily

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[394] The aim of the course was described by the Appointments Committee as 'to broaden and improve the thinking of the members so that through the experience of the School and knowledge gained, they may become better managers' (Graves, 2001:3).

[395] For information, the non-industrial members included: Sir Wilfred Anson (Trinity), Deputy Chairman of Imperial Tobacco, as chairman, and including J.D. Mabbott, Chairman of the Appointments Committee, as well as Ewart Escritt. Industrial members included : Reginald Verdon Smith (Brasenose), Managing Director of the Bristol Aircraft Company, Sir Patrick Hamilton, Bt (Trinity), Chairman of Henry Simon (Holdings), and Mr. C.A.C. de Boinville (Wadham), Director and Area Manager of British Oil and Cake Mills (Scotland). (Weston, 1994 : 130).

[396] This way of teaching Management was not specific to the Business School, but was the method favoured by the Harvard Business School (Graves, 2001: 4).

[397] According to various interviews, PWS Andrews (See Part I, chapter 3 of this thesis) never contributed to the Summer School. I could not find any evidence of a lecture or a talk at the LSE archives either. One of the main explanations is rather subjective, and is shared by many of the people I interviewed. Andrews and Leyland did not get along well and Andrews would have balked at promoting an institution led by Leyland. This view will be confirmed later in the paper, with the emergence of the B.Phil. in Management Studies.

[398] In Oxford, an 'associated institution' was associated, but financially independent from the University and cannot deliver any Oxford University degrees. At the time, the Oxford Centre for Hebrew Studies (initially financed by Barclay, who also financed the Oxford Centre for Management Studies, in 1965, cf. p.15 of this

seen by the University and by the lecturers involved in its organisation, as a source of financial profit, its positive impact on gathering academics and business people was still significant. Therefore, when I investigated the links between the OUBSS and the emergence of management studies in Oxford, two main views came out of my interviews. One view was that the OUBSS was not involved in the development of business studies in Oxford, as it was not aimed at teaching management topics, but rather standard economic theories to recruits from middle management. However, the other view is that even if the content of the lectures was not management studies related, the success of this summer school gave Leyland the idea to move beyond this format to create a degree in management. These two views seem reconcilable, as although it would be misleading to argue that the OUBSS was a conscious attempt to establish management studies in Oxford, it still seems reasonable to argue that the organisation of the School strengthened bonds between the University and the business world. It still followed that, in the mid-1960s, after the various attempts made to diffuse business education in the University, a group of Oxford dons, including Norman Leyland and Sir Norman Chester gathered a small group of businessmen to indulge in a [...]

> "[...] notable piece of private enterprise and set up a management centre, if not within the University, at least in Oxford" (Snow, 1995: 5).

This aspect of the story is described in the following part of this chapter. In 1965, the administration of the OUBSS was passed from the Appointments Committee to the newly

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paper) along with the Oxford Centre for Islamic Studies were also both considered as "associated institutions" (Personal conversation with Clark Brundin, 22nd September 2008). An "associated institution" was not considered as a University 'entitlement', but rather as an 'agent'. Nowadays, these institutions are called 'Recognised Independent Centres' – 'self-governing academic institutions that work in harmony with the University to enrich its field of study' (The Oxford Centre for Hindu Studies's website: www.ochs.org.uk). Today, Oxford University gathers The Oxford Centre for Buddhist Studies, the Oxford Centre for Islamic Studies, the Oxford Centre for Hindu Studies, the Oxford Centre for Hebrew and Jewish Studies, the Oxford Institute for Energy Studies, as "Recognised Independent Centres".

formed Oxford Centre for Management Studies. Until then, the Summer School was run under the auspices of the University, but was not a University course in the usual sense. Therefore, although the OUBSS did pave the way to the emergence of business studies, it did not officially initiate management as an established discipline within the Oxford teaching curriculum. As a clarification of the evolution of management studies in Oxford and as an introduction of the next section, the following figure shows the key events in the history of the discipline:

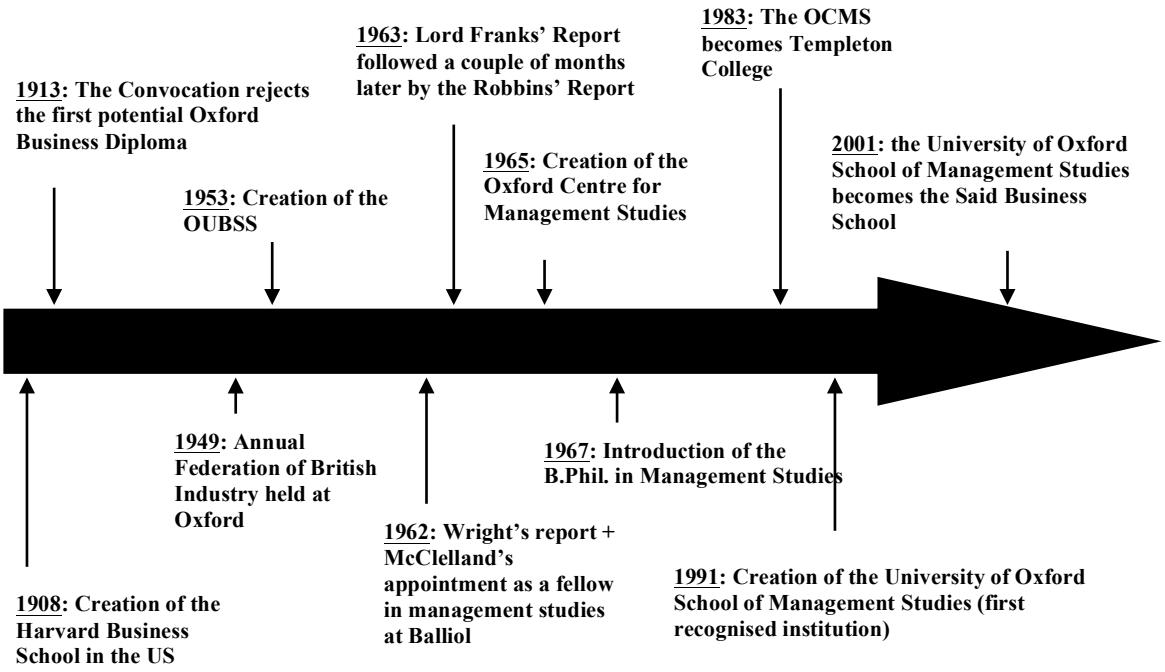

Figure 4 – Evolution of Management Studies in Oxford over the 20th Century

II. The First Developments of Business Studies (1965-1983)

Within the academic Oxford arena, at the same time as the standardisation of industrial economics by Oxford economists (see chapter 4 of this thesis), some members of the Oxford Economists Research Group who were concerned with the firm and industrial studies also showed a growing interest in the establishment of management studies in Oxford[399]. This increase in interest coupled with the influence of American Business Schools and changes in industry structures led Oxford to establish its first B.Phil. in management studies in 1965[400]. The following section analyses the evolution of business studies as it came to form an independent discipline.

II.1. Towards the Establishment of a New Discipline in Oxford: From the Oxford Centre for Management Studies (1965) to the Creation of Templeton College (1983)

In the 1960s, American graduate schools of business administration constituted a reference model in terms of business executive education. As shown earlier, this business schools movement was consistent with the nature of American capitalism, based on the development of large companies. While British firms were mainly small and family owned, the typical US firm is often represented as a large and concentrated corporation (Whitley, Thomas, Monceau, 1981, Hannah, 1976). American corporate industry was a meritocratic system based on individual talent opposed to the British family system. The early development of business academic education reflected the American instrumental

[399] Mainly Leyland, Jewkes and Stout for the teaching at the Oxford University Business Summer School. For more details about this group of researchers, see chapter 2 of this thesis.

[400] The first developments of management studies in Oxford were not focused on research, but rather on teaching. While the common trend in the 1960s was that British Universities significantly expanded the number of undergraduate students, Oxford decided to remain a medium-sized university, mainly arguing that the "pattern of life was collegiate and academically heavily reliant on the personal tutorial" (Silver, 2003: 201). For this reason, the introduction of the first degree of management is very significant. It shows that Oxford did not fit in the current national trend and rather aimed at enlarging its postgraduate community.

view of education that knowledge can be applied to problem-solving in a variety of situations. The American system was very much concerned with working out the knowledge configurations that brought about the reorganisation of factory management and the development of corporate managerialism. Nevertheless, the consequence was a high popularity of business education in America, with 10% of all undergraduates at American colleges and universities studying business by 1939 (Locke, 1996: 25)[401]. In this institutional context, after the middle of the 20th century, the number of undergraduates studying management in the United States grew constantly. In 1949, 617 institutions of higher education were already offering courses in business and commerce at the undergraduate level, while in the 1960s the era of the MBA started flourishing (Jeuck, 1973). The American way of doing business and teaching its techniques seemed very natural, as if managerial competences constituted, in the American mind, the fourth factor of production. At this point, the American model suggested that business success was the result of managerial competences and this gave business education a new impetus.

The Franks Report was published in November 1963 and was diffused by the British Institute of Management for wider distribution to the business community. On the basis of Robbins' conclusions, Lord Franks' committee recommended the establishment of 'two high quality post-graduate schools[402], in association with London and Manchester

[401] One of the particularities of the American business education was its science-based orientation. According to Chandler (1977), the Second World War dramatically intensified the links between science and management, and the Cold War perpetuated this scientific trend. The 'scientization' of business automatically required its institutionalisation, mainly through the occurrence of 'think tanks', government research institutes and business schools. In line with this trend, the mid-century American business schools aimed at providing a tool kit necessary to future management consultants. Schools of Business Administration were expecting students with high mathematical and engineering standards, in order to apply these skills to management science-based topics, such as behavioural science, linear programming, decision science, operational research and statistics (Locke, 1996:25).

[402] Significantly, this suggests that British Management education did not fit in the current trend of other disciplines, which followed the common trend in the 1960s of enlarging their academic programmes,

Universities [...]'[403]. A detailed analysis of the report has been made by Mitchell J. Larson in his Ph.D. thesis entitled "Practically Academic: The Formation of the British Business School" (2003)[404]. To Larson, three important factors combined to prevent criticism. First, Franks' recommendation to create two major business schools in the country was obvious to almost everyone. On the one hand, London was easily justified as being the centre of such activity. On the other, Manchester as the other location [...]

> "[...] appeased both academic interests tied to the University of Manchester (which had a long history of involvement with industrial administration and management training)[405] and business interests in Lancashire who could expect to benefit from the foundation of the new business school." (Larson, 2003: 116).

Second, the report explicitly mentioned that funding for the new business schools should be shared in equal proportions. Finally, the association between the newly formed business school and industry were made essential in the conclusions of the report. As a result of this association, both business schools would require a higher level of autonomy than more traditional university departments. In this respect, Larson rightly pointed out that Lord Franks [...]

> "[...] intended to give them freedom to explore the boundaries between vocational and academic elements of education for management (i.e. research). Franks claimed that this followed an American pattern, and firms in the United States saw fit to pay business school graduates more than other recruits – implying that they actually did possess better preparation for business careers." (*Ibid.*: 116-117)

It is worth noting that initially, Lord Franks, who had just become Provost of Worcester College, in 1962, first thought about the possibility of establishing a business school in Oxford. However, as Graves remarked, "[...] nobody in Oxford was thinking in those

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especially towards undergraduates and aiming at research post-graduate programmes, rather than taught ones (Silver, 2003: 201).

[403] London Business School Administrative Records, Collection Outline.

[404] Larson, M., (2003), "*Practically Academic: The Formation of the British Business School*", Unpublished Ph.D. Thesis, University of Wisconsin-Madison.

[405] See chapter 5 of Keeble, *The Ability to Manage*.

terms", suggesting that this might provide the University with "low grade study"[406] (Graves, 2001: 16). As a result, the Vice-Chancellor made clear to Franks that the University would not approve such a School[407]. The creation of an Advisory Council on Education for Management in England shortly followed the publication of the Franks report[408]. The role of the Council was mainly to keep under review provision for management education in the country.

At this time, as Oxford was still hostile to the introduction of business education, the Advisory Council on Education for Management in England, represented by Mr. Platt, initiated discussions with some Oxford fellows. Hence, in January 1961, Mr. Platt, on behalf of an American educational Trust founded by the management consultancy firm McKinsey & Company Inc., offered financial help to fund a report on the possibilities of developing management studies in Oxford (Cf. Appendix 7 – Letter from J.W. Platt to the Oxford Registrar, 17th January 1961, (OMSA, File 1))[409]. Following this generous offer, the Board of the Faculty of Social Studies in Oxford agreed to form a special Committee on management studies. For this purpose, the following members of Oxford University were appointed: Professor Hicks (Chairman), Warden of Nuffield (Professor Chester), Professor Ayer, Mr. Henderson, Mr. Jackson, Mr. Leyland, Mr. Nicholas, and Mr. J.F.

[406] As Silver noted, in the 1960s "Oxford not only did not share the prevalent "expansionism" of higher education, it set its face against the 'forces of expansion' in order to protect its social and academic patterns. The older universities in general moved with various degrees of enthusiasm or ambivalence along the expansionist road, through permanently alarmed about how it was to be resourced." (Silver, 2003: 201).

[407] After Franks abandoned the idea of setting up a business school at Oxford, the Vice-Chancellor wrote to him, mentioning that "he was pleased that the hesitations felt about all this [Management Studies matters], some months ago have largely receded [...]" (Graves, 2001: 16).

[408] The setting-up of the Council was one of the main developments in the field of Management Studies announced by Sir David Eccles, Minister of Education, in March 1961 (*The Times*, 4 Januray 1961).

[409] Mr. J.W. Platt was director of the Shell Transport and Trading Co., as well as being Chairman of the United Kingdom Advisory Council on Education for Management.

Wright[410]. After the first meeting of the Committee, its members agreed on two main points. The first was that the enquiry suggested by Platt was needed and "very desirable"; the second that a College Fellow was to be relieved from his college duties for one term to visit the United States and to write a report on Business education in Oxford (Report of the Committee on Management Studies, Board of the Faculty of Social Studies, 13th March 1961, OMSA, File 1)[411]. However, the committee did not agree on the source of the funding. While some members were strongly in favour of this grant, some others thought that it could be embarrassing to apply for a grant to an American Foundation "closely associated with a Firm of Management Consultants". According to them, it might [...]

> "[...] carry the implication that the University intended to develop management studies, the enquiry being concerned only with the form such development would take" (*Ibid.*).

These members also mentioned the 'embarrassing publicity' emerging from such an operation, and suggested finding another way of financing this enquiry. As an alternative, Norman Chester approached Nuffield College and successfully collected the required sum for the purpose of this investigation into the possibility of developing management studies in Oxford[412]. In May 1961, John Wright was chosen as the person to be sent to the United-States for three months, in the following autumn. For this occasion, he suggested to the Chairman of the Committee, Professor Hicks, a preliminary outline of the way in which he would plan his enquiry. This letter - reproduced in Appendix 8 – raised two main

[410] Minutes of the Board of the Faculty of Social Studies, 2nd February 1961, Oxford Management Studies Archives hold at the Bodleian Library (for now on referred as OMSA).
[411] "He would be responsible for writing a report describing and analysing American and other experience and would be free to express his own views as to the way Management Studies might develop in Britain" (*Ibid.*).
[412] Letter from D.N. Chester to the Vice-Chancellor, 10th March 1961, OMSA, File 1.

questions the inquiry should be able to answer. The first aimed at testing the extent to which management studies was considered "academically respectable" by Oxford standards. The second took the issue one step further, assuming that Oxford would, in fact, require business education, and posing the question of which type of organisation would then be adequate for introducing management studies.

During Wright's trip to the United States, an Oxford College established a research fellowship in management studies as an experiment. The endowment was provided by a representative body of company directors in the UK named the Institute of Directors and consisted of funding for a three-year research project on management related issues[413]. At this stage, the appointment[414], as research fellow, of the managing director of a family owned group of grocery stores, Mr. W. Grigor McClelland, became well-known by the non-academic audience, as we found no less than five newspapers articles which had been published between October 1961, and January 1962 on this issue[415]. Balliol[416] even raised the idea of establishing a course in management studies [...]

> "[...] depending on these [the fellow's] funding [...]- a possibility which has been under review by the college for some time[...]" (*The Oxford Mail*, 3rd October 1961).

At this point, one would have thought that the appointment of the first management studies fellow at Balliol would have been the first step towards the establishment of management studies as a new discipline recognised by the University. However, as Mr.

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[413] In particular, the enquiry aimed at providing answers regarding the age at which students should come up to university to be taught management, or related to the business topics which should be taught, or the length of the courses.

[414] The appointment only took effect in March 1962, (*Oxford Mail*, 23rd January 1962).

[415] 'Balliol College Experiment, Fellowship in Management', *The Oxford Mail*, 3rd October 1961 ; 'Balliol Seedling', *The Times*, 04th October 1961 ; 'Fellowship in Management Studies', *Oxford Times*, 6th October 1961 ; 'Business Fellow', *Oxford Mail*, 23rd January 1962 ; Research Fellow's Three Year Study, *The Times*, 24th January 1962.

[416] Speculatively, it is possible that Balliol's distinctive stand was due to its liberal reputation at the time.

Paterson – on behalf of the Oxford University Vice-Chancellor – stated in a letter addressed to a curious journalist,

> "as regards the future, the University as such (distinguishing this from the colleges, which [...] are autonomous bodies and for which I cannot speak), has no present plans for developments in this field. There has certainly been discussion of the possibilities, but whether any specific proposals will emerge and what form any such proposals might take are questions not yet possible to answer." (Letter from C. Paterson, on behalf of the Vice-Chancellor, to D. Jenkins, Journalist for *The Statist*, 3rd April 1962, OMSA, File 1.)

The Balliol experiment was to be seen as a college initiative which could not be associated with the University[417]. When John Wright returned from his visit to America, the conclusions of his report were not in favour of the establishment of a business school in Oxford, and delayed any potential move in this direction the University might have contemplated. Part IV of the report, entitled 'Some Conclusions and Inconclusions', acknowledged the significant effort made by the American system into the development of management education and its consequences for the "useful research" done in the leading US business schools. However, John Wright argued that this successful research was not in any way integrated with the teaching programme of the schools. Therefore, according to him,

> "[...] given that business education is to take place immediately after graduation, I could find little fault with the United States schools I visited. But I can work up little enthusiasm for the establishment of similar programmes in Oxford' (Wright, 1962: 41).

[417] In the same letter, he added "though the appointment was made known to and welcomed by the university faculty board concerned".

Nevertheless, the report suggested the relevance of teaching mature students, who would already have industrial experiences, such as 'general 'line' managers' (*Ibid.*)[418]. Wright concluded his report, claiming that [...]

> "[...] if Management Studies are going to be introduced here [in Oxford], it must be on the grounds that they bear some useful relation to our existing studies. But that will not bear that relation unless more interest can be fostered here within the existing social studies faculty about topics in the field of managerial studies" (*Ibid*: 42).

This statement outlined the irony of the matter as a whole: business studies could start being taught at the university level on condition that research in the discipline already existed. However, the only way of providing initial research in the field could, therefore, only be initiated by colleges, which were independent entities from the University, unlikely to be able to cope with the financial costs of hiring a fellow in management studies[419]. After all, this attitude was in line with Robbins' view of graduate schools in 1966, who argued:

> "The place for radically new subjects, in my opinion, is the graduate school, where perpetual reformation and restatement are necessarily the order of the day; and I am sufficient of an academic conservative to believe that it is not a good thing for beginners to have to work in fields where there is no background of standard literature or oral tradition and where, in consequence, everything tends to depend on the *ipse dixit* of the individual teacher." (Robbins, 1966: 13).

John Hicks organised a meeting to discuss issues arising from Wright's report. The conclusions were that "without additional staff, not much more could be done than broaden the University Business Summer School" (Graves, 2001: 15)[420]. As Graves

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[418] In particular, Wright argued that teaching senior executives would be beneficial to the University, because "[...] here are men bringing knowledge, but uncultivated knowledge, of the world of their acquaintance and seeking principles for its clarification. Much can be done through simple Socratic elicitation; and more by relating the results of research in the social sciences to the businessmen's experience" (Wright, 1962: 41).

[419] As stressed above, this was already the case of the fellowship of Grigor McClelland at Brasenose, endowed by the Board of Directors, who did not have a clearly established university status.

[420] The idea of establishing a Diploma in Management Studies also arose, but the committee stated that "because the background of the students would be very miscellaneous; the studies in which such people

stated, "Management Studies was seen as useful but not really Oxford's cup of tea, or glass of port" (*Ibid.*). Oxford's acceptance of management studies was therefore unusually long-drawn-out.

Despite the various opposition[421] to the establishment of management studies at Oxford, the persistence of Leyland's enthusiasm led him to create a privately funded centre in management studies[422]. The group was to pursue:

> "studies of interest to management in industry, commerce, finance or public administration" ([Sir Claus Moser, chairman] Report on the Future of Management Studies, 1988: 32).

Clifford Barclay, a 50 year old London businessman, who had already made his fortune, offered his financial help to establish business studies at Oxford. However, this financial help would consist only of investing the initial capital, i.e. the fixed costs of the building site[423]. The Oxford Centre for Management Studies was incorporated in 1965 as a company limited by guarantee and first encountered various financial problems. The Centre was not recognised as a University institution, but obtained the status of an "associated institution"[424]. Leyland became the first Director of the Centre, and Chester was made Chairman of the Council (*i.e.* the Board of Directors). During its early years of existence, the Centre was located in a house on Woodstock Road, before moving three

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could usually engage in common, at anything more than a very elementary level, are not easy to find… A general Diploma would, inevitably, be a low-grade Diploma; and we see no advantage in the provision of that sort of training in Oxford" (Graves, 2001: 15).

[421] These oppositions are suggestive of tensions between some University staff that was strongly against the introduction of management studies in Oxford, such as PWS. Andrews and members of the University in favour of the establishment of Management Studies as an academic discipline, such as Norman Leyland. These tensions are more specifically outlined in the next section of this chapter.

[422] The justification of the Centre, being privately funded was expressed by Norman Leyland, as follows: "[...] we think that administratively the best way of achieving this is by establishing an institution completely independent of University control so as to be free to experiment, yet drawing upon the teaching resources available in Oxford and at the same time contributing a new element to these resources." (in Graves, 2001: 18).

[423] Personal conversation with Desmond Graves, 23rd September 2008.

[424] For further details, see footnote 398.

miles South of Oxford, to Kennington[425]. The Centre combined students with different statutes, namely:

> "[...] a six-month course for general managers and be-spoke courses for specific companies; although there were a few university students for a B.Phil. in management studies and some management orientated courses for undergraduates"[426] (Tricker, 2006: 20).

In the early years of the existence of the Centre, the main programme was a six months Senior Managers Development Programme. This programme was aimed at men who were "already senior managers" or who were "likely to become so" (Senior Managers Development Programme, 1970: 1). The contents of the courses – reproduced in Appendix 9 – give a good indication of the orientation of business studies at Oxford: Wright's recommendations from 1962 were applied. First, the teaching was aiming at executive managers and second, the lectures were built on existing ones in other social sciences in the university. This is exemplified by the introduction in 1978 of the BA in Engineering, Economics and Management following a government's initiative and coordinated by Clark Brundin[427]. Although the aim of this course was primarily to produce qualified engineers, it was done under the auspice of the OCMS. An extra year focusing on the

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[425] According to Graves, the geographical location of the Centre chosen by Leyland is not a detail in this story. Interestingly, Leyland chose Kennington as it was located on the other side of the ring-road, leading to Oxford University's main site (Personal conversation, 23rd September 2008). For information, this new site was officially opened by the Duke of Edinburgh on April 30th 1969.

[426] "The six-month personal development course for senior managers, who spend the first three months in a general study of systematic management techniques and the rest of the course in the individual pursuit of a project often related to a problem faced by their own firm. Each student works on his project under the personal guidance of a staff member with interests and qualifications in an appropriate field, so that he enjoys attention of the same kind given by his supervisor to a graduate student of the university preparing for a doctoral thesis. Like him he can enlist the help of senior members of the university as well as draw from the considerable library resources Oxford possesses. Upon completion of his project the student can submit it to the university for a recognised Certificate in Management Studies." (Design 1969 Journal, 'Building for Business at Oxford': 24)

[427] Clark Brundin remained coordinator of the course for the first six years (1978 – 1984). He then became the Founding Director of the Oxford University School of Management Studies (now the Said Business School) and President of Templeton College (1992-6). For further details about Clark Brundin's role in more recent developments of Management Studies, see Arena, Dang, 2011.

Management teaching was soon added to the three-year undergraduate program. This fourth year required the students to spend time in a company and to complete a management project based on a final report along with their final written exams.

At the time, although the Centre was still encountering financial difficulties, the bulk of executive management programmes and courses for organisations enabled it to buy Egrove Farm House and some "additional twenty acres adjoining the Centre's site from St John's College" (Graves, 2001: 7). Courses organised by the Centre were partly subsidised by the University Grants Committee, which soon became permanent University Grant Committee Funding[428]. When Kitzinger became the Director of the Centre in 1980, he argued that:

> "Oxford is a collegiate University. [...] The attempt to create a Faculty of Management, which is not dominated by the Faculty of Economics, will never work. We have to turn the Management Centre into a college" (Tricker, 2006: 21).

Three years after John Templeton's benefaction, Templeton College was born. Templeton was then seen as preserving the independence of the discipline from the University which had been Leyland's preferred option.

II.2. The Introduction of the B.Phil. in Management Studies (1965)

In Michaelmas Term 1965, the B.Phil. in management studies is first referred to in the University decrees, from the 1st October 1967, and held its first examination in Trinity Term 1968[429]. In accordance with the Oxford tradition, the content of the B.Phil. in

[428] This University Grant constituted the main revenue of the Centre, as Barclay only provided the initial capital for the development of the project. The official rule was that this government funding had to be given to an established University. Hence, before reaching the Centre, this Grant was passing through the University hands, which used to take a long time before transferring it to the Centre. Obviously, this matter did not help the Centre to become financially more secure. (Personal conversation with D. Graves, 23rd September 2008).

[429] "This is to certify that A.B. has pursued at the Oxford Centre for Management Studies a course of study in Management Studies and has satisfied the Board of the Faculty of Social Studies in the following subject:

management studies was built on existing disciplines and, therefore, represented a turning point in the history of economics of the firm and business studies. The B.Phil. in management studies ran for the first time in 1967, after many years of discussions and negotiations among the different members of the Economics Faculty[430]. A controversy emerged between, on the one hand, Norman Leyland – main instigator of the project, who was in favour of a combination of industrial economics and business studies – and Philip Andrews, on the other, who refused to be associated with this new discipline[431]. 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'[432]. 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 cater for an extension of its use in that way would be likely to damage the work at present being done in the existing seminar" (Andrews, Brunner, Stout, Lady Margaret Hall, 1996, proposed use of the economics B.Phil. paper in economics of industries in the management studies B.Phil)

They provided different reasons supporting this idea[433]. If we exclude personal reasons mainly concerned with the poor quality of the relationship between Andrews and Leyland at the time, alternative explanations of this strong protest about including the economics of

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[here insert subject]" (Oxford University Exam regulations and decrees: Michaelmas Term 1965 to Trinity Term 1969: 398).

[430] 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, Andrew Glyn was the first D.Phil. student in Management Studies in Oxford (topic: Company Finance, supervised by Mr. Wright).

[431] For further details about PWS Andrews, see in particular chapter 3 of this thesis.

[432] Andrews and Brunner's archives, LSE, Box 258.

[433] For instance, lack of knowledge in economics from students in Management Studies ("The membership has generally included only men of fairly good quality as economists"), 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.

industry paper in the B.Phil. in management studies can be drawn[434]. Andrews made clear on several occasions in his correspondence that he was not opposed to the development of management studies in Oxford[435]. Still, his arguments could be analysed as real fear regarding the future orientation of industrial economics in Oxford. From this standpoint, the fact that Andrews' academic position was precarious made him aware of the possible decline of the tradition of industrial economics in Oxford, which he had struggled to establish for more than ten years[436]. Alternatively, he did not accept the alliance between industrial economics and management studies as a solution to his difficulties. 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).

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 of resolution of the controversy is not contained in the archival material. The only information is that the paper in industrial economics did become part of the B.Phil. in management studies in 1970[437]. The integration of the seminar in economics of industries stands as a good illustration of the Oxford tradition of building new disciplines on existing ones. In this context, during the first four years of existence of the B.Phil. in management

[434] 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).
[435] "[...] But that does not mean that I am to be treated as a person hostile to management education." (*Ibid*: 4).
[436] The subsequent revival of interest through the developments of industrial organization later on could retrospectively justify this fear (probably more than the developments of management studies). For further details about this discussion, see chapter 4 of this thesis.
[437] See in particular the Oxford exam papers in the B.Phil. in Management Studies [1970-1974]

studies, economics and management students both had the same exam questions, which were very much industrial economics oriented, and far from being concerned with real world managerial issues (See Appendix 10). It was only in 1974, that students from both B.Phil. degrees started to be given different questions, after the decision was made by management studies lecturers that questions should differ between economics and management students[438]. Even so, in 1974, seven exam questions out of ten still remained essentially the same, with only minor variations (See Appendix 10). In 1975, all exam questions for the economics of industry paper differed between economics and management students (*Ibid.*). The audiences had become differentiated. It is clear from this list of questions that the B.Phil. in management studies was much more concerned with issues related to the internal organisation of the firm in a real economy. The exam questions asked to economics students remain focused at both firm and industry level and expected more theoretical reasoning. This idea is also supported by the Examination decrees. In fact, between 1958 (the date of the creation of the economics of industry paper) and 1965, the rubric for the economics of industry B.Phil. paper was clearly oriented to economics[439].

The establishment of the B.Phil. in management studies put the members of the OCMS in a very bizarre administrative position. In fact, the B.Phil. was a degree recognised by the University, and as a result, its content had to be taught by University internal lecturers. However, as a result of Oxford University's reluctance to offer any

[438] Information given by Rosemary Stewart, personal conversation, 11th June 2008. Rosemary Stewart is a business theorist and was a fellow in Organisational Behaviour at Templeton College, where she is now an emeritus fellow.

[439] "Costs, output and scale. Price determination. Structures of Industries and patterns of Industrial Growth. Productivity and efficiency comparisons. Monopolistic and restrictive trade practices; government and competition. The broad principles of accounting and their economic implications. Investment in capital assets. The distributive trades." (Oxford University Exam regulations and decrees: Michaelmas Term 1958 to Trinity Term 1965).

official University positions in management studies, the only possible specialised teaching resource in the field was then available at the OCMS[440]. Lecturers in management at the Centre were teaching B.Phil. students, but because they did not have any official University affiliation, they were not allowed to take part in the final examinations of the management papers[441]. What could be, at first, thought of as a very multidisciplinary orientation of the B.Phil. was, in fact, nothing other than the unintended result of an institutional factor, specifically Oxford's refusal to officially recognise lecturers in management, as part of the University staff. In this sense, the multidisciplinary form taken by management studies appears as an unintended consequence of a lack of resources in the discipline. Altogether, the regulations made by the Board of the Faculty of Social Studies included two compulsory general papers in the B.Phil. in management studies. On the basis of Appendix 11, further comments could be made regarding this rubric. Management papers constituted only a very low proportion of the overall lectures offered by the B.Phil.: among the compulsory papers, only two courses were business oriented, namely 'Theories of organization' and 'Source of finance'. The rest remained very close to existing disciplines, such as economics, sociology and engineering science, and was taught by University lecturers. Moreover, the optional papers also belonged – with no exception – to other existing fields and were clearly not specifically adapted to the management students' audience. For instance, as shown previously, the economics of industry paper was taught

[440] The idea, first, suggested by the University to ask staff members of the Henley Business School (Reading) to come and lecture at the Centre was strongly contested by the members of the OUCMS (Personal conversation with Clark Brundin, 22nd September 2008).

[441] As an illustration of this bizarre procedural situation, Rosemary Stewart was lecturing B.Phil. students in the Centre of Management Studies, but could neither examine there, nor wear a gown, because she was not a member of the University. It was only some time after the B.Phil. started, that she was arranged an appointment at Lady Margaret Hall, by Dick Smethurst. Later on, the fellows of OCMS were given Oxford M.A. and were able to predominate as examiners (Personal conversation with Rosemary Stewart, 11th June 2008).

by an economist lecturer, shared by economics and management studies graduates. Altogether then, only the compulsory thesis project was directly made in cooperation with industries.

Hence, the first degree in management studies officially recognised by Oxford University was a post-graduate course, which was, then, in comparison, very different from any other degrees in Management, run in America[442] or in Europe[443] at the time. This section of the chapter has shown that the very characteristics of this degree did not result from a conscious choice made by the University, but were rather the result of a combination of an Oxford tradition to build new fields on existing disciplines and with its ambivalence towards business studies as an academically worthwhile discipline by Oxford standards.

Concluding Remarks

This chapter has explored the origins of management studies in Oxford. It has demonstrated that business studies had to go through a long drawn out process of negotiation and positioning to become established as a proper academic discipline. The lateness of the adoption of education in management compared with America or the rest of Europe depended on the very specific institutional context of Oxford University. The initiation of management studies in Oxford was not the outcome of a conscious desire of the University community, but rather a serendipitous event. The first part of the paper argued that the cultural British heritage of the Victorian period was ambivalent about, if not hostile to, the vocational nature of the discipline. Despite attempts to increase cooperation between the University and the business world by various institutions

[442] For further details, cf. Wright (1962).
[443] For further details, cf. Whitley, Thomas, Marceau (1981).

(OUAC, OUBSS), the first half of the century saw little progress in recognising business as a noble enough activity to be taught at the University. Then, in the early 1950s, the American business school movement, along with the US 'managerial revolution' provided a role model. Indeed, it is argued that the role of business schools may be seen as 'an attempt to legitimate the authority of general managers by certifying their graduates as competent in this area' (Whitley, Thomas, Marceau, 1981: 11), and therefore, that the new model managerial system raised the need for business education in Britain. Even though, in the early 1960s, after various government reports written in favour of the establishment of business schools in British Higher Education, Oxford was not convinced and sent John Wright to the US to report on the relevance and transferability of US-type business studies. Interestingly, in 1996, five years before he died, Wright commented on his report in an interview given to Desmond Graves. He argued that his 1962 report was made in accordance with the overriding consideration of not doing anything "that would alarm general opinion in Oxford". He added: "both before 1963, and in the actual formation of the Centre, there was thought to be a need to avoid any excitement of University opinion" (Graves, 2001: 14). The combination of the traditional nature of Oxford University and particularly anxiety about infringing traditional disciplinary boundaries combined with the overall scepticism about business studies is therefore a more satisfying explanation than any suggestion of a conscious decision or choice made by the University administration or by academic offices.

Regarding the content of the first degree in management studies, institutional factors have also been seen as decisive. At first sight, looking at the content of the first course in management studies held at Oxford University, it could be argued that the field

was very much multidisciplinary, mixing a range of Social Science topics. However, the analysis has shown that this multidisciplinarity was not really consciously constructed, but was, rather, an unintended ironic consequence, arising from the shortage of suitable resources, as well as the ambivalence of the University about management studies. All together, this confirms the general hypothesis of the thesis, which emphasises the role played by institutional factors and by the academic history of Oxford University in its theoretical and empirical orientations given to studies of firms and industries. Overall, this chapter has shown that the delayed establishment of management studies in Oxford, and the format eventually developed, were both affected by various institutional arrangements which managed to keep management studies within the University, without the University being officially involved in its development. management studies was just the seed for the later creation of a Business School. It was as late as 1991 that Oxford University officially established its first business school, which has ironically become, today, one of the foremost schools of business education in the world.

Last, but not least, in addition to its contribution to the history of the emergence of management studies in Oxford, this chapter showed how this new discipline displaced Andrews' empirical approach of Industrial organization, mainly because of the increasing demand for a more business-oriented approach associated with the emergence of management as an academic discipline. Thus, this increased attention given to business topics, along with the early developments of game theory, described in chapter 4 of this thesis, gave a new orientation to studies of firms and competition in Oxford University, in the 1960s.

CONCLUSION

Today, the complexity of industrial life, exemplified by the growth of large powerful multinational corporations, rapid changes in management practices and the proliferation of financial markets and institutions, has turned economics and management studies into subject areas attracting students in numbers that would have been unimaginable only half a century ago. The rising importance of economics departments and business schools is undeniable, and both increasingly play a central role in the strategic development of universities around the world. The labour market now values economics and management graduates very highly as is evident in the exponential rise of their salaries[444]. Such financial incentives ensure that competition for a place at a top business school or economics department is fierce, with course fees usually far in excess of more traditional programmes. This situation is even more remarkable when one remembers that business and economics departments did not exist less than a century ago.

In the UK, the institutionalisation of the economics of the firm and of industries, as well as of management studies was obstructed by hostility within universities towards these new subject areas, which were seen as being either too applied or too vocational. Although academic opinion was at best indifferent and at worst hostile, there was, nonetheless, a persistent vocal minority of internal proponents who played a crucial role in establishing the first business schools in the UK. Such institutions emerged through a series of power struggles and personality clashes. Whereas management studies have

[444] The average salary for an MBA graduate in the United-States is in excess of $90,000 with the Tuck School of Business boasting the highest average starting salary amongst US schools at $140,000 (Holmes, 2001). Economics degrees are also highly valued: a PhD in economics bestowed an average starting salary of over $65,000 in 2003 (Deck, Collins, Currington, Walton, 2003: 5). The situation is similar in Europe where the average salary for an MBA graduating from a top business school is 85,000 euros (Holmes, 2001). It is therefore not surprising that a University would benefit if its alumni included a strong cohort of business and economics graduates.

become ever more applied, the economics of the firm has become a triumph of formalism, with mathematical models favoured over empirical studies.

Ironically, the external factors, which drove the establishment of business schools are now creating a divide within management studies. Highly specialised research questions with often only tenuous links to practical concerns in management are (on the basis of large numbers of case studies and increasingly econometric models) published in academic journals. Such material is far removed from the individual case studies examined in MBA programmes, where the emphasis was on extracting useful lessons for practitioners. The nature of teaching and research in these institutions is subject to criticism. As recently outlined by JC. Spender, the value of business schools tend to lie in what they "do" rather than in what they "know"; in their "credentialing activity" rather than in their "research" (Spender, 2005: 1289). Business schools now serve external needs dictated by industry, which places the emphasis on providing short-term practical help over academic research. This current debate about the future direction of management studies was recently covered in the popular press. While according to Sir Paul Judge "[o]nly a small number of academics are involved with [...] esoteric research. The rest are doing consultancy and teaching". Steven Chambers of the Said Business School maintains that both are equally needed. Chambers asked, "would we not want Harvard to come up with creative destruction or the five forces? Places like Oxford should do that. Should there also be practical, technical applied focus in schools? Yes." (Bounds, 2011).

Supported by the Oxford case, this thesis has shown that this debate in management and the triumph of formalism in economics cannot be understood in isolation from the historical context in which these departments and their intellectual content

evolved. Interestingly, the Oxford case illustrates an intellectual history which cannot be easily linked with a history of economic thought. As shown, while institutional developments punctuated the evolution of economics of the firm, industrial organization and business studies and still continue to be the foundation of modern approaches, Oxford did not develop a unified school of thought in the three disciplines. In particular, this research has demonstrated that business studies emerged from a wider disciplinary area which was, to a large extent, shaped by the theoretical developments as well as the methodology initially conducted by the Oxford Economists Research Group, as early as the 1930s. This thesis aimed to answer two crucial questions:

1) How have the practical concerns of the organisation of industries, firms and business come to attract academic attention and gained access to academic institutions?

2) How has the nature of the institution influenced the theoretical and methodological orientation of these new academic subject areas?

My thesis has answered these questions using a combination of different, yet complementary historical methods, as discussed in the introduction to each chapter. The answer to the first question could be seen as, perhaps, the more natural of the two. As firms have become more complex and powerful organisations, their study has gained weight in academic institutions. As a result and as emphasised throughout part I, until the beginning of the twentieth century, economists were mostly focused on the theory of value and of income distribution whereas studies of firms and industries were conducted within the price theory framework. Managerial evolutions naturally lead scholars to shift their focus towards the internal organization of the firm. From a theoretical perspective, the separation of the theory of the firm from the theory of value resulted from the Cost

Controversy in Cambridge accompanied by a new interpretation of Marshall's work and the slow emergence of industrial economics and its empirical applications, as illustrated by MacGregor's contribution in Oxford. From an institutional perspective, the rise of these subject areas is a result of a combination of external factors such as the need for universities to tackle real world problems – as outlined in a series of reports published in the 1960s that led to university reforms –, constraints in external funding and the need to attract private financial backing. In examining the acceptance of business problems in academia, this thesis has highlighted a more subtle issue, namely that there was a delay between such practical business questions being posed by managers and policy makers and the eventual attention such problems received from university academics. This was exemplified by the rejection of grounded applied research by the early Oxford economists and their intellectual and methodological orientation. Ironically, this could be seen as the attitude of Oxford to prevent the development of knowledge concerned with applied business and industrial matters. Debates against the introduction of business studies in Oxford illustrate that the university established hierarchies of knowledge between different subject areas. To a large extent, this is specific to Oxford (and, to some extent, to Cambridge) and not followed by younger universities such as Birmingham and the LSE which accepted these subject areas at an earlier stage of their institutional development[445]. In Oxford, at the beginning of the twentieth century, the position of Francis Edgeworth encouraged the development of economic history and mathematical economics, as opposed to industrial-based economics reliant on a more applied methodology. Regarding

[445] The Faculty of Commerce was opened as early as 1902 in Birmingham University and the LSE had a Department of Business Administration as early as in the 1920s, when Arnold Plant developed accounting.

management studies, the delay is even more significant since it took Oxford almost a hundred years (in comparison to Harvard) before opening a management department.

This time lag has been attributed to several factors discussed throughout this thesis. Firstly, the acceptance of a new discipline is reliant on the presence of emblematic academic figures able to vocally argue for its development. To this extent, the Oxford case largely differs from the Cambridge context. In Cambridge, the Marshallian legacy left enough room to the economics of the firm to develop simultaneously as more general economics, yet being studied independently from the theory of value. However, because of the predominance of a strong unified and formalised theoretical tradition, applied studies of firms never attracted a critical mass of scholars[446]. The lack of emblematic figures in Oxford and/or the isolation of the successive fellows elected at the Chair of Political Economy (in particular Edgeworth and MacGregor) did not produce a unified body of knowledge until, perhaps, the popular developments made by the OERG which despite, its heterogeneous interests, still paved the way for more homogenous methodology and theoretical orientations. Hence, although industrial economics today does not resemble the discipline as Philip Andrews knew it, his legacy was to institutionally establish industrial economics in Oxford, along with its then new research issues and methodology. Other key players in the rapid development of industrial organization in Oxford were Donald Hay and Derek Morris. Similarly, management studies was supported strongly by Norman Leyland whose strong desire and persistence in getting management studies established as an academic discipline, as well as his various

[446] Robin Marris is, perhaps, the most famous Cambridge theorist of the firm and even though, Charles Carter's 1965 review of Marris' 1964 *Economic Theory of Managerial Capitalism* argued: "My chief fear about Mr. Marris's work is that it will not have the influence which the originality and power of his ideas justifies" (Carter, 1965: 404).

connections with businessmen, led to the foundation of Templeton College. Although this institution no longer exists, Templeton College laid the foundation for the Saïd Business School.

Secondly, the acceptance of a new discipline such as industrial economics or management studies requires not only emblematic proponents willing and able to speak out in favour of establishing it but also the support of the institution as a whole. To influence the opinion of a large and complex institution such as a university, requires proponents who are able to persuade academics from other departments to join their cause and resolve power struggles and personality clashes in order to exert influence on institutional decisions[447]. The late establishment of business education in Oxford was largely because of the university's decentralized governing structure, and the democratic role of the congregation, which allows academic and administrative staff across the university to vote for (or against) any changes. Thus, the need for a series of reports documenting every step of a possible evolution tends to slow down new initiatives[448]. Finally, external factors are essential to gain institutional support. The nature of modern capitalism leading to a more explicit need for formal higher education in management, university reforms imposed by governments, and role models such as Harvard helped overcome the barriers to the establishment of economics and management in academia.

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[447] As Lazonick (1998: 291) rightly put it: "Like innovation in the industrial world, successful innovation in the intellectual world requires long-term commitments resources, both human and material, and collective organization to overcome vested interests in existing methodologies and ideologies".

[448] Beyond the time period studied in this thesis, John Kay's personal experience in Oxford led him to argue that this governance was "a constant source – at first of incomprehension, then of frustration – to Mr. Saïd, who spent five years trying to persuade the University to accept a £20 million gift" (Kay, 2000: 4). This sense of constant frustration when trying to implement a new initiative in Oxford is not shared by everyone. In our interviews, many academics and administrative staff admit that when the university is facing an evolution, "things are not going to happen tomorrow" This second view is also defended by Anthony Hopwood who rightly remarked that "it was always going to be complicated here because of the sort of place Oxford is. It's democratic, it's lateral, it's conversational" (Hopwood, in Beckett, *The Independent*, 1999).

The influence of an institution on the development of academic subject areas – the second question – has been discussed in detail throughout this thesis. The theory of the firm has taken a unique orientation in Oxford due to the OERG and the empirical approach to the firm as a reaction against the theory of imperfect competition popularised at Cambridge in the 1930s. The methodology (the use of questionnaires sent to businessmen) was at the time specific to Oxford. The Oxford theory of the firm was also strongly influenced by George Richardson and Harald Malmgren who focused on information and knowledge inside a firm and unwittingly contributed to a deeper understanding of the concrete organization of firms. In this way, they shed light on the emergence of more recent knowledge-based economies. The modern evolutionary theory of the firm is based on the concepts of capabilities and competences as proposed by Richardson and Malmgren and views the firm as a complex and organised set of competences and resources that is continuously faced with uncertainty.

Industrial economics was shaped by Oxford institutions. The B.Phil. seminar on the economics of industries and the *Journal of Industrial Economics*, both introduced by Philip Andrews in the 1950s, exemplify the applied orientation of the discipline based on an empirical methodology. Andrews' influence later waned with the rise of industrial organization exported from the United States and based on the use of game theory as its main tool of analysis.

Finally, management studies in Oxford emerged from a combination of confusion, personal antagonism, vested interests and Oxford's way of building new disciplines on existing ones. Its current multidisciplinary orientation has not been consciously constructed, but arose from a shortage of suitable resources, as well as the ambivalence of

the university about management education. Unsurprisingly then, this interdisciplinary desire is still expressed by the Oxford University business school which is "aiming to transcend the traditional functional divisions of a business school in order to reflect the complex realities of business and society in today's global economy"[449].

As discussed in the introduction, this thesis has only considered the Oxford case. In terms of the evolution of economic thought, while this monograph showed the final triumph of formalism over more empirically-based orientations of the firm, it did not provide a more systematic explanation of the emergence and the evolution of modern mainstream economics in firm and industrial studies. This deliberate choice results from the idea that Oxford was never the place in which key developments based on the concept of the 'optimizing firm'[450] occurred. Thus, the publication of the various editions of Hay and Morris' characterises this process. As shown in chapter 4 of the thesis, Hay and Morris never pretended to find in Oxford the origin of an increased dominance of the modern mainstream approach in industrial organization. Quite the contrary, the several editions of their textbook highlight very clearly how this approach was imported to Oxford from the United-States. This imported influence – which also occurred in other European universities – contrasts with the idea that genuine theoretical and methodological innovations would have led to an autonomous "neo-classical" school in Oxford. Still, it would be interesting to compare and contrast my account of the Oxford story with the evolution of economics in other academic contexts. For example, the case of Harvard is of particular interest, as it shows how what Lazonick (1998) called "the neo-

[449] Said Business School's Website (2009). Anthony Hopwood remarked that although it has an "almost filial relationship with Oxford economics, the Saïd is pursuing close links in areas such as psychology, history, politics and international relations" (*Oxford Today*, 2002).
[450] According to the expression used in Lazonick, (2002 : 5).

classical vision of the market and the firm" resulted from the inability of Harvard economists and economic historians trained in the Schumpeterian tradition to develop a complete alternative view. The Harvard example has some parallels with the case of Oxford since as Lazonick noted that the old guard of the non-mainstream scholarship "exited to spend their time in administrative positions, research institutes, or professional schools" (*Ibid.*: 290)[451]. To a large extent, Andrews' and Brunner's move to Lancaster as well as Richardson's and Malmgren's withdrawal from academia echo Lazonick's contention that the "exit" of scholars who could have had a voice at Harvard played a role in the emergent dominance of the neoclassical school.

There are other possible reasons for the ultimate failure of the empirical approach to the firm. On the one hand, Andrews' and Brunner's attitude – which combined ahistorical empirically-oriented studies based on questionnaires addressed to contemporary businessmen with an explicit rejection of any collaboration with scholars invested in Oxford business studies – did not help to defend the initial tradition initiated by the OERG outside the traditional frame of perfect versus imperfect competition[452]. On the other hand, the empirically-oriented approach to the firm developed by Andrews and Brunner as well as the Richardson-Malmgren coordination view, probably would have benefitted from combination with an alternative interpretation of Marshall's more dynamic, historical and evolutionary features. Such an evolutionary interpretation of Marshall continues to be developed today, based on various contributions in England, in Italy, in Japan and in France (Beccattini *et al.*, 2009; Raffaelli, 2003; Raffaelli, Nishizawa, Cook, 2011). This explanation for failure is resonant of Lazonick's suggestion that a

[451] Lazonick also referred to Alexander Gerschenkron's retirement as a failure to maintain economic history as a fundamental study to economic theory.
[452] For a more detailed analysis on this account, see Arena, Charbit (1998).

successful alternative theory of the firm had to combine historical analysis and economics in the Schumpeterian tradition (Lazonick, 2010, 2011)[453].

It is to be hoped that these concluding comments encourage further comparative research on the varying fates of academic centres where industrial organization and the theory of the firm historically emerged. However, they also confirm one of the main findings of this thesis: that the evaporation of the Oxford tradition in industrial economics and organization was not "a failure of intellectual achievement but rather a failure of intellectual influence" (Lazonick, 1998: 291)."

The deliberate choice of Oxford as a single historical case-study limits the generalisation of my results to other universities. However, this 'sacrifice' seemed justified in order to obtain a detailed and accurate understanding of the development of the theory of the firm, industrial economics and management studies in Oxford. Yet, it seems that Oxford represents an institutional hybrid case regarding the evolution of studies on firms and industries. Within the UK, the Oxford case lies, to a certain extent, between its Cambridge equivalent and younger universities, such as the LSE. On the one hand, the traditional nature of Oxford University and particularly anxiety about infringing traditional disciplinary boundaries prevented it to follow the LSE model and to develop theories of firms and industries as well as business studies independently from existing subject areas and more general economics, earlier on in time. On the other hand, it would be misleading to compare the Oxford evolution to the Cambridge case, since, as mentioned earlier, the existence of structured theoretical schools of thought in Cambridge

[453] To a large extent, Edith Penrose's approach to the firm (1959) illustrates an alternative view to the optimizing vision of the firm and mainly develops on historical grounds (see in particular her case-study account of the Hercules Powder Company (1960) which served the theoretical developments of the *Theory of the Growth of the Firm*).

prevented business studies to emerge from economics[454]. A useful future research avenue will be to compare the development of these subject areas in other institutions to the Oxford case, first at a national level (Arena, Dang, 2010), and eventually at an international level (Arena, 2011).

[454] Elsewhere, results show that in Cambridge, business studies rather emerged from engineering sciences. For further details on the comparison between Oxford and Cambridge, see Arena, Dang, 2010.

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[456] The title of this article is mistaken, as Malmgren's first name is « Harald ».

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APPENDIX

Appendix 1 – List of Interviews (2004-2010)[457]

Appendix 1a) Interviews – Part I (1890-1968)

Interviewees	Relevant Biographical Elements	Date of the Interview	Location
Daniele Besomi	Independent Researcher in Economics; Editor of the *Interwar Papers and Correspondence of Roy Harrod* (2003)	2006.10.21	Oral conversation ; Université de Nice Sophia-Antipolis, France
Hugo Brunner	Lord Lieutenant of Oxfordshire (1996-2008); Elizabeth's Brunner's second cousin	2004.05.13	Letter
David Butler	Emeritus Fellow of Nuffield College; Andrews' student in 1944 at New College	2004.02.18	Oral conversation; Exeter College, Oxford
Nicholas Dimsdale	Lecturer in Economics; Fellow of Queen's College; Author of 'Harrod and Interwar Economics', *OEP*, 2005	2006 – Various interviews	Oral conversations; Queen's College, Oxford
Walter Eltis	Lecturer in Economics; Emeritus Fellow of Exeter College; Ex-member of the Nuffield Graduate Seminar in Economics of Industries	2004 (Various interviews) + 2006.06.30	Oral conversations; Exeter College, Oxford
Donald Hay	Lecturer in Economics; Fellow of Jesus College; Editor of the *Journal of Industrial Economics* in 1976 after Elizabeth Brunner	2006.07.18, 2010.12.08	Oral Conversations; Economics Dep. and Jesus College, Oxford
Michael Howard	Professor of Economics at the University of Waterloo; Researcher at Lancaster University at the same time as Andrews and Brunner	2004.06.18	E-mail conversation
John King	Researcher in Economics at Lancaster University (1968-88), at the same time as Andrews and Brunner	2004.05.04	E-mail conversation
Frederic Lee	Professor of Economics at the University of Missouri-Kansas City; Co-Author of *Oxford Economics and Oxford Economists (*1993).	2006.07.12	Oral Conversation; Oriel College, Oxford

[457] Discussions with the different people listed here have been based on unstructured interviews. This choice of method in the interviews was made for four main reasons. First, participants were questioned on very different topics and time periods which made impossible to prepare a single unified questionnaire. Second, I wanted to avoid collecting a pre-set range of answers, which would have appeared limited for my work. Each individual interviewee had a different story and interpretation to share with me. In most of the interviews, I also found that the first impression people gave me was that they were unsure of being able to help as the themes I was asking them to talk about were far in their memories. However, after some short time, they were well easily able to give me detailed answers. Early in the interviews process, I realised that asking them structured questions did not help them giving me information, which did not seem relevant or obvious to me before the interview. Thirdly, because of the themes of power struggles and personality clashes which are central to my thesis, I believed unstructured interviews were more suitable for sensitive subjects. Last but not least, the underlying aim of my interviews was also to be suggested further contacts to interview and be facilitated my access to private archives. The informal nature of this aim was not well suited for structured interview either.

Juli Lessman	Research student at Lancaster University in 1975 who worked with Elizabeth Brunner	2004.09.13	E-mail conversation
Jeremy Lever	Distinguished Fellow in Law at All Souls College; B.Phil. student in Economics at Nuffield College (1956-7); Ex-member of the Nuffield Graduate Seminar in Economics of Industries	2007.09.15	Oral Conversation; All Souls College, Oxford
Ian Little	Emeritus Fellow in Economics; Official Fellow (1952-71) at Nuffield College; Author of *Collection and Recollections: Economic Papers and their Provenance* (1999)	2004.05.25	Oral Conversation; Nuffield College, Oxford
Brian Loasby	Professor of Management Economics (1971-84); Emeritus Professor of Economics at the University of Stirling	2004.05.05	E-mail conversation
Derek Morris	Lecturer at the OUBSS; Co-author of *Industrial Economics, Theory and Evidence* (1979); Chairman of the Monopolies and Mergers Commission in the UK (1997-2004)	2006.08.09	Oral Conversation; Oriel College, Oxford
George Richardson	Ex-member of the OERG; Lecturer at the OUBSS in 1953	2006.06.26, 2007 (Various interviews)	Oral Conversation; St John's College, Oxford
Donald Rutherford	Educated at Oxford University; Author of the *Routledge Dictionnary of Economics* (2002)	2004.05.06	E-mail conversation
Maurice Scott	Emeritus Fellow in Economics at Nuffield College; ex-Member of the OERG (1960-1965)	2004.05.13	Letter
Martin Slater	University Lecturer in Economics; M.Phil student in Economics (1971-1973), Ex-member of the Nuffield Graduate Seminar in Economics of Industries	2007.09.14	Oral conversation; St Edmund Hall, Oxford
David Stout	Official Fellow in Economics at University College (1959-76); Chairman of the OERG when it ended in 1965; Chair of the Nuffield Graduate Seminar in Economics of Industries (1969-71)	2006.01.16, 2007.07.11	Oral conversations; Sevenoaks
Jim Taylor	Professor of Economics (since 1983) at Lancaster University	2004.05.10	E-mail conversation
Oliver Westall	Senior Lecturer in Economics at Lancaster University; Literary Executor of Andrews and Brunner's papers (LSE)	2005.11.10	E-mail conversation
John Vickers	PPE student at Oxford (1976-1979); Warden of All Souls College	2007.08.22	Oral conversation, Economics Department, Oxford
Sidney Winter	Professor Emeritus of Management and Technological Change at the University of Pennsylvania; Evolutionary Economist of the Firm	2005.01.21	Université de Nice Sophia-Antipolis, France

Appendix 1b) Interviews – Part II (1968-1983)

Interviewees	Relevant Biographical Elements	Date of the interview	Location
Laurie Baragwanath	B.Phil. student in Economics at St Edmund Hall, Oxford (1951), and later Oxford University lecturer in "Microeconomics", "Theory of the Firm" and "Pricing and Investment Behaviour" (1960s-70s); member of the OERG (1961-1965) also involved in the institutionalisation of Business Studies in Oxford	2010.03.03	E-mail conversation
Clark Brundin	Member of the Steering Committee of the OUBSS; First course coordinator of the Undergraduate Program "Engineering, Economics and Management" in Oxford (1978-84); Founding Director of the Oxford University School of Management Studies (now the Said Business School) and President of Templeton College (1992-6)	2008.09.23 2009.11.12	Oral conversation, Town Hall and Saïd Business School, Oxford
Dorothy Cooke	Courses Registrar of the OCMS (1972-9); Administrator of Executive Education at Oxford ever since in roles including promotion, recruitment and alumni relations	2008.11.06 2009.09.08	Oral conversation, Templeton College, Oxford
Michael Earl	Dean of Templeton College (2002-4); Founding Director of the Oxford Institute of Information Management	2008.06.10 2010.02.18	Oral conversation, Templeton College, Oxford
Desmond Graves	Author of "*Templeton College, The First Thirty Years: A Family Affair*" (2001); Associate Fellow of Templeton College	2008.09.24	Oral conversation, Templeton College, Oxford
Bill Impey	Administrator; Estates and Domestic Bursar; Administrative Fellow (1967-98); Emeritus Fellow of Green Templeton College (since 2006)	2009.12.03 2009.12.18	Oral conversations, Green- Templeton College, Oxford
Uwe Kitzinger	Dean of the European Institute of Business Administration (INSEAD) (1976-80); Founding President of Templeton College (1984-91)	2009.07.17	Oral conversation, Standlake
Ray Loveridge	Professor Emeritus of Aston University; Lerverhulme Research Fellow at the Saïd Business School; Researcher in Industrial Relations	2008.05.11	Oral conversation, Saïd Business School, Oxford
Harald Malmgren	D.Phil. student in Economics at Oxford (1957-61); Thesis entitled "*Information, Expectations and the Nature of the Firm*" and supervised by John Hicks	2008.08.16 2008.08.20 2008.08.21	E-mails
Leonard Minkes	Emeritus Professor of Business Organisation in the University of Birmingham; Member of the Economic Commission for Europe of the United Nations; Dean of the Faculty of Commerce and Social Science	2009.07.22 + monthly interview since then	Oral conversations, Waterstones and Blackwell's, Oxford
Ashley Raeburn	Chair of the OCMS Council (1977-83); First Chairman of the Council of Templeton College (1983-5); Barclay Fellow of Green	2009.09.16	Oral conversation, Dulwich, London

	Templeton College (until he died in 2010)		
George Richardson	Ex-member of the first Oxford Committee on Management Studies; Secretary to the Delegates and Chief Executive of *Oxford University Press* (1974-88)	2008.08.18	Oral conversation, St John's College, Oxford
Richard Smethurst	Director of Oxford University Department for External Studies (1976-86); Chairman of the General Board of the Faculties (since 1989); Chairman of the first Admission Committee for Management Studies	2007.11.23	Oral conversationWorcester College, Oxford
Rosemary Stewart	Fellow in Organisational Behaviour at Templeton College (1983-2004); One of the first Lecturers in Management at the OCMS in 1965	2008.06.11	Oral conversation, Templeton College, Oxford
Paul Temporal	One of the first B.Phil. students in Management at Oxford; Associate Fellow at Green Templeton College; Associate Fellow at the Saïd Business School, Oxford	2008.03.12	Oral conversation, Templeton College, Oxford
Roger Undy	Member of the OCMS (since 1972); Acting President, Vice-President, Dean and Senior Tutor at Templeton College (1983-2006); Director of the Oxford Institute for Employee Relations (1984-2006)	2008.11.13 2009.07.23	Oral conversation, Templeton College, Oxford
Bob Vause	Acting Director, three times Dean and Fellow in Accounting of Templeton College (1968-2000); Emeritus Fellow of Green Templeton College (since 2006)	2008.11.06	Oral conversation, Templeton College, Oxford
Marshall Young	First D.Phil. student in Management at Oxford University; Vice-Principal of Green Templeton College (since 2006)	TBD	

Appendix 2 – List of OERG Members (1936-1965)

Appendix 2a) OERG pre-war members

Names	Years in the Group	Main research interests	Reasons for departure
Allen W.M. (Balliol)	(1936-1948)	Monetary Economics and Economic Theory	Advisor and Executive Director, Bank of England (1950-70)
Bowley M. (OIS)	(1936-1937)	Industrial economics, esp. focused on building material industries	Too busy with her inquiries in the building material industries
Bretherton R.F. (Wadam)	(1936-1939)	Macroeconomics, esp. focused on Public Finance	
Brown A.J. (Hertford)	(1936-1939)	Industrial economics, Applied Economics and Statistics	
Burchardt F. (All Souls)	(1936-1958)	Applied Economics and Statistics - Director of the OIS (1940-1958)	
Hall R. (Lord) (Trinity)	(1936-1947)	Macroeconomics, esp. focused on consumption and pricing theory	
Harrod R. (Sir) (Christ Church)	(1936-1965)	Macroeconomics, esp. focused on business cycle theory	Never left the Group
Henderson H.D. (All Souls)	(1936-1950)	Applied Economics and Statistics	
Hitch C. (Queen's)	(1936-1939)	Macroeconomics, esp. focused on pricing theory	
Hugh-Jones E.M. (Keble)	(1936-1955)	Industrial economics and History	
Marschak J. (OIS)	(1936-1939)	Applied Economics and Statistics - Director of the OIS (1935-1939)	
Meade J. (Hertford)	(1936-1937)	International Economics	Member (1938-40) and Director (1940-7) of the Economic Section of the League of Nations
Opie R. (Magdalen/New)	(1936-1964)	International Economics	
Phelps-Brown H. (Sir) (New)	(1936-1947)	Labour Economics and History	Professor of Economics of Labour at the LSE (1947-68)
Radice E.A.	(1936- ?)	Monetary Economics, Macroeconomics esp. focused on savings issues.	
Sayers R.S.	(1936-1947)	British Monetary Economics	Cassel Professor of Economics at the LSE (1947-68)
Shackle G.L.S. (OIS)	(1936-1939)	Macroeconomics, esp. focused on the theory of uncertainty and the business cycle theory	

Appendix 2b) 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
Baragwanath L.E. (St Catheirne's)	(1961-1965)	Microeconomics
Brunner E. (Nuffield)	(1948-1960)	Industrial Economics, esp. focused on the theory of the firm
Burchardt F. (All Souls)	(1936-1959)	Applied Economics and Statistics – Director of the OIS (1940-1958)
Champernowne D. (OIS)	(1948-1959)	Macroeconomics, esp. focused on unemployment issues
Chester, D.N. (nuffield)	(1948-1949)	Politics esp. focused on unemployment issues
Clay H. (Nuffield)	(1948-1950)	Macroeconomics, esp. focused on unemployment issues
Cooper T.C. (St Hugh's)	(1964-1965)	Public Finance
Fforde J.	(1950-1959)	Monetary Economics
Gorman W.M. (Nuffield)	(1963-1964)	Mathematical Macroeconomics
Hall Margaret (Lady)	(1948-1962)	Industrial Economics
Hargreaves Eric (Oriel)	(1948-1959)	Industrial Economics
Harrod Roy, (Sir) (Christ Church)	(1935-1965)	Macroeconomics, esp. focused on the business cycle theory
Hazlewood A.D.	(1963)	Development Economics
Henderson Hubert D. (All Souls)	(1935-1959)	Statistics and Applied Economics
Hicks, J.R. (Sir) (All Souls)	(1950-1965)	Trade Cycle Theory
Hugh-Jones E.M. (Keble)	(1935-1955)	Industrial Economics and History
Jewkes J.	(1950-1959)	Industrial Economics
Kennedy C. (Queen's)	(1950-1959)	Macroeconomics
Knowles K.G.J.C. (OIS)	(1960-1962)	Labour Economics
Leyland N.H. (Brasenose)	(1950-1965)	Industrial Economics - founder of Templeton College
Little I.M.D. (Nuffield)	(1960-1964)	Macroeconomics
MacDougall G.D.A. (Sir) (Nuffield)	(1950-1959)	Macroeconomics, esp. focused on the trade cycle theory

McLelland W.G. (Balliol)	(1963-1965)	Management Studies
Mundy D.L. (Nuffield)	(1960-1964)	Macroeconomics
Paul M.E.	(1963-?)	Macroeconomics
Richardson G.B. (St John's)	(?-1965)	Microeconomics, esp. focused on the information theory of the firm
Robinson D. (OIS)		Macroeconomics
Sargent, J.R. (Worcester)	(1950-1959)	Applied Macroeconomics
Scott M.	(1960-1965)	Macroeconomics, esp. focused on economic growth
Stout D.K. (University)	(1960-1965)	Industrial Economics, esp. focused on the theory of the firm
Streeten (Balliol)	(1961-?)	International Macroeconomics
Vandome P. (OIS)	(1964)	Econometrics
Ward-Perkins C.N.	(1950-1959)	Economic History
Wilson T.	(1950-1959)	Industrial Economics, esp. focused on the pricing policy
Worswick D. (Magdalen)	(1964)	Statistics
Wright J. (Trinity)	(1960-1965)	Industrial Economics

Appendix 3 – OERG's Letter and Questionnaire sent to Businessmen (1939)

OXFORD ECONOMISTS' RESEARCH GROUP

UNIVERSITY OF OXFORD
INSTITUTE OF STATISTICS
74 HIGH STREET
OXFORD

22nd February, 1939.

Dear Sir,

I am writing on behalf of a group of economists in Oxford which is studying the question of trade fluctuation. Its special interest is to bring the theory of the subject which, as you are aware, is of the greatest importance for national economic and financial policy, into closer relation with the facts of business life.

We have interviewed a number of representative producers and traders with this object.

One department of our study is the influence of the rate of interest. This is usually deemed to be of paramount importance. But the answers which we have received tend to throw some doubt on this assumption.

We are now extending our enquiries by sending a written list of questions to a large number (about 1300). In order to obtain general acceptance for our final conclusions, we must be able to show that it is based on a wide sample. I therefore ask you most earnestly to be good enough to provide us with answers to the enclosed questions. A definite conclusion, based on ample evidence, might be of considerable national importance in influencing policy.

Your reply will be treated as strictly confidential. In any summary of results, the identity of those who provide information will be rigidly suppressed.

For an example of our method, I may refer you to the summary of the answers to our more restricted enquiries published in the Oxford Economic Papers, N°1, December 1938[458]. This has evoked considerable interest and we hope that the result of this further investigation will evoke still more.

Hoping that you will be good enough to co-operate with us by providing answers,

Yours very truly,

Chairman,
Oxford Economists' Research Group

[458] Published by the Clarendon Press, Oxford (price 3s. 6d.)

Oxford Economists' Research Group

Have any of the following

(a) bank rate
(b) rate of discount on bills
(c) the level of interest charged on bank overdrafts
(d) the facility with which bank overdrafts can be obtained
(e) yield on government securities
(f) the facility with which you can raise new capital from the public

ever affected:

I Your decision to make, or to defer making, expenditure on plant extensions?
…….

II Your decision to make, or to defer making, expenditure on maintenance and repairs?
…….

III The size of your holding of stocks?
…….

Please indicate in the right hand margin opposite each of these which of (a), (b), (c), (d), (e), (f), if any, has affected you. If none of them has affected you, please insert the word "none".

NOTE. In the cases of an affirmative answer to any question we should welcome further details, however brief, as to the way in which a particular rate of interest has affected you, with dates. Similarly, in the cases of negative answers we should much appreciate it if you could state a general reason why rates of interest and the cost of borrowing money do not affect you. If you are willing to give this information, space is provided on the next page.

Appendix 4 – JEL Classification of Economics

A - General Economics and Teaching

B - Schools of Economic Thought and Methodology

C - Mathematical and Quantitative Methods

D - Microeconomics

E - Macroeconomics and Monetary Economics

F - International Economics

G - Financial Economics

H - Public Economics

I - Health, Education, and Welfare

J - Labor and Demographic Economics

K - Law and Economics

L - Industrial Organization

M - Business Administration and Business Economics; Marketing; Accounting

N - Economic History

O - Economic Development, Technological Change, and Growth

P - Economic Systems

Q - Agricultural and Natural Resource Economics; Environmental and Ecological Economics

R - Urban, Rural, and Regional Economics

Y - Miscellaneous Categories

Z - Other Special Topics

Appendix 5 – Nuffield Graduate Seminar in Economics of Industries; Questions on Pricing (1962)

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?

Appendix 6 – Harald Malmgren's D.Phil. Thesis (TT 1961) - Table of Contents

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Appendix 7 – Letter from J.W. Platt to the Oxford Registrar, 17th January 1961, (OMSA, File 1)

Dear Registrar,

I shall be grateful if you will convey to the Vice-Chancellor a financial offer to Oxford University, which arises out of a luncheon held in St Anthony's College on 3rd December 1960, at which the Vice-Chancellor and several University personalities interested in Management Studies were present. This offer comes from the McKinsey Foundation for Management Research in the United States, which is an educational trust founded by the prominent firm of Management Consultants, McKinsey & Company Inc.

The Trust is willing to put at the disposal of Oxford University a sum of $10.000, to be used to finance a report on the possibilities of developing Management Studies at Oxford. It has been felt that in view of the diversity of opinions on this subject, Oxford University might wish to make their own careful appraisal of the possibilities and problems of introducing Management Studies at the University, before they are officially initiated.

Although I am authorised to convey this offer to Oxford, I am sure you will understand that the formalities of this educational Trust will have to be observed, i.e., they will require a formal proposal which has to be submitted for the approval of the Trustees.

I am not fully familiar with Oxford procedure in these matters, and if you wish to talk this over me, I shall be happy to come up to Oxford on some mutually convenient date.

Yours truly,

James W. Platt.

Appendix 8 – Letter from Mr. Wright to the Chairman of the Board on Management Studies, Professor Sir John Hicks, 25th May 1961, (OMSA, File 1)

As I see it, there are two major questions to be answered. The first is: 'Is there, within the general field of management studies, a substantial and unified collection of subjects that is also academically respectable when judged by our Oxford standards?' The second is 'What type and scale of facilities would have to be provided if these studies were introduced here?'

Before the Committee and university can answer these, it ought to be provided with answers to questions of the kind listed below. The list is not intended to be comprehensive, and there is inevitable over-lapping.

A. *Questions relevant to 'academic respectability'* to be asked about individual management subjects:

1. Can the teachers of the subject indulge in genuine academic research? Do they do so?
2. Would their interests cross-fertilize with those of present members of the University?
3. Is the subject is 'genuine' is it large enough and sufficiently well provided with books to be taught and examined in the Oxford manner? i.e. is it well enough developed for examiners to be able to set papers which do not degenerate into requests for the performance of a limited repertoire of model answers?
4. What sort of intellectual sprit does the subject foster amongst those who study it?

B. *Questions relevant to facilities to be asked about particular subject and also about possible courses* (programmes' in American):

1. Can the subjects be taught on a tutorial/lecture system or do they need the provision of more continuous classes and seminars?
2. Do these or other factors set an economic minimum to the scale of the course to be provided?
3. To what extent would the appointment of specialists be necessary?
4. Could the subject be organized within the system of colleges and existing institutions?

I believe that it is only by finding out the answers to lesser questions of this kind that we can give an answer to the greater. These lesser questions themselves are not all matters on which one man can come to definite conclusions, but they are matters on which a good deal of quite intensive detailed investigations would need to be made. One wants to see the subjects being taught, to see the work that is produced, and have plenty of time to absorb the intellectual atmosphere. I hope that about six weeks would be long enough to do this in a few US business schools selected for their quality and their contrast: Harvard, MIT, Columbia, Carnegie Tech., Cornell, and possibly Chicago.

Appendix 9 – Oxford Centre for Management Studies – Pamphlet (1970)

SENIOR MANAGERS' DEVELOPMENT PROGRAMME – 1970

Teaching Programme:

- (1) Quantitative Methods (C.A. Rands):

Statistical Analysis: The Theory of Sampling and Hypothesis Testing; Regression Analysis.
Applied Probability: Quality control, Decision theory, Forecasting, Stock control.
General: Network Analysis, Linear Programming, Systems Theory, Simulation.

The Quantitative Methods seminars are designed to develop the manager's awareness of how mathematics can help him in decision-making. They demonstrate the manner in which problems may be analysed, and mathematics applied to provide a feasible solution. The aim is to enable a manager to use an O.R. or systems department to its full potential.

- (2) Managerial Economics (N.H. Leyland):

Costs. Profit. Price Determination. Types of Competition. Monopoly Problems. Problems of Growth.

Managerial Economics is the application of economic concepts to management problems. The purpose of this group of subjects is to develop the manager's awareness of his problems by examining them from the point of view of an outside analytical observer.

- (3) Government-Industry Relations (N.H. Leyland):

National Planning and the Control of the Economy. Inflation. Balance of Payments. Fiscal Policy. Merger and Monopoly Policies.

In the seminars the managers are given an insight into modern economic theories. The relations between the environment, government and the firm are explored.

- (4) Industrial Sociology (A.Fox):

The Nature of an Industrial organization. Role Theory. Power, Authority and Status, Channels of Distribution. Behaviour Systems. Motivation. Changing Organisational Behaviour.

The course begins by examining the variety of men's attitudes to work and the causes of the differences. What are the consequences at the different levels of the organization in terms of co-operation and conflict? This involves a study of the social structure of the enterprise in respect of work roles and rewards, power and authority, group values and attitudes, and communications. The causes of conflict are further explored, along with the implications for management strategy.

- (5) Industrial Relations and Personnel Management (Dr. W.E.J. McCarthy):

Relations with Trade Unions. Collective Bargaining. Disputes Procedures. Wage Structures. Systems of Wage Payment. Problems of Manpower Utilisation. Personnel Selection. Management Development and Appraisal.

Managers are given an appreciation of what is necessary for the development and application of effective industrial relations and personnel policy. The focus throughout is on the problems of the firm and different levels of management within the firm. The central aim is to provide the basis of analysis for more effective use of manpower resources.

- (6) Marketing (H.R. Windle):

Organisation. Marketing Analysis. Market Research. Sales Forecasting. Technological Forecasting. International Forecasting. Product Planning. Channels of Distribution. Selling. Sales Promotion. Advertising. Pricing.

Marketing is viewed as an adaptive process enabling the enterprise, within its total Corporate Strategy, to adjust continually to the changes in its markets and technologies. Special emphases include the increasing pressure towards an international view of markets and problems of organizing for effective marketing action.

- (7) Organisation (Rosemary Stewart):

Ways of looking at Organisations: The tasks of organization – division of work, grouping, co-ordination. Some problems of organization – those of relationships, of balance and of change.

The aim is to show the manager why it is worth thinking about organization; to help him to know when his problem is an organizational one and what kind of organizational problem it is. The seminars focus on different organizational decisions that must be made, and on some of the most common organizational problems that arise.

- (8) Finance and Investment (A.H. Vause):

Accounting Concepts. Profit Determination. Funds Flow. Provision of Capital. Investment Appraisal. Mergers and Acquisitions. Portfolio Inverstment.

The seminars attempt to give an understanding of the underlying concepts of finance and the ability to use and interpret financial data.

- (9) Management Information (A.H. Vause):

Budgeting. Costing. Planning and Control. Measurement of Managerial Performance. Cost Effectiveness. Impact of Information Systems. Information for Decision-making.

This section of the programme starts by surveying information and investment control systems; then it concentrates on the adaptation of this to the manager's own decision-making situation, enabling him to get the maximum benefit from the flow of accounting information within his own organization.

- (10) Business Policy (N.H.Leyland):

Corporate Planning. Long-range Forecasting. Reconciliation of Objectives.

The purpose of this seminar is to consider the business as a whole in relation to its environment and to discuss the appropriate methods for the firm to adapt to its environment.

Appendix 10 – Sample of Exam Questions for the Nuffield Graduate Seminar in Economics of Industries

Appendix 10a) Sample of exam questions addressed to Economics and Management students reading for the Nuffield Graduate Seminar in Economics of Industries (1970-1974)

DEGREE OF BACHELOR OF PHILOSOPHY
Examination in Economics
Examination in Management
ECONOMICS OF INDUSTRY
Thursday, 4 June 1970, 2.30 p.m.
Candidates should answer three *questions*

1. Give a critical account of the ways in which one may endeavour to estimate the value of scale economies in a manufacturing industry.
2. 'The fewer the competitors, the less price competition.' Is this true?
3. How can one measure changes in the efficiency of retailing?
4. Should the state subsidise private investment?
5. Is free competition likely to produce the right amount of product variety?
6. How useful is the notion of 'the entry-preventing price'?
7. Should firms be permitted to make agreements to exchange information about costs?
8. Can any useful meaning be given to the notion of 'imperfections in the capital market' ?
9. Are there good reasons for promoting price agreements(or similar collective arrangements) in agriculture while forbidding them in manufacturing business?
10. Is the practice of dumping evidence of monopoly pricing on the home market?

DEGREE OF BACHELOR OF PHILOSOPHY
Examination in Economics
Examination in Management
ECONOMICS OF INDUSTRY
Friday, 4 June 1971, 2.30 p.m.
Candidates should answer three *questions*

1. What are the economic arguments for and against the patent system?
2. Is it desirable that the prices of manufactured goods should be responsive to short-run fluctuations in demand?
3. 'If indicative planning were to work successfully, the firms within each industry would have to be encouraged to co-ordinate their 'investment programmes'. Do you agree?
4. How does the practice of 'dumping' affect the interests of *(a)* the country in which the dumped goods are sold and *(b)* the country in which they are produced?
5. By what techniques can uncertainty best be taken account of in investment appraisal?
6. What lessons would you draw for the United Kingdom, from the experience of the aircraft or nuclear power industries, regarding the returns from investment in advanced technology?
7. Discuss the causes and consequences of the growth of large retail chains such as Marks & Spencer and Sainsbury.
8. Does it make sense to talk about the optimum size of a firm? Are there any procedures by which the optimum size of a firm, in any particular branch of industry, could be empirically determined?
9. Are traditional accounting procedures likely, in times of severe inflation, to lead firms to under-price their goods? How might these procedures be amended to take account of inflation?

10. Is the notion of 'fair and reasonable profits' capable of definition and use?
11. Would you expect highly concentrated industries to be associated with profit rates above the average? What empirical evidence is there regarding this relationship?

DEGREE OF BACHELOR OF PHILOSOPHY
Examination in Economics
Examination in Management Studies
ECONOMICS OF INDUSTRY
Saturday, 3 June 1972, 9.30 a.m.
Candidates should answer three *questions*

1. Assuming that a good is produced by a small number of firms, what circumstances are likely to make for competition or collusion between them?
2. Is there a monopsony problem?
3. In what circumstances should firms be encouraged to concert their investment decisions?
4. What circumstances influence the size distribution of firms within an industry?
5. 'In recent years firms have commonly been faced both with large wage claims and with a weak demand for their products; in these circumstances profitability can be preserved only through some measure of collusion on prices.' Do you agree?
6. What factors promote, and what factors act to check the development of vertical integration within industry?
7. Analyse carefully the various meanings that can be given to the term 'scale economies'. Which kinds of scale economies do you consider to be more easy, or more difficult to measure?
8. 'The Government ought to instruct the nationalised industries to undertake only those investment projects that have an expected rate of return not less than the average rate of profit in private industry.' Discuss.
9. How may one endeavour to calculate the rate of return on capital employed earned by a firm on a particular product? Is this rate of return the best available indicator as to whether monopoly profits are being earned?
10. Is there any way of judging whether a country has too many shops?

DEGREE OF BACHELOR OF PHILOSOPHY
Examination in Economics
Examination in Management
ECONOMICS OF INDUSTRY
Thursday, 7 June 1973, 9.30 a.m.
Candidates should answer three *questions*

1. Are all profit maximizing models of business behaviour very much weakened by the existence of information costs and uncertainty?
2. What relations exist between industrial structure, market size, and the rate of technical progress?
3. How do you account for the cyclical variation in the equity proportion in companies' borrowings? What does this imply about stock market expectations?
4. Should the authorities always be sympathetic to the acquisition of badly managed companies by well managed ones?
5. To what extent has foreign investment in Britain raised the efficiency of British industry?
6. Is there any reason to believe that mergers are more likely to occur at certain points of the trade cycle than at other times?
7. What factors explain the recent growth in the number of 'out-of-town' shopping centres?

8. Are there any reasons to use an investment appraisal procedure which restricts choice to those projects which pay back their initial costs within a certain number of years?
9. Under what conditions will an oligopolistic price leader maintain his share of the market?
10. Compare the likely effects on the level of investment of price restraint policies involving control of margins on sales and returns on capital respectively.

Appendix 10b) Sample of exam questions addressed to students reading for the Nuffield Graduate Seminar in Economics of Industries and differing for Economics and Management students (1974) ***[Italic font outlines the different questions between the two different examinations]***

DEGREE OF BACHELOR OF PHILOSOPHY
Examination in Economics
ECONOMICS OF INDUSTRY
Thursday, 6 June 1974, 2.30 p.m.
Candidates should answer three *questions*

1. What problems would be likely to arise *(a)* for firms, *(b)* for the economy, if the government were to adopt a policy of forbidding all mergers involving more than 15% of any particular market?
2. 'A firm wishing to maximise its rate of growth would pursue quite different policies from a firm wishing to maximise its profits.' Specify what these differences might be, and then say whether you consider that the statement is broadly true or not.
3. How exactly do economies of large-scale production arise? Discuss the relationship between economies of scale and technical progress. Give examples drawn from manufacturing industry.
4. 'Research and development expenditures have more favourable external effects than other investment expenditures, so they ought to be subsidised at higher rates.' Discuss.
5. Discuss the main reasons why changes in industrial concentration may occur. How can such changes be measured? Outline, with reasons, the main trends in industrial concentration in the present century in either the U.K. or the U.S.A.
6. 'Firms ought not to set profit targets in terms of a desired rate of return on the book value of their assets, since the valuation of assets in the balance sheet is arbitrary and takes no account of inflation.' Is this a sensible view? Can you suggest better ways of setting profit targets?
7. Discuss whether productivity generally rises faster in manufacturing or in retailing, explaining the problems involved in measuring changes in productivity in retail distribution, and saying whether these problems differ from those encountered in measuring such changes in manufacturing industry.
8. How should a firm allocate money among investment projects (with different time profiles) when the total sum it can spend on investment per annum is limited?
9. What does the pattern of takeover activity in the U.K. in recent years tell us about the manner in which the stock market operates?
10. How will the Cournot oligopoly solution be modified if, (i) the good is produced at a positive and constant marginal cost which is the same for both firms, (ii) the marginal costs of the two firms differ?

DEGREE OF BACHELOR OF PHILOSOPHY
B.Phil. Management Studies
ECONOMICS OF INDUSTRY
Thursday, 6 June 1974, 2.30

Candidates are advised to answer three *questions*

1. What problems would be likely to arise *(a)* for firms *(b)* for the economy, if the government were to adopt a policy of forbidding all mergers involving more than 15% of any particular market?
2. 'A firm wishing to maximise its rate of growth would pursue quite different policies from a firm wishing to maximise its profits.' Specify what these differences might be, and then say whether you consider that the statement is broadly true or not.
3. How exactly do economies of large-scale production arise? Discuss the relationship between economies of scale and technical progress, and give examples drawn from manufacturing industry.
4. 'When a government begins to subsidise some activities of a nationalised industry for social reasons, there is no logical stopping point: the industry will inevitably slide into becoming nothing more than a social service.' Do you agree with this view? Whether you agree or not, would there be anything wrong with such an outcome?
5. Discuss the main reasons why changes in industrial concentration may occur. How can such changes be measured? Outline, with reasons, the main trends in industrial concentration in the present century in either the U.K. or the U.S.A.
6. How would you set about evaluating the economic impact of the patent system? Discuss with reference to any two industries.
7. 'Firms ought not to set profit targets in terms of a desired rate of return on the book value of their assets, since the valuation of assets in the balance sheet is arbitrary and takes no account of inflation.' Is this a sensible view? Can you suggest better ways of setting profit targets?
8. Discuss the problems involved in measuring changes in productivity in retail distribution, and say whether these problems differ from those encountered in measuring such changes in manufacturing industry. Does productivity generally rise faster in manufacturing or in retailing?
9. 'The pattern of takeover activity in the U.K. in recent years illustrates just how imperfectly the Stock Market operates.' Do you agree with this view?
10. 'The full-cost theory of pricing is neither a satisfactory theory nor an adequate description of how prices are set in practice. It has totally failed to improve our understanding of the pricing process.' Discuss.

Appendix 10c) Sample of exam questions addressed to students reading for the Nuffield Graduate Seminar in Economics of Industries and differing for Economics and Management students (1975)

DEGREE OF BACHELOR OF PHILOSOPHY
Examination in Economics
ECONOMICS OF INDUSTRY
Friday, 6 June 1975, 2.30p.m.
Candidates should answer three *questions*

1. 'When firms grow at a constant rate, Penrose effects will not occur.' How far is this likely to be true? What would be the consequences for the theory of the growth of the firm if it were?
2. Distinguish between X-inefficiency and allocative inefficiency, and suggest ways in which these types of inefficiency might be measured in practice.
3. 'The higher the ownership stake of directors or managers in a firm, the higher the retention rate is likely to be.' Discuss the validity and implications of this view.
4. 'In discussing oligopoly, attention tends to be concentrated on who fixes prices. But this is unimportant compared with the question of how prices are fixed.' Critically examine this view.

5. 'Studies of the trend of concentration in a particular industry are of little interest because of the widespread existence of multi-product firms.' Do you agree with this view?
6. Discuss the view that no anti-trust policy can be effective while governments remain reluctant to break up monopolistic firms.
7. How do supply (as distinct from demand) factors affect the firm's investment decision?
8. Discuss the view that it is always better to lag than to lead in innovation. Give examples to support your argument.
9. 'Department stores have performed badly as compared with other forms of retailing, but there is no *a priori* reason why this should have occurred.' Discuss.
10. Examine the connection between the managerial organisation of a firm and its size, its rate of growth, and the technical nature of its production processes. Are there other important factors that help to determine managerial organisation?

DEGREE OF BACHELOR OF PHILOSOPHY
B.Phil. in Management Studies
ECONOMICS OF INDUSTRY
Thursday, 5 June 1975, 9.30 a.m.
Candidates are advised to answer three *questions*

1. Has the Stock Exchange done more harm than good in regard to firms' ability to raise investment capital?
2. 'Ignorance is a more effective barrier to entry of new firms to an industry than are size and costs.' Discuss.
3. What pricing policy should firms adopt after devaluation?
4. What difficulties face a firm seeking to maximise profits?
5. Should the Restrictive Trade Practices legislation be amended or abolished?
6. Why should we believe that there are economies of scale?
7. Should there be more competition in the distributive trades and if so how could this be achieved?
8. How do the general conditions in the economy affect the propensity of firms to merge?
9. How does 'inflation accounting' differ from 'noninflation accounting'? Which method should a firm use?
10. Discuss with reference to anyone industry the factors that have determined industrial structure in the last twenty five years.
11. How can a firm try to improve its efficiency?

Appendix 11 – Extract from the regulations made by the Board of the Faculty of Social Studies in the decrees of Management Studies (1968)

General paper 1 will include questions on theories of organization, the sources of finance, the appraisal of investment projects, and managerial economics;
General paper 2 will include questions on the economic, social and political environment in which the firm operates.

All candidates are also required to submit a thesis not exceeding 30.000 words and to select two optional papers selected from the following list:

(a) Operational Analysis. The paper will lay special stress on problems of decision making and analysis where quantification is possible; for example those associated with the choice of methods of production and of investment projects, stocks and congestion.

(b) Statistical Methods of Econometrics. While candidates will be expected to have a knowledge of the principles of statistical inference and statistical decision theory, the majority of questions will deal with the statistical problems which arise in economic research and in management. Candidates will be given an opportunity to illustrate their answers from the literature of applied econometrics.

(c) Economics of Industry. Costs, Output and Scale. Price determination. Structures of Industries and patterns of Industrial Growth. Productivity and efficiency comparisons. Monopolistic and restrictive trade practices; government and competition. The broad principles of accounting and their economic implications. Investment in capital assets. The distributive trades.
[Candidates will be expected to study the subjects mainly in relation to Great Britain, but will be given an opportunity to show knowledge of relevant experience in other countries].

(d) Industrial Relations. The organization and policies of trade unions and employer's associations. The theory and practice of collective bargaining and joint consultation. Wage structures and their effects. The general legal framework of industrial relations.

Industrial Sociology. The evolution of the institutional setting – the mechanized factory system; joint-stock enterprise and the separation of ownership and control, the growth of industrial bureaucracy and management ideologies.

Appendix 12 – Unpublished notes about the full cost controversy written by G. B. Richardson as a support for our first interview (April 2006)

"Full cost pricing"
Some reflections on an ancient controversy

Old soldiers, it used to be said, do not die but only fade away. The same might be said of many controversies among economists. Commonly, there is no clear victory; rather than the unconditional surrender of either party, there is a degree of mutual accommodation, with the emergence of a new, or at any rate newly-found, synthesis. The fate of the controversy discussed in this paper provides one example of the process. The more famous dispute over the determination of interests rate is another; "classical" economists, according to Keynes, believed savings and investment were the relevant factors, whereas he himself maintained that they were the demand and supply of money. In the end, all these circumstances were allowed a role to play – which indeed they had been even by J. S. Mill. Hicks's famous graphical representation of the IS and LM curves, familiar to generations of undergraduates, perfectly illustrates the synthesis – too perfectly, perhaps, because it may induce students to forget the great and highly relevant difference in the time taken for the two processes of equilibrium to take place. What concerns us now, however, is the crab-like manner – thesis, antithesis and synthesis – that our subject seems often to progress.

When I took up economics at Oxford, not long after the last world war, there was much dispute about the pricing of manufactured goods. One side argued, traditionally, that firms sought to maximise profits, this requiring, under normal circumstances, and effectively by definition, choosing the price that which would equate marginal revenue and marginal cost. The other side claimed to offer empirical evidence that firms did not proceed in this way, but priced a product at its "full unit cost", this being estimated on the basis of directly attributable costs plus margins for overheads and profits. The first side took its stand on the assumptions of profit maximisation and rational choice, the second on the basis of what business men, during interviews, said they in fact did.

In Oxford, the chief proponent of "full cost pricing", as it was termed, was Philip Andrews, a Fellow of Nuffield College. John Hicks (Sir John as he became) was, at the same time, also a Fellow of Nuffield; although he was not actively engaged in the dispute, it was known that he did not regard Andrews' account of a pricing procedure as effective explanation, nor indeed Andrews himself as an effective economist. In the end, there was clear victory to neither side of the dispute; interest in it gradually waned, and the caravan moved on. Nevertheless, as I shall hope to show, some progress had been made.

Let me begin with a consideration of what, for the sake of brevity, we may call the "marginalist" argument. It was based essentially on a simple theorem based on the logic of choice. It can be found of course, like so much else, in Marshall, specifically in Book V of his *Principles of Economics*, but little was inherited of the complexity and sophistication of his treatment. The theorem lends itself to geometrical demonstration and it was in this familiar form that undergraduates absorbed it. The firm was envisaged as facing a demand curve representing the quantity of a good purchased as a function of the price set. It was assumed that the shape and position of the curve was independent of this price, the firm having either a monopoly in the product, in which case the curve sloped downward, or an output very small in

relation to its total supply, in which case it was horizontal. Oligopolistic reactions, that is to say, were ruled out. Curves illustrating unit and marginal cost of production as a function of quantity produced then completed the picture. In Marshall's short run, at any rate, marginal costs would rise as output approached the limiting capacity level. Within this range, a marginal revenue curve, derivable from the demand curve, would intersect a rising marginal cost curve and, at this level of output and price, profits would, by definition, be maximised.

In order to convert this theorem, derived from the logic of choice, into an account of business behaviour, the assumption that business men were rational seemed to be all that was required. A procedure of this kind is, of course, very generally adopted in economics; our formal "theory of consumer behaviour", for example, is also no more than a particular application of the logic of choice. In any event, it was thus that "the theory of the firm", as I (and others) used to teach it, was born.

Of course it will not do. Firms do not have full and certain knowledge of the demand and cost functions postulated by the model builder and cannot therefore take pricing and output decisions on the basis of them. Business men can, of course, make estimates, but these, particularly on the demand side, are uncertain. The fact that, in manufacturing business, oligopolistic reactions, although excluded from the model, are the rule rather than the exception, compounds the uncertainty.

This model, moreover, cannot be salvaged merely by assuming that the postulated demand and cost curves relate to best estimates of the quantities involved, as this would be to deny business men a rational strategy in response to uncertainty. There is every good reason to believe that they will attend to the dispersion of expectations as well as their mean value. Whatever their willingness to bear risks, which will vary according to their temperament, managers will be aware that losses on a particular investment may bring consequential losses in train, by requiring, for example, a forced sale of assets on unfavourable terms. No doubt gains may also have indirect positive effects, but rarely to the same extent. Business men will therefore not set prices which equate best estimates of marginal costs to best estimates of marginal revenue, or even seek to equate mean expectations of both. They will normally try, as far as they can, to reduce the risk of loss even at the cost of sacrificing some prospective gain.

It is clear, therefore, that a believable account of pricing based on a theory of rational choice, rather than on the observation of business behaviour, must be based on reasonably realistic assumptions about the uncertainties associated with of the choices faced, and that the "marginalist" version, supported by the proponents of one side of the controversy, fails to pass this test.

Let us now turn to the argument advanced by the proponents of "full cost pricing". This rested, first and foremost, on the claim that it represented observed behaviour. The business men interviewed had described how they set prices in terms of unit "direct" or variable cost at a normal level of plant utilisation, plus "mark – ups" calculated to take account, respectively, of overhead cost and of profit. Little or no attention, the interviewers reported, was given to the concepts of marginal cost and marginal revenue. Whether all business men did behave altogether in the manner is open to question. My own experience, when later myself a member of the interviewing group, indicated that managers were generally aware of marginal cost, albeit sometimes not by that name; even if an estimation of its value did not enter into the

setting of prices in a firm's main market, it did do when extra sales were sought, to fill up capacity, through price discrimination, in unrelated subsidiary ones.

Setting that qualification aside, however, it may fairly be said, by way of criticism of "full cost pricing" theory, that it offers a description, rather than an explanation of business behaviour. Nevertheless, it does bring important points to our attention. A firm almost always makes a variety of products and is usually able to allocate among them only some of the costs incurred. In publishing, for example, the cost of printing and binding a particular title, for example, is known precisely if the publisher pays an outside printer to do the work. It may also be possible, but may or may not be worth while, to estimate approximately the time spent on the book by editors and designers. Allocating the costs of warehousing, marketing and distribution to particular titles, or even book publishing categories, is yet more difficult, and allocating costs represented by, say, the salary of the chief executive or cost of the finance department, is generally done arbitrarily, merely on the basis of turnover. In these circumstances, it is reasonable for firms, in estimating the total unit costs of a product, to estimate its direct or attributable costs and add a percentage margin, which, if applied generally, is expected to secure revenue, from total sales, sufficient to cover unattributable overhead. In order to set prices, firms then needed, it was said, to add a further percentage for profit. According to the business men interviewed in the original enquiries, a "normal" or "conventional" figure was generally applied, although the fact that it could scarcely have been the same for firms selling similar products, but with different cost levels, may awaken doubts.

In any event, there does seem little doubt that firms generally did set prices more or less in the manner described rather than at levels expected to equate marginal revenue with marginal cost. They might endeavour, as has been noted, to secure some sales at prices below average, but above marginal costs, provided that this could be done without undue damage to sales at higher prices in their main market; publishers do this, for example, by selling at special prices to libraries or book clubs.

Setting aside any particular divergences between actual practice and "full cost pricing", I am inclined to think that firms nowadays set prices less routinely than Andrews reported them as doing. We have to bear in mind, however, the time and the country of which he was writing. He was seeking to describe business behaviour, as it was, in Britain, over half a century ago. The attitudes of senior management at that time had been shaped both by the experience of price controls during the war and of the cartelisation that prevailed, in many parts of industry, before it. The Restrictive Practices Act, which outlawed price agreements, was not passed until 1956. Competition among firms was much abated during the war, when rapid increases in output took precedence over cost and efficiency, and it is unreasonable to suppose that it became fully unbridled immediately after war ended.

It is wrong to assume that business men are uninfluenced, even in the sphere of pricing decisions, by the temper of their times. An example may help to illustrate this. In the 1950's, when I was Chairman of the Economics Research Group, two directors of Morris Motors (a large automobile manufacturer) with whom we met informally after dinner in a Oxford college, told us that they had set a price for their very successful Morris Minor car at what they considered a fair level. Given that there was then a long waiting list for the vehicle, we asked why they did not charge more. We were told that this would be profiteering, that the firm would not unfairly exploit a current scarcity, as this would be wrong in principle and threaten customer goodwill. This policy seemed to me then, and would seem to most of us

today, commercially unwise; had the firm made the most of the situation then obtaining, it could have accumulated the funds needed for future development and thus been better able to face its competitors, still temporarily disabled after the conflict, once they again got into their stride. But the attitudes of senior directors whom we interviewed had been shaped by the experience of war time, and by the acceptance of controls, rationing and queues that prevailed during it and indeed, under a socialist government, for some time after it ended. A general view at the time, as shared by politicians, clergymen, and worthy people generally was that business should seek only "reasonable" profits, and, in due course, the notion that management aimed at "satisfying" rather than "maximising" came indeed to feature in the literature of economics. Business in Britain after the war was, to some degree, under threat, and further extension of nationalisation, which took place in transport, coal and steel, could not be ruled out. It may have been, of course, that while saying that they sought only "normal" or "reasonable" profits, business men in fact made as much as they could. Interviewers may have been deceived, despite all the efforts made to provide an ambiance and atmosphere designed to prevent this. But I doubt if this was so and the case of the Morris Minor clearly suggests otherwise.

Within the economics profession, opinion as to how firms did, and how they should set prices was - as it frequently is - divided. Within Oxford, economists were much engaged in drawing attention to situations in which market mechanisms would fail ; many put their faith in "planning", by which they meant government planning, but had little to say about the its practical operation and its limitations. They believed that, having apparently seen us through the war, it could and would increasingly take over. "The profit motive" was certainly suspect, both among those economists and, more generally, among non-economists moved by considerations of fairness and social responsibility. Adam Smith's Invisible Hand was out of fashion and not many believed that action from self-interest could promote the public good.

There was also commonly exhibited by Oxford economists of that time a certain disdain of business men and a corresponding reluctance to believe that they could generally be assumed to do the intelligent thing. Keynes was at that time often quoted, rightly or wrongly, as having replied, when asked why business men, if stupid, made money, that it was because they were competing only against other business men. Of course, in the case of some academic economists in Oxford, who knew nothing of business, this attitude was little more than prejudice, but it is at least possible that British business management was at that time less able and less professional than today. The directors of Morris Motors to whom I referred had remarked to us, apparently with satisfaction, that none of their number were university graduates. The founder of the business, William Morris, later Lord Nuffield, had started his business career by running a cycle shop in Oxford; his successors may have seen this as showing the superfluousness of higher education, but it is notable that Nuffield himself established a graduate college in Oxford named after him.

There are, however, arguments supporting the full cost side of the controversy which are not dependent on particular business attitudes prevailing at the time. A policy of setting prices at marginal cost, strictly interpreted, would require them to be continuously variable in response to fluctuations in demand. In the case of manufactured consumer goods this is, for a variety of reasons, impracticable. Fluctuations in order books, in any case, provide a much better short - run indicator of required output changes than do changes in price. The "full cost" procedure, according to which prices were related to direct and overhead costs at normal levels of plant utilisation, thus accounted for the manifest degree of price stability that, in the case of

manufactured consumer goods at any rate, is readily observed. Product markets are also sufficiently oligopolistic for firms, as Marshall pointed out over a century ago, to be reluctant, when demand falls off, to start a process of price reduction and thus "spoil the market". This, at any rate, is what we find in markets with "posted" prices; where firms may not know what competing firms are charging, as in a regime of sealed - bid tendering, the situation is different. It is worth bearing in mind that the practice of full cost pricing was associated, for the most part, with manufactured goods sold to final consumers at posted prices, although, as Andrews himself was frequently to point out, firms as a whole sell less to them than to each other.

How then, now more than half a century after our controversy broke out, are we to decide who was right? Theory, we all know, has to make simplifying assumptions, but the marginalist account of pricing, by leaving out of account circumstances central to the choice facing firms, did not tell us much about what managers either should or would do. There is no justification for passing off a theorem in the logic of choice given full and certain information as an account, or even a good first approximation to an account, of how firms set prices when the required information is inevitably imperfect. The concepts of marginal revenue and marginal cost, of course, are in themselves among the most useful in our toolbox. One has only to reflect, for example, on the sophistication of the present day setting, say, of airline fares. It is not unreasonable, indeed, to defend the marginalist side of the controversy by arguing that "the theory of the firm", as it used to be taught to undergraduates, was meant to do no more than display these concepts in the context of an illustrative parable or fairy story.

The "full cost theory", on the other hand, could be said to be little more than a description of a procedure adopted by the businessmen of the time, in that it failed to provide a convincing explanation of how, in different markets, the margins for profit and overhead were determined. The theory tended, moreover, to describe price setting as a procedure more routinised that it has at any rate since become and, in this respect, may tell us something of the temper of the times in which the investigations, on which the theory is mainly based, were undertaken.

These reservations not withstanding, there is a much to be learned from finding out how firms set firms in practice and asking ourselves why they do so. In this way we are obliged to think about the circumstances in which they find themselves, about the limited information available to them, about how different pricing regimes might affect the availability of that information, about the difficulty of allocating costs to products, about oligopoly as the normal state of affairs, about the life cycle of many consumer goods - and about much more besides. The controversy we have been examing brought these matters more into the open, obliged applied economists to examine what lay behind what business men say they did and – it is to be hoped - obliged theoreticians to make more modest claims for their constructions.

I recall reading articles, at the time that the debate was in full swing, which maintained that the two apparently conflicting accounts of pricing were in fact compatible, that firms adopting the full cost procedure were in reality equating marginal revenue and marginal cost. I have not chosen to re-visit these articles. Joan Robinson used to say that of the quantity theory of money that we had to tell it things rather than it telling us. If we tell the full cost theory that the margin for profit should be set so as to equate marginal revenue and marginal revenue and marginal cost, then, of course, compatibility is achieved. But why should we thus bring in,

through the back door, a theory of pricing which we know is based on false assumptions about what firms can know?

There exists, nowadays, no single and simple so-called "theory of the firm" to replace those on which economists took sides, but much more realistic and detailed analysis is on offer, in the literature of both economics and business management, of how, in different markets, firms should and do set prices. There is now also a much richer analysis of the firm – to which, incidentally, the DRUID papers have contributed - as an institution rather than merely the unexamined locus of pricing and output decisions.

The controversy we have examined prompts a further observation. Economists were commonly pre-disposed to take either side of the argument by beliefs they already held and by the character of their minds. John Hicks, for example, although a man of great learning, both in economics and outside it, was instinctively drawn towards formal analysis, prefacing his *Value and Capital* with the quotation "Reason also is choice". The argument of this book assumes perfect competition and features Walrasian general equilibrium. Hicks stated, both in the first edition of 1939 and the second edition of 1946, that "a general abandonment of the assumption of perfect competition …must have very destructive consequences for economic theory". This observation Hicks was much later publicly to regret, but it was probably what he believed at the time our controversy was taking place. In any event, the argument of the book presupposes that firms set prices equal to marginal costs. Much intellectual capital had therefore been invested by Hicks and other theorists in a body of doctrine based on this pre-supposition and it is therefore easy to understand a reluctance on their part to accept the reported "full cost" findings.

It was a high matter, after all, that seemed to be at stake. Our subject was credited with demonstrating the tendency, within a market economy, for the right goods to be produced with the right input combinations. The argument, of course, can be found already in Adam Smith, but Walras and Pareto were represented as having brought it to formal precision. A regime was required by them, however, that ensured - to make a long story short - that prices, in equilibrium, corresponded both to consumers' relative marginal utilities and to producers' marginal costs. Were prices not to be set at marginal cost, then the whole edifice seemed threatened.

This apocalyptic vision, I believe, was false. Once we abandon, as we must, the assumption of "perfect knowledge", which albeit confusedly, reigns at the heart of the Walrasian system, the manner in which markets spontaneous produce a desirable economic order has to be approached very differently. But this is much too long a story to try to tell here; I raise it now merely in order to illustrate how the "full cost" theory of pricing might be rejected, at a conscious or an unconscious level, because of the perceived difficulty of accommodating it within an important received body of knowledge.

Looking back on it all, we can probably view both controversies such as that we have been considering and differences in the interests and styles within our profession, as furthering the development of the subject. We can also take encouragement from a comparison of the simplistic analyses of pricing in dispute half a century ago with those typically available in the literature of economics and business studies today; one cannot say, as used to be said, that it is "all in Marshall" – although much of it is – for our subject, if sometimes falteringly – moves on.

Appendix 13 – First 'Curriculum in Economics and Associated Studies in Cambridge University' (1903): Schedule of Subjects and Subsidiary Regulations – reproduced in Marshall (1903: 30-34).

SCHEDULE OF SUBJECTS.

Part I.

1. Subjects for an Essay. 1 paper.
2. The existing British Constitution. 1 paper
3. Recent Economic and General History. 2 papers
4. General Principles of Economics. 3 papers

Part II.

1.Subjects for an Essay. 1 paper

2.General Economics. 3 papers

3.Advanced Economics, mainly realistic. 2 papers.

4.Advanced Economics, mainly analytic. 2 papers.

5.Modern Political Theories. 1 paper.

6.International Law with reference to existing political conditions. 1 paper

7.International Law with reference to existing economic conditions. 1 paper.

8.Principles of Law as applied to economic questions. 2 papers.

9.Special subject or subjects. 1 paper each

[...]

SUBSIDIARY REGULATIONS

Part I.

1. The paper on the Existing British Constitution shall deal with the main outlines of the existing political and administrative organisation (central and local) of the United Kingdom, and with the government of colonies and dependencies, comparatively treated.
2. The questions on Recent Economic History shall deal chiefly with the United Kingdom and with the Nineteenth Century. They shall also take special account of other English-speaking peoples, and of other English-speaking peoples, and of

France and Germany, during that period. Some knowledge of physical geography in relation to recent economic development shall be required.

3. The questions on Recent General History shall deal with the British Empire, Continental Europe, and the United States, and chiefly with the Nineteenth Century. They shall not include military or literary history. Some knowledge of physical geography shall be required.
4. In at least one of the papers set in each of the subjects (3) and (4) some of the questions (not all of which shall be optional) shall include quotations from French and German writers.

Part II.

1. Throughout Part II. international comparisons shall be introduced where practicable.
2. In the papers on General Economics special attention shall be paid to Public Finance and the Economic Functions of Government, local as well as central. The papers shall also include questions on the ethical aspects of economic problems.
3. Each of the four papers on Advanced Economics shall contain some general questions. But the majority of the questions in each paper shall be divided in about equal proportions among the four groups A, B, C, D, defined below. Two of these four papers shall be realistic, and adapted to the needs of those preparing for public or private business, as well as those of professional economists. The remaining two papers shall be of a more exclusively analytic character, and shall make provision (*a*) for some of the more obscure problems of value, such as those connected with the shifting and ultimate incidence of the burden of taxes; (*b*) for the history of economic doctrines; and (*c*) for mathematical problems in Economics and Statistics. No one shall answer more than one-half of the questions in any of these papers.

   A. STRUCTURE AND PROBLEMS OF MODEN INDUSTRY. Modern methods of production, transport and marketing; and their influences on prices and on industrial and social life. Industrial Combinations. The recent development of joint stock companies. Combinations and monopolies. Railway and shipping organisation and rates.

   B. WAGES AND CONDITIONS OF EMPLOYMENT. Causes and results of recent changes in the wages and salaries of different classes of workers, in profits and in rents. Relations between employers and employees. Trade Unions. Employers' Associations. Conciliation and Arbitration. Profit Sharing.

   C. MONEY, CREDIT AND PRICES. National and international systems of currency. Banks, and banking systems. Stock exchanges. Foreign exchange. National and international money and investment markets. Credit fluctuations. Causes and measurement of changes in particular prices and in the purchasing power of money.

D. INTERNATIONAL TRADE AND ITS POLICY. The course of trade as affected by and affecting the character and organisation of national industries, trade combinations, etc. International levels of prices. International aspects of credit and currency. Foreign exchanges. Tariffs, protective and for revenue. Bounties and transport facilities in relation to foreign trade.

4. The paper on Modern Political Theories shall deal chiefly with the latter half of the Eighteenth and with the Nineteenth Century.
5. The scope of the papers on the Principles of Law in their application to economic questions will be defined and limited from time to time by the Board.
6. The Special Subjects or Subjects will be selected by the Special Board from time to time and will deal either with the recent economic and general history, or with the existing political and administrative organisation, of some foreign country, or of India, or of some other dependency or colony of the United Kingdom. One paper shall be set in each such subject.
7. In at least one of the papers in each of the subjects 2, 3, 4, 5, 6, 7, 8, some of the questions (not all of which shall be optional) shall include quotations from French or German writers.