

# The Making of the Market

## Oligopolistic business in Britain

### 1945 - c.1960

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- **Thesis Abstract**

### **The Making of the Market: Oligopolistic Business in Britain 1945 - c.1960**

The theory of the firm and transaction cost analysis provide the starting point of this institutional study of business co-operation in the aftermath of World War Two. It is suggested that the market is an institution which is subject to the visible hand of business. The aim of business in this process is to control information flows and reduce uncertainty.

Utilising business history case studies, of the oil industry through the Anglo-Iranian Oil Co., the electrical engineering industry through General Electric Co. and the grocery retailing trade through J.Sainsbury, the hypothesis that the firm aims to create market governance procedures in order to alter the structure of the market is tested.

The study finds that inter-firm co-operation is central to understanding the development of markets and that co-operation is a dynamic process, which responds to changes in market conditions and government competition policy. The growth of government as a consumer is considered to be a significant factor affecting the development of co-operative agreements between firms. The study also finds that collusion and co-operation between firms, leading to a reduction of competitive pressures, was central to the development of organisational capabilities in the oil and grocery retailing industries, but hindered the emergence of organisational capabilities within the electrical engineering industry. Finally, the study finds that the internalisation of market transactions occurs when market governance procedures break down and competition becomes intense.

The study concludes that firms are not primarily transaction cost minimisers but are maximisers of market power. It is suggested that the maximising of market power is the rationale behind the creation of organisational capabilities and the development of the division of labour under conditions of supervision and discipline.

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- List of Abbreviations

AACP	Anglo-American Council on Productivity
BEAMA	British Electrical and Allied Manufacturers Association
BIOS	British Intelligence Objectives Sub-Committee
BTH	British Thomson-Houston
CFP	Compagnie Française des Pétroles
CIOS	Combined Intelligence Objectives Sub-Committee
COR	Commonwealth Oil Refineries Ltd
EIU	Economist Intelligence Unit
FIAT	Field Intelligence Agency Technical, US Group
FMF	Food Manufacturers' Association
IGD	Institute of Grocery Distribution
JS Archive	Sainsbury Archive
MAFF	Ministry of Agriculture, Fisheries and Food
Metrovick	Metropolitan-Vickers
MRC	Modern Record Centre
OPEC	Organisation of Petroleum Exporting Countries
RPM	Resale Price Maintenance
sq.ft	Square feet

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- Chapter One
- Contextualisation, Institutions and Markets in Economic History: firms make history but not in circumstances of their own choosing:<sup>1</sup>
- Introduction

The two decades after the Second World War presented the British economy with its best opportunity of reversing the relative economic decline it had faced over the first half of the twentieth century. The world which emerged after 1945 was one in which demand for goods was high. British firms also had an initial advantage, over French or German rivals, due to their plant being less damaged by war. Yet by the end of the 1960s the British economy faced serious problems. Major firms within important industries, including the British Leyland Motor Corporation in mass produced car manufacturing and Rolls Royce in aero engine manufacture, were soon to need rescuing from bankruptcy. The end of the long post-war boom left British capitalism in a weakened state relative to its post-war rivals. But was this inevitable? Was there truly an opportunity to change after 1945 and if so how and why was it squandered? These are some of the questions that concern the present author and are a recurring theme within many studies of economic and business history after 1945.

This thesis, utilising a business history case study approach within a transaction cost framework, examines the development of three industries in relationship to a changing market environment. Could the opportunities available to the British firms Anglo-Iranian Oil Company, the General Electric Company and J. Sainsbury in 1945

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<sup>1</sup> With apologies to K. Marx whose classic statement on historical materialism is: 'Men make their own history, but they do not make it just as they please; they do not make it under circumstances chosen by themselves, but under circumstances directly encountered, given and transmitted from the past.', K. Marx, The Eighteenth Brumaire of Louis Bonaparte, (Third edition 1984), p.10.

be exploited to create sustainable competitive advantage? To what extent was the development of these three firms determined by their own decisions or a function of a pre-determined or path dependent process. Fundamentally this thesis is concerned with the link between economic development and human agency.

- Contextualisation

For those who only see decline in the British economy a depressingly familiar story can be told of a once dominant position eroded, or extinguished, in the face of international competitive pressure.<sup>2</sup> The long term decline in the share of world trade in manufactured goods is one such story. Britain's share fell from over 37% in the nineteenth century to 25.5% by 1950 and continued to decline to 8.6% in 1990.<sup>3</sup> The notion of 'decline' is indeed so pervasive, within British popular culture, that the possibility that Britain's share of world trade in manufactured goods could remain steady and even increase to 9% is seen as evidence that perhaps the great 'decline' has been halted, and is therefore a marvellous victory.<sup>4</sup>

This chapter will therefore look, initially, at some of the alternative views on the nature and causes of the relative decline in the British economy and suggest that writers on economic decline are perhaps asking the wrong questions. The chapter will argue that Britain's pre-eminence in the world economy was merely a function of its early beginning and that the downgrading of its relative economic strength was inevitable. It will also suggest that treating decline as homogenous fails to distinguish

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<sup>2</sup> See W. Hutton, The State We're In, (1995), for one of the most recent and popular examples of this thesis.

<sup>3</sup> N.F.R Crafts, 'Reversing Economic Decline? the 1980's in Historical Perspective', Oxford Review of Economic Policy, Vol.7, No.3, 1991.

<sup>4</sup> See Prest and Coppock's, The UK Economy, ed. M.J. Artis, 12th edition, (1989), p.184.

the historically inevitable element of Britain's uniqueness from the elements which were indeed self-inflicted. This concentration on laying blame at someone's door, on finding a suitable scapegoat, ignores the real issues. The second role of this chapter will be to construct a framework for a more realistic interpretation of economic change and possible failure. In so doing a testable hypothesis will be formulated and the format for testing such a hypothesis throughout the rest of the thesis will be elaborated upon.

In attempting to quantify the elements in economic growth writers have looked at the use of the factors of production and utilised concepts from neo-classical economics such as the Cobb-Douglas production function.<sup>5</sup> The development of growth accounting techniques, in particular utilising a Solow exogenous growth based model for the measurement of total factor productivity as a residual, has been at the methodological heart of econometric analysis. More recently attempts to reduce the importance of the residual, by factoring out the influence of human capital, have emerged in the form of endogenous growth models. However what is surprising in the results of both forms of growth accounting is the limited degree to which the analysis accounts for economic growth, with the continued existence of significant unexplained residual values.

This continued difficulty in accounting for growth is highlighted in Crafts and Broadberry's regression for the 1930's of the determinants of the rise in British labour productivity, where less than a quarter of the change is explained. Considering that their production function is more subtle than the Cobb-Douglas, with data on capital-labour ratio increases and employment falls along with dummy variables for trade

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<sup>5</sup> S.N. Broadberry and N.F.R. Crafts, 'Britain's Productivity Gap in the 1930s: Some Neglected Factors.', Journal of Economic History, No.3 Vol.52, 1992 and N.F.R. Crafts and M. Thomas, 'Comparative Advantage in UK Manufacturing Trade, 1910-35', The Economic Journal, 96, 1986.

union density, emerging versus declining industries and market power through firms' price-cost margins, such a result appears disappointing.<sup>6</sup> As Crafts and Broadberry recognise 'important effects on productivity outcomes (are) not readily captured by a regression approach'.<sup>7</sup>

The conclusion suggested by these difficulties must be that a straightforward log or linear relationship between the factors of production and output is too simplistic a model for quantifying relative growth. Writers such as Theo Nichols, and sociologists in general, have instead argued that production should be understood as a set of social relations.<sup>8</sup> The need to understand production as a complex set of social relations is also borne out by looking at the literature on relative decline.

- Labour

One of the main factors of production the literature focuses upon is labour; its inefficient use and the deleterious role played by trade unions.<sup>9</sup> The long term strength of workers' organisation led to a system of production that relied upon skilled craft workers. Craft workers were able to determine not only output levels but also the organisation of the production process itself. The result was that managements preferred to conclude agreements with trade unions rather than confront workers' shop floor power and impose their will over the production process. As a result the 'system of industrial relations that evolved was highly decentralised, uncoordinated and

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<sup>6</sup> Broadberry and Crafts, op.cit., p.538 has a coefficient of determination of 0.244 and regression coefficients which (while statistically significant) are of relatively low value.

<sup>7</sup> Ibid, pp.553-4.

<sup>8</sup> T. Nichols, The British Worker Question, (1986).

<sup>9</sup> A. Kilpatrick and T. Lawson, 'On the Nature of Industrial Decline in the UK', Cambridge Journal of Economics, No.4 1980 and G. Hutton, Whatever Happened to Productivity?, (1980)

relatively unsuited to the later needs of mass production'.<sup>10</sup> This system of industrial relations was in stark contrast to that developed within the United States, where weak trade unions allowed for the introduction of mass production techniques. Strong managerial control over the production process was essential for the successful growth of large scale enterprises in the United States. The dominance of British trade unions over production continued throughout the post-war era, reaching its most damaging stage in the 1970's. Thus craft-based union organisation increased X-inefficiency and restricted the introduction of more modern production methods.<sup>11</sup>

There certainly is plenty of evidence put forward for such theories and there are also examples of how employers who did confront workplace organisation were able to reduce X-inefficiencies and so boost labour productivity. Indeed this is one of the main elements, Richardson suggests, for the reversal of British decline in the 1980's.<sup>11</sup> Nevertheless, a few examples do not a theory make. When looking for a long run theory of decline there remains many problems for the 'trade unions are to blame' school.

Britain in the nineteenth century relied heavily upon its abundant supply of skilled labour. In contrast to the United States, whose labour force was largely unskilled and ethnically mixed, British employers could allow workers a much larger degree of control over production.<sup>12</sup> Similarly the use of apprenticeships provided a low cost method of creating skilled labour and so further deterred managements from directly controlling the training of skilled workers.<sup>13</sup> As a result, it is argued, craft-

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<sup>10</sup> Kilpatrick and Lawson, op.cit., p.87.

<sup>11</sup> R. Richardson, 'Trade Unions and Industrial Relations', The British Economy Since 1945, eds. N.F.R Crafts & N.W.C. Woodward, (Oxford 1991), p.438.

<sup>12</sup> For the US case see M. Davis, Prisoners of the American Dream, (1986).

<sup>13</sup> M. Dintenfass, The Decline of Industrial Britain 1870-1980, (1992) p.28-29.

<sup>14</sup> H. Leibenstein, Beyond Economic Man (Cambridge 1976).

based trade unions hindered the growth of mass production techniques and managerial structures which Chandler has identified as being key to understanding the development of multi-divisional firms in the United States.<sup>14</sup>

The point is, did such craft-based organisations really impede British economic growth? Here economic historians' writing is particularly weak, with poor characterisations and ill-informed, sweeping generalisations. It is true that British trade unionism was always numerically greater in comparison to that of the United States in the late nineteenth and early twentieth century, yet, as Kirk suggests, 'to see workplace relations, trade unionism and industrial protest in Britain and the United States solely, or even mainly, in terms of the adjectives weak and strong ... is to adopt a very limited, flat and misleading approach to the issues involved'.<sup>15</sup> Both in Britain and the United States in the second half of the nineteenth century there existed large craft-based trade union organisations in the Trades Union Congress and the American Federation of Labor respectively. The United States also had a significant tradition of non craft-based union organisation with the Knights of Labor whose membership was estimated at over 700,000 in 1886.<sup>16</sup>

Trade union density in Britain never fell below 10% after 1896 while in America, excluding agricultural employment, it never fell below 10% after 1910.<sup>17</sup> It should also be recognised that unions' influence was restricted to only a small section of the workforce in both Britain and the United States.

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<sup>14</sup> A.D. Chandler, 'The beginnings of "big business" in American industry', The Essential Alfred Chandler, ed. T.K. McCraw, (Boston USA 1991).

<sup>15</sup> N. Kirk, Labour and Society in Britain and the USA, Volume 2, (Hants 1994), p.65.

<sup>16</sup> Davis, op.cit., p.30.

<sup>17</sup> G.S. Bain and R. Price, Profiles of Union Growth, (Oxford 1980), p.37 and p.88.

Where craft unions existed in the United States it was also the case that they had significant strength. For example, affiliated to the AFL was the Amalgamated Association of Iron and Steelworkers, the largest union of iron and steel workers in the world.<sup>18</sup> The Amalgamated Association's convention in 1891 was attended by 294 delegates representing 24,068 members. Not only were unions a feature of United States society in the late nineteenth century, as in Britain, but so were successful strikes.<sup>19</sup>

The picture we are left with in comparing the impact of trade unions on Britain and the United States is one in which as Kirk points out 'in comparison with Britain, one is immediately struck by the greater scale, intensity, violence and sustained character of industrial conflicts in the United States in these years (1880s-1918)'.<sup>20</sup>

These criticisms of the mythical acquiescence of American workers also holds for a much later period. From the 1930s through to the 1950s industrial unrest was a much more serious problem in the U.S than in Britain. The 1930s saw a literal explosion of militancy and industrial unrest culminating in the formation of the Congress of Industrial Organisations, CIO. The Bureau of Labor Statistics for the three decades 1923-32, 1936-45 and 1946-55 shows the number of strikes as 9,658, 35,519 and 43,279 respectively.<sup>21</sup>

An alternative approach, although from differing view points, has been adopted by writers such as Currie and Taylor. Currie has suggested that British trade unions were 'profoundly influenced' by both individualism and liberalism, unlike on the

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<sup>18</sup> D. Montgomery, The Fall of the House of Labor, (Cambridge 1989), p.35.

<sup>19</sup> See H.G Gutman, Work, Culture and Society, (New York USA 1977), p.48.

<sup>20</sup> Kirk, op.cit., p.149.

<sup>21</sup> A. Preis, Labor's Giant Step, (New York USA 1982), p.420.

continent where unions developed with a stronger background of collectivity and nationhood.<sup>22</sup> This explanation would help to explain the strength of the craft-based unions on the shopfloor, as well as the decentralised and uncoordinated industrial relations system which developed in Britain. This emphasis on the shopfloor is similar for Taylor, who suggests that unions, as organisations, can be beneficial for development, although the organisation of production into work groups creates the conditions under which restrictive practices emerge. Work groups not only ensure that power is decentralised into the hands of small groups of individual workers who maintain control over the work process but work groups also ensure that trade unionists restrict skill acquisition so reducing flexibility.<sup>23</sup>

Thus for Currie and Taylor it is an ideology based upon strong individualism on the shopfloor, established in the late Victorian era, that is at the root of productivity problems rather than trade unions as organisations. Yet if we again compare the British and United States working classes' political outlook, in the later nineteenth and early twentieth century, when individualism is said to have taken root, the trade union 'problem' must surely be judged to be on the other side of the Atlantic.

The ideology of republicanism proved crucially influential in the formation of the AFL.<sup>24</sup> Republican ideology emphasised that freemen could not be owned like wage slaves and that a republican society would be a community of freemen based around a society of small craft producers. Being laid off by the Pullman Co. was perceived as depriving Theodore Rhodie of his 'right as an American citizen'.<sup>25</sup>

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<sup>22</sup> R. Currie, Industrial Politics, (Oxford 1979).

<sup>23</sup> R. Taylor, 'Trades Union Influence on Industrial performance', The British Malaise, ed. G. Roderick and M. Stephens, (Sussex 1982).

<sup>24</sup> See S. Wilentz, Chants Democratic, (New York USA, 1984).

<sup>25</sup> Montgomery, op.cit., p.150.

Republican ideology therefore ensured that citizenship was intimately linked to workers' position in the production process, their skill levels and their control over their work. Many of these ideas, using different language, can also be found in the British craft tradition.<sup>26</sup> Further, it was this strength of American liberalism that ensured a collectivist response when challenged by the growth of the business enterprise. Conflict over the production process necessarily therefore became a conflict over both economics and ideology.

As early as the 1870's under the name of the Workingmens' Party, labourite officials were being elected to office in the United States, unlike in Britain, whose trade unions supported the Liberal Party right up to the 1906 election. The 1912 U.S Presidential election saw 1m votes, 6% of the Presidential vote and over 4% of the labour force, for E.V Debs of the Socialist Party.<sup>27</sup> This again was earlier than the mass votes for the Labour Party, which polled an average of under half a million votes in the two elections of 1910, representing less than 3% of the labour force.<sup>28</sup>

The importance of the above is not to prove that the working classes in the United States were more oppositional to employers than in Britain, although this case can be made, but to suggest that the similarities between workers in the two countries were greater than the differences.<sup>29</sup> The simplistic characterisation put forward by Lawson and Kilpatrick or Hutton which merely equates trade unions with economic decline is mistaken. Similarly views expressed by writers such as Currie and Taylor

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<sup>26</sup> E.J. Hobsbawm, Labouring Men, (1964).

<sup>27</sup> Davis, op.cit., p.5 and Bain and Price, op.cit., p.88.

<sup>28</sup> T. Cliff and D. Gluckstein, The Labour Party: A Marxist History, (1988), p.162 and Bain and Price, op.cit., p.37.

<sup>29</sup> See S. Tolliday and J. Zeitlin, 'Shop-floor bargaining, contract unionism and job control: An Anglo-American comparison', Between Fordism and Flexibility, eds. S. Tolliday and J. Zeitlin, (Oxford 1992), for similar findings.

whereby a causation process places the emphasis upon timeless static ideology ignores the historical context in which the development of trade unions, their form and the functions they carry out takes place. There is a need to understand trade unions within a historical context, as responses to the conditions in which they operate. As such British trade unions' history is intimately bound up with the emergence of laissez-faire and liberalism, just as Currie points out, but they reacted and responded and changed in response to these influences. No institution remains static in the form in which it initially emerged. Just as British capitalism altered from the form it took in the nineteenth century to the post 1945 form, so to<sup>30</sup> have trade unions.

A more subtle approach has been taken by Lazonick, who links the rise of mass production techniques in the United States to the weakening of craft-based union organisation but recognises that such a development was dependant first and foremost upon the emergence of a mass market for goods. Certainly the relevance of the membership details of the Amalgamated Association of Iron and Steelworkers quoted above was that in the following year the union's influence was weakened by the lockout at the Homestead steel mill owned by Andrew Carnegie.<sup>30</sup> But the key remains that only with the emergence of a mass market was there a need to create a new form of worker: the machine operative.<sup>31</sup> Therefore, before a case can be made for craft unions' deleterious effects the case must first be made for the emergence of mass markets in which mass production techniques producing a high volume homogenous product would have found demand. Because the conditions of the market in Britain were so different from the United States, the reliance upon skilled workers was more

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<sup>30</sup> See A.D. Chandler, *Structure and Strategy*, (Cambridge, Mass 1990), p.35.

<sup>31</sup> W.H. Lazonick, 'Technological Change and the Development of Work', *Managerial Strategies and Industrial Relations*, ed. H. Gospel and C. Littler, (1983), p.112.

likely to have, in relative terms, aided not hindered employers. In the shipbuilding industry this appears to have been an important element in Britain's continued dominance of unprotected export markets in which it retained an 80% share right up to 1913, despite competition from German, United States, French and Dutch firms.<sup>32</sup>

The case for trade union power retarding economic growth and deterring business investment certainly can be made, however, in the years immediately prior to the First World War, given the growth of trade union membership and the labour unrest in the years 1911-14. But even here the Kilpatrick and Lawson model fails to explain the fact that in these years we see the impact of unskilled workers and militancy among previously non-unionised workers. The official leaderships of craft-based unions again in these circumstances need to be seen not as a cause of militancy or decline but more likely a restraining influence among workers and opposed to the emergent syndicalist movement.<sup>33</sup> In this period, therefore, one must understand the disaggregated effects of trade union membership on business rather than treat unions as an homogeneous bloc.

The interwar period presents both support and criticism for the 'trade unions are to blame' thesis. On the one hand during these years Britain developed a new layer of largely non-unionised industries which (in cases such as radios) did indeed find mass markets and have been credited with part of the increase in the rate of growth of GDP over the period.<sup>34</sup> However, against this needs to be weighed that, while, from

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<sup>32</sup> E.H. Lorenz, Economic Decline in Britain. The shipbuilding industry, 1890-1970, (Oxford 1991).

<sup>33</sup> E.H. Hunt, British Labour History 1815-1914, (1981), p.329-334 and H. Pelling, A History of British Trade Unionism, (1963), p.139-148.

<sup>34</sup> D.H. Aldcroft, 'Economic Growth in the Inter-war Years: A Reassessment', Economic History Review, 2nd Series XXI (1967) and H.W. Richardson, Economic Recovery in Britain 1932-9, (1967).

1926 trade union influence over the production process was weakened and some movement towards the reorganisation of production emerged, it was not sufficient to prevent the staple industries from declining.<sup>35</sup> Indeed it was this very lack of improvement that provided much of the justification for the post 1945 nationalisation measures.<sup>36</sup> As a result the alternative hypotheses on relative decline, namely business conservatism and a lack of government intervention, have gained greater credence as a result.

The post-war period, similarly, has seen major debates on productivity levels and the effect of trade union power on the shop floor.<sup>37</sup> In the immediate post-war years the Government promoted Anglo-American Council on Productivity, AACP, organised 66 teams to visit plants in both the United States and Britain and report on the methods of production, along with possible ways in which British plants could benefit from the United States' advantages.<sup>38</sup> Although there were references to trade unions limiting change in the AACP reports the bulk of the reports focused upon other areas of production for criticism: including poor plant layout, poor use of new technology and a lack of investment. Trade unions' attitudes to bodies such as the AACP has recently been argued to have been generally positive.<sup>39</sup>

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<sup>35</sup> See L. Hannah, The Rise of the Corporate Economy, (1983), p.41-53 and E. Hobsbawm, Industry and Empire, (1969), p.237-248 for two alternative accounts on the role of government in the concentration and reorganisation of industry.

<sup>36</sup> See M.W. Kirby, 'Industrial Policy', The Road to Full Employment, ed. A. Booth and S. Glynn, (1987) and The Political Economy of Nationalisation 1920-50, ed. R. Milward and J. Singleton, (Cambridge 1995).

<sup>37</sup> R.R. Nelson, 'Research on Productivity Growth and Productivity Differences: Dead Ends and New Departures', Journal of Economic Literature, Vol. XIX, 1981 and D. Metcalf, et al, Signals and Cycles: Productivity Growth and Changes in Union Status in British Companies, 1984-89, (LSE 1991).

<sup>38</sup> J. Tomlinson, 'The Failure of the Anglo-American Council on Productivity', Business History, No.33, 1991.

<sup>39</sup> N. Tiratsoo and J. Tomlinson, Industrial Efficiency and State Intervention, (1993) p.133.

Employers like Ford and ICI also became more tolerant of trade unions in the immediate post-war period, recognising unions in their plants in 1947.<sup>40</sup> Employers recognised a need for more bilateral co-operation between management and unions in order to speed up the introduction of change. The need to boost productivity in the immediate post-war years proved to be one of the major issues concerning government, employers and trade unions.<sup>41</sup>

An important finding in many of the productivity studies is the role unionisation can play in promoting productivity. Metcalf, himself a proponent of the view that trade unions can be deleterious to efficiency, nevertheless admits that 'between 1988-1989 there was a clear hierarchy in productivity growth' with non-union companies performing worst of all.<sup>42</sup> Metcalf explains this differential by suggesting that unionised firms might respond more rapidly to macroeconomic changes. The need to gain co-operation from unions in order to increase productivity was certainly part of the rationale behind both Ford's and ICI's conciliatory stance to unions in 1947.

The main charge against trade unions for causing economic decline, relative or absolute, cannot therefore be made as a general case. Indeed the low level for the coefficient of determination that Crafts and Broadberry obtain of 0.244 for labour productivity growth in the 1930's is caused in part by treating trade union influence on production merely as a dummy variable with one value for high union density and

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<sup>40</sup> See C. Kennedy, ICI The Company That Changed Our Lives, (Second Edition 1993), p.51.

<sup>41</sup> A.A. Rogow, The Labour Government and British Industry 1945-51, (Oxford 1955), p.23.

<sup>42</sup> Metcalf, et al, op.cit., p.12.

another for low density. Such a simplistic measurement of trade union influence is highly arbitrary, perhaps conforming to Kirk's view of a 'flat and misleading approach'.<sup>43</sup>

We should therefore understand the production process and the factors of production involved as a complex process, not simply modelled. Hodgson suggests that economic history requires a study of belief and actions, or cognition, in order to explain in what circumstances conflict and co-operation takes place in the firm.<sup>44</sup> Productivity comparisons face a problem since knowledge is often tacit, unteachable or non-codifiable. Even codifiable knowledge faces problems due to the context, format and existing knowledge of those providing or receiving instructions.<sup>45</sup>

- Entrepreneurial Failure

The limitations of explaining relative economic decline by trade union influence has instead led writers to blame employers for being slow in responding to change.<sup>46</sup> Managers were either slow to invest in modern techniques or slow to respond to change in the market place with new products. This approach, however, can be said to maintain the blame school elements and again largely fails to explain the structural changes in Britain's economic development.

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<sup>43</sup> Broadberry & Crafts, op.cit., p.538.

<sup>44</sup> G. Hodgson, Economics and Institutions: A Manifesto for a Modern Institutional Economics, (Philadelphia USA 1988).

<sup>45</sup> G. Hodgson, 'Institutional Rigidities and Economic Growth', Cambridge Journal of Economics, Vol.13 1989.

<sup>46</sup> M. Ackrill, British Managers and the British Economy, Oxford Review of Economic Policy, Vol.4 No.1 1988.

The 'entrepreneurial failure' school covers a diverse series of criticisms, from the acceptance of craft control of the shopfloor, as detailed above, resulting in an under-developed managerial function,<sup>47</sup> to the acceptance and promotion of uncompetitive agreements. Such agreements between firms and/or government may have created a feather-bedding for inefficient firms with the resultant effect of reducing competitiveness within the industry concerned and the economy as a whole.<sup>48</sup> Other criticisms made of entrepreneurs are that they have lost their industrial spirit, are slow to change and unresponsive to new opportunities.<sup>49</sup> Again there certainly is ample evidence for the maintenance of production techniques long after improved methods have been established, such as the retention of stationary car assembly stations until 1934 by the Morris car company, while American car producers had long since moved to moving production lines.<sup>50</sup> Similarly, the failure of British entrepreneurs to invest in the electrical engineering industry in the pre-World War One period meant that two-thirds of output was controlled by the British subsidiaries of the German and United States firms, Siemens, Westinghouse and General Electric. This dominance meant that the equipment for the London Underground came almost entirely from a British subsidiary of the U.S firm General Electric.<sup>51</sup> Such inward investment certainly proved important in creating industries such as electrical engineering, cars and chemicals.

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<sup>47</sup> W. Lewchuk, 'The Motor Vehicle Industry', The Decline of the British Economy, , ed. B. Elbaum and W. Lazonick, (Oxford 1987).

<sup>48</sup> M.W. Kirby, 'The Control of Competition in the British Coal Mining Industry in the Thirties', Economic History Review, 2nd Series, Vol.XXVI (1973).

<sup>49</sup> M.J. Wiener, English Culture and the Decline of the Industrial Spirit 1850-1970, (Cambridge 1981).

<sup>50</sup> J. Foreman-Peck, S. Bowden and A. McKinlay, The British Motor Industry, (Manchester 1995), p.53.

<sup>51</sup> A.D. Chandler, Scale and Scope, (1990), p.275-7 and J. Dunning, American Investment in British Industry, (1958), p.26-29.

While there clearly are areas in which British firms failed to compete, the picture is not quite as simple as the entrepreneurial failure school would have us believe. Many entrepreneurs did make investments that succeeded, such as in chemicals with ICI and textiles with Courtaulds. Those firms which did invest were not, however, guaranteed to succeed. Courtaulds' dominance in the production of rayon came about due to a 'mixture of enterprise, opportunism and luck'. Even those that created what Chandler has called multi-divisional enterprises were not immune from failure. ICI's investment in the Billingham plant almost proved disastrous in the 1930s and its continued attempts at the hydrogenation process to produce petrol from coal were only abandoned after many years.<sup>52</sup> Elsewhere, moves to create large efficient companies equally failed to deliver success until market conditions changed significantly: such as the Ford Motor Co., whose market share collapsed to 4% in the 1920s and whose Dagenham plant operated below half capacity throughout the 1930s.

Chandler, in contrast, suggests that the failure lies not so much in a lack of capital investment but more in a lack of investment in the managerial structures of firms to create a salaried managerial layer. This British 'entrepreneurial failure' to develop multi-divisional firms and move away from family control has however been severely criticised, with writers highlighting not only the widespread existence of M-form organisation in Britain but also the efficiency of family-run business.<sup>53</sup>

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<sup>52</sup> D.C. Coleman, 'Courtaulds and the beginning of rayon', and W.J Reader, 'Imperial Chemical Industries and the State, 1926-45', Essays in British Business History, ed. B. Supple, (Oxford 1977).

<sup>53</sup> See L. Hannah, 'Scale and Scope: Towards a European Visible Hand?', Business History, Vol.33, No.2, 1991; G. Jones and M.B. Rose, 'Family Capitalism', Business History, Vol.35, No.4, 1993; L. Hannah, 'Delusions of Durable Dominance or the Invisible Hand Strikes Back', (Unpublished Paper 1995).

Chandler also emphasises that the time span for such investment was short and easily missed.<sup>54</sup> First mover advantages, while not insurmountable, provide a valuable mechanism for the creation of competitive advantages. Entrepreneurs are important then but it is the impact of the institutional structures that they create that is the key.<sup>55</sup> It has also been argued that entrepreneurs, while adopting what appeared to have been less efficient techniques, could nevertheless have been taking rational decisions.<sup>56</sup> Certainly, in the case of the inter-war motor industry mechanisation and the adoption of fordist production techniques were not the most successful.<sup>57</sup> It becomes necessary to consider the complexity and specificity of entrepreneur's historical development in order to make judgements on efficiency. In other words the contextualisation of decision making is required. We are left with a more complex picture of entrepreneurial failure in which one needs to examine the market conditions for each firm before suggesting that failure lies simply with poor entrepreneurial decision making. Again, as with the impact of trade unions, it is necessary to recognise the role that market size and structure played in determining the historical development of firms.

It is in the area of industrial economics that analysing the importance of market size and firm structure that quantitative techniques have proved most useful. Schmalensee, utilising United States Federal Trade Commission Line of Business data for 1975 (covering 456 large multi-divisional firms operating within 242 manufacturing industries), examined the relationship between firm profitability and the

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<sup>54</sup> Chandler, *op.cit.*, p.286.

<sup>55</sup> H.C. Livesay, 'Entrepreneurial Dominance in Business Large and Small, Past and Present', *Business History Review*, Vol.63, (1989), p.3.

<sup>56</sup> D. McCloskey and L.G. Sandberg, 'From Damnation to Redemption: Judgements on the Late Victorian Entrepreneur', *Explorations in Economic History*, Vol 9, 1971.

<sup>57</sup> Foreman-Peck, Bowden & McKinlay, *op.cit.*, p.54.

importance of inter-industry and intra-industry effects. Schmalensee suggests that up to 80% of the variance of the rates of return achieved on assets is accounted for by differences within industries.<sup>58</sup> These results were also supported, although in a qualified manner, by Rumelt who carried out a similar study over a four year period from 1974-77. Rumelt maintains that while 83% of the variance on the rate of return on assets was linked to intra-industry effects, two fifths of this derived from yearly fluctuations leaving three fifths for differences between business units. Similarly, while 16% of the variance in profitability derived from inter-industry effects half was again linked to yearly fluctuations.<sup>59</sup> In other words how firms respond in their individual markets is the major determinant of profitability.

Paradoxically, neither study found evidence to suggest company effects were important, suggesting economies of scope were absent and that diversification into related business areas did not necessarily lead to higher rates of return in non-core areas.<sup>60</sup> This last finding was at odds with Rumelt's earlier work examining diversification strategies, where it was found that economies of scope did in fact lead to higher rates of profitability.<sup>61</sup> Problems arise in these areas from both the specification of models and the differences contained within data sets. Nevertheless, while more work is required, it is clear that both findings lend weight to a view that business organisation and individual market structure provide a complex set of inter-

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<sup>58</sup> R. Schmalensee, 'Do Markets Differ Much?', American Economic Review, Vol.75 No.2, (1985), p.350.

<sup>59</sup> R.P. Rumelt, 'How Much Does Industry Matter?', Strategic Management Journal, Vol.12 (1991), table 4.

<sup>60</sup> Schmalensee, op.cit., p.349 and Rumelt, op.cit., p.182.

<sup>61</sup> R.P. Rumelt, 'Diversification Strategy and Profitability', Strategic Management Journal, Vol.3, (1982).

relationships which play a determining role in the decision making of both entrepreneurs and trade unions.

Placing an emphasis upon the importance of markets and the role they play in determining industry's development may help us understand whether British relative economic decline was merely the inevitable effect of other nations with large, protected, domestic markets catching up. Temin has suggested just such an explanation for the steel industry before 1914, with economies of scale created by German and U.S firms in protected domestic markets acting as a spring board for increasing competition against British firms in open export markets.<sup>62</sup> McCloskey's criticism that the degree of relative decline cannot be attributed to increased costs of production have nevertheless left his central argument of an inevitable relative decline and the role of protected domestic markets acting to promote the growth of new industries largely intact.<sup>63</sup>

Other work on world trade has also pinpointed both the changing structure of the world economy and the industrial groups in which British relative economic decline has occurred.<sup>64</sup> Lewis has suggested that a 'momentum' of past decision making hindered the ability to change and a lack of an 'urge to invest' limited change. While these problems existed the question still remains, why? More concretely, Tyszynski has documented the long term decline of manufacturing exports from Britain, and suggests

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<sup>62</sup> P. Temin, 'The Relative Decline of the British Steel Industry', Industrialisation in Two Systems, H. Rosovsky (ed.), (New York USA 1966).

<sup>63</sup> McCloskey. op.cit., p.96.

<sup>64</sup> A. Maizels, Industrial Growth and World Trade, (Cambridge 1963).

failure lay primarily in a loss of competitiveness in the industries Britain possessed rather than merely in a failure to shift production to modern industries.<sup>65</sup>

The results, however, need to be looked at carefully for two reasons. Firstly, Tyszynski's analysis of data based on price levels rather than quantity levels introduces index number problems due to the large relative price variation over time. Tyszynski himself acknowledges this fact by highlighting that while at current prices trade increased over eleven fold between 1899 and 1950 at constant prices this increase was only fourfold. Further, if measured by volume world trade increased by less than a factor of three.<sup>66</sup> The chemical industry is one major case in point. While Tyszynski shows that by value the chemical industry saw a drop in its share of world trade from 8.3% to 7.7% between 1899 and 1929, using Maizels data, measured by volume chemicals is shown to have expanded roughly in line with the average.<sup>67</sup> Indeed, if we examine the post 1950 period, we see that chemicals has expanded, in volume terms relative to pre-war levels, faster than all other categories.<sup>68</sup> In attempting to examine the role of market structure in business organisation for mass production industries quantity data would need to be combined with price data, although, unfortunately, this is generally less available.

The second weakness is the role protected markets played in preventing competition, something Tyszynski does not examine. Protection for infant industries proved a major determining factor in their development. Protection also proved important in limiting world trade for some industries. In the car industry for example,

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<sup>65</sup> H. Tyszynski, 'World Trade in Manufactured Commodities 1899-1950', Manchester School of Economic and Social Studies. Vol XIX No.3 1951.

<sup>66</sup> Ibid., table VI.

<sup>67</sup> Ibid., p.283 and Maizels, op.cit., p.164-169.

<sup>68</sup> Maizels, ibid., p.165.

sales between the main producer nations amounted to only around 5% of total exports until after the Second World War.<sup>69</sup> Protectionism is one area in which business and governments worked closely, but whether or not tariff protection prevented relative decline is open to question.

Criticisms of entrepreneurs have also focused on their willingness to limit competition, between firms, through cartels and trade agreements or through co-operation between government and industry, with the introduction of protectionism. Cartelization and protectionism, while different responses, were part and parcel of the same process and therefore need to be understood together. Kirby for example sees government action in protecting inefficient coal mines in the 1930s as reducing the ability of resources to flow out of declining industries and into more rapidly growing sectors. For the post-war period Mercer has argued that private industry deliberately blocked government attempts to increase competition by the banning of price fixing arrangements and monopolistic practices.<sup>70</sup> Similarly, Tomlinson puts the same argument for government policy with respect to increasing private industry's' efficiency.<sup>71</sup> But again the exact degree to which this opposition actually hindered competitiveness is open to alternative interpretations. Many successful companies not only relied upon arrangements to regulate trade, including ICI with over 800 world-

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<sup>69</sup> I. Svennilson, Growth and Stagnation in the European Economy, (Geneva 1954), p.149-152.

<sup>70</sup> H. Mercer, 'The Monopolies and Restrictive Practices Commission, 1949-56: a study in regulatory failure', Competitiveness and the State. Government and Business in Twentieth Century Britain, ed. G. Jones and M. Kirby, (Manchester 1991).

<sup>71</sup> N. Tiratsoo and J. Tomlinson, Restrictive practices on the Shopfloor in Britain 1945-60, Business History, Vol.36, No.2, 1994, p.68.

wide, but also depended upon such agreements for the creation of Chandlerian type development in the interwar years.

The introduction of protectionist trade tariffs in the 1930s was a defensive response to the depression, which in the British case cushioned the economy from its worst effects. This was also the case in the United States where, under the New Deal, collusion between manufacturers over prices and output was positively promoted. In the post-war period, with the growth and openness of world markets, such anti-competitive actions may well have aided relative decline in the economy as a whole, but again it appears that many firms responded effectively to greater competition. In the case of ICI after 1945, it appears that demands for reduced protectionism and anti-trust court cases within the United States spurred the chemical firm into being more competitive. Certainly, a simple acceptance of liberalisation has been questioned as a mechanism for sustained economic development.<sup>72</sup> Elsewhere, Broadberry and Crafts recognise a distinction should be made between short and long term consequences of government policy. They suggest that 'the post-war settlement in the UK was helpful in the short term in achieving a better inflation-unemployment performance but in the long term inhibited productivity growth'.<sup>73</sup> So here again, as with trade unions' impact on productivity, care needs to be taken in making generalisations about the impact of changes in protectionism and cartelization in the post-war period for individual industries and firms.

It is also open to question precisely how oppositional business was to government attempts to increase competition and company performance. While it is

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<sup>72</sup> J. Stopford and S. Strange & J.S. Henley, Rival States, Rival Firms, (1993), pp169-202.

<sup>73</sup> S.N. Broadberry and N.F.R. Crafts, 'British Economic Policy and Performance in the Early Post-War Period', (Unpublished paper 1995), p.17.

true to say that the employers were generally opposed to government interference in the working of private industry, it is not true to say that these attitudes were either fixed or entirely hostile. In the case of the Anglo-American Council on Productivity (AACP), the Federation of British Industry's leaders changed their views, from initial hostility to support, when they recognised potential benefits. Similarly, on the question of monopoly policy and restrictive trade practices, the Federation of British Industry was opposed to putting forward a general case against government legislation for the simple reason that a general case would be indefensible, given the extent of restrictive practices.<sup>74</sup>

As with the 'unions are to blame' theories, the 'entrepreneurial failure' school appears at least to overstate the case for apportioning blame. It provides plenty of anecdotal evidence but we are left with little except to suggest that entrepreneurial failure was more a reflection of increased competition within markets than a cause of Britain's general relative economic decline. This lack of an homogeneous picture of decline also means that explanations which are limited by their inability to present either trade unions or entrepreneurs in the diverse and disparate ways they appear in the real world are inherently likely to hinder our explanation of a complex process. Our first set of hypotheses must be, then, that factors exogenous to the firm (and to trade unions) such as market size (determined by the linkages between growth of consumer income and constraints upon demand growth), openness to international competition (determined by trade agreements and tariff policy) and freedom from anti-trust legislation (determined by competition policy) provide a set of determining factors for the development of oligopolistic firms in the British economy after 1945.

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<sup>74</sup> Modern Records Centre, FBI records in general and in particular MSS200/F/3/S1/11 on AACP and MSS200/F/3/E3/9/1 on restrictive trade practices.

- Culture

An alternative rationale for relative economic decline comes from explanations that focus on elements such as education and cultural developments.<sup>75</sup> Here the case for British industry and government weakening human capital inputs into industry certainly seems more appealing. The continuation of an education system rigidly segmented until well after 1945 made it difficult for innovators and dynamic businessmen to counteract the control of an aristocratic, finance-orientated elite.<sup>76</sup> Such a rigid hierarchy also led to a system of education and training which failed to provide the labour force with the skills required by modern industry.<sup>77</sup> While there is a significant amount of evidence from the 1960s onwards, especially with regard to a lack of training, the evidence before 1960 is much weaker. Burgess contends that a continued reliance upon manual workers' motor skills acquisition in industry meant that many of the ideas associated with initiatives such as the AACP were not seen as relevant.<sup>78</sup> Similarly the AACP reports, while highlighting the small-scale nature of both management and apprenticeship training, nevertheless recognise that the task-specific training dominant within the United States 'cannot be substituted for a complete apprenticeship'.<sup>79</sup>

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<sup>75</sup> Wiener, op.cit., pp.7-11 and pp.159-167 and from a different political perspective P. Anderson, 'The Figures of Descent', New Left Review, No.161, (1987).

<sup>76</sup> Wiener, op.cit., pp.128-37 and C. Barnett, The Audit of War, (1986).

<sup>77</sup> S.J. Prais, 'Vocational Qualifications of the Labour Force in Britain and Germany', National Institute Economic Review, No.98, (1981) also M. Dintenfass, op.cit., p.27-39.

<sup>78</sup> K. Burgess, British Employers and Education Policy 1935-45, Business History, Vol.36, No.3, 1994, p.56.

<sup>79</sup> Anglo-American Council on Productivity, Metalworking Machine Tools, (1953), p.27.

The impact of such factors is difficult to quantify, but in the case of Wiener's 'gentrification of the middle class' its very existence is open to dispute.<sup>80</sup> Other economies, particularly in Europe, accommodated far more hostile anti-business intellectual elites and allowed, or even promoted, the persecution of religious groups closely linked to business formation. Similarly, the rigid hierarchical nature of Japanese society, with an emperor who has higher status than the British monarch, would surely in Wiener's view have hindered post-war growth to a greater extent than in Britain.

The important consideration for this study of post-war Britain is the fact that, if gentlemanly traditions were to be eradicated, as Phelps Brown suggests, giving a 'new start', the solutions required would imply that government take a much more proactive role in directing the economy.<sup>81</sup> The reconstruction of Britain from 1945-51, under the Attlee government, offered one of the best opportunities for such a change; but what would such a proposal have meant? Either nationalisation should have been much more extensive than it actually was or government should have enforced change on private industry, possibly through the imposition of Development Councils. Alternatively government could have taken a more economic liberal attitude and looked to supply side reform including more thoroughgoing competition policy and increasing the economy's openness to international trade. Immediately it should be pointed out that both of these alternatives were acknowledged.<sup>82</sup> The Labour Party did have policy on wider nationalisation proposals, which were never attempted, and in 1947 sterling became a convertible currency against the U.S. dollar.

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<sup>80</sup> See. M.J. Daunton, 'Gentlemanly Capitalism and British Industry 1820-1914', Past and Present, No.122, 1989.

<sup>81</sup> H. Phelps-Brown, 'What is the British Predicament?', The Managed Economy, ed. C. Feinstein, (Oxford 1983).

<sup>82</sup> J. Singleton, 'Labour, Conservatives and nationalisation', op.cit., eds. Milward and Singleton, p.13 and A. Cairncross, The British Economy Since 1945, p.53.

In the event nationalisation was limited and the convertibility experiment was abandoned in little over a month. The point of interest here is that government steered away from more radical change and broadly adopted a consensus approach. This leads us to ask: why was the status quo accepted? And still more importantly: what does this tell us about the nature of business and industry in Britain after 1945?

- Institutions

While it is possible to point to the limitations of the various theories on relative economic decline, it is quite obvious that there is some grain of truth within each of the theories discussed. As a result there has been a move towards attempting to incorporate the various factors of failure into a less deterministic and more consistent framework. Such an approach moves away from the theme of relative decline towards notions of continuous change.<sup>83</sup> Important to understanding this process is the role played by institutions.

The institutional school's central suggestion is that the way past economic, political and social structures in society emerged impacted on attempts of the economy to respond to new developments.<sup>84</sup> The main issue which unites all wings of institutional analysis (and provides its fundamental weakness) is the deterministic view of the 'sclerosis' of institutions. Hodgson and Olson, from differing viewpoints, suggest that all institutions over time become rigid and unable to change without exogenous

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<sup>83</sup> Britain Since 1945, ed. T. Gourvish and A. O'Day, (1991), p.3.

<sup>84</sup> W. Lazonick, Business Organisation and the Myth of the Market Economy, (Cambridge, Mass 1991), pp.23-58.

shocks.<sup>85</sup> Defeat in war, dictatorship or revolution become methods of preventing societies' inevitable descent into a sclerotic decline.

This determinism arises out of the misplacing of tendencies to sclerotic behaviour in the institutions of capitalism. For Olson, sclerosis originates in the rent-seeking behaviour of interest groups and distributional coalitions such as trade unions, employers' associations and government bureaucracy. Lazonick, in contrast, maintains that coalitions are vital for economic growth and it is the very lack of sufficient collectivities that led to British failure in the first half of the twentieth century.<sup>86</sup> Olson's deterministic view echoes the rigidity of explanations based upon labour or entrepreneurs. In reality the tendency for sclerotic development lies in the contradiction that firms, as institutions, find themselves in when responding to changes in the market for their produce.<sup>87</sup> By responding to market changes through organisational change firms may gain competitive advantages but in doing so they will increase the difficulty of further organisational change. Firms become locked into a path-dependant process described as 'competitive equilibrium' by Lazonick.<sup>88</sup>

It is therefore suggested that the key to understanding sclerotic developments lies in examining how firms respond to changes in markets. Our focus should therefore be on the interface between markets and firms. To examine exactly how this occurs it is necessary to look at institutional economic history and in particular the role transaction cost analysis plays within it.

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<sup>85</sup> M. Olson, The Rise and Decline of Nations, (Yale 1982) and G. Hodgson, 'Institutional Rigidities and Economic Growth', Cambridge Journal of Economics, Vol.13, 1989.

<sup>86</sup> Lazonick, Business Organisation, p.320.

<sup>87</sup> Contradiction is not meant to be understood as a pejorative term but should also be understood as a motivation for innovation within capitalist development.

<sup>88</sup> Lazonick, op.cit., p.75.

- Transaction Costs, Information and Firms

In order to explain why sclerotic tendencies develop within institutions it is first necessary to explain why institutions themselves develop. Of primary importance is the role information plays as a mechanism for motivating institutions to alter their organisational capabilities.

Standard micro-economic analysis tells us how an individual actor in the market place responds to changes in the demand and supply of goods and services. When prices for specific goods fluctuate, the elasticity of both supply and demand influences the ability of sellers and buyers to continue to engage in mutually beneficial trade, resulting in a stable equilibrium being achieved. The rationality of actors within the market place determines the degree to which prices have an ability to alter and still find a demand.<sup>89</sup>

Theory also suggests that price mechanisms accurately reflect the relative scarcity of resources and the relative value to economic agents of goods and services. Thus price signals act as an allocation mechanism for goods, services and factors of production. Added to this, according to a maximising postulate, is the fact that capital will always flow into areas of highest return. There is therefore an incentive to ensure output takes place at optimal efficiency of both a technical or allocative kind which ensures the allocative (Pareto) optimal outcome: marginal cost being equal to price.<sup>90</sup>

In perfectly operating markets equilibrium is achieved rapidly and efficiently due to the existence of perfect knowledge. Of course in the real world such niceties as

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<sup>89</sup> E. Nevin, An Introduction to Micro-Economics, (1973), p.132.

<sup>90</sup> G.R. Hawke, Economics for Historians, (Cambridge 1980), p.98-124.

perfectly operating markets and rational behaviour cannot be assumed and as a result further analytical tools are introduced to explain the more complex behaviour of the market. Important in this micro-economic analysis is the introduction of the transaction cost approach. Here the costs incurred in carrying out transactions are said to limit the ability of actors to maximise profits and therefore the existence of transaction costs are seen as a cause of inefficiencies in the market mechanism.

Chief among such costs are those of information. The standard approach is to assume perfect knowledge of prices both in the present and the future. The problem here is that the nature of production is to add value and this value cannot be quantified until the product is placed in the market and demand assessed. Hence the crucial assumption is not only of perfect knowledge but of static conditions in which the demand and supply of factors of production, goods and services are known in advance and are unchanging. Such a static model faces real problems in application to a continually changing world.

The lack of perfect knowledge in the real world has meant that micro-economic theory has introduced ideas of 'bounded rationality' to provide a recognition and explanation for information limitations in decision making.<sup>91</sup> Information is considered to be a commodity which is both scarce and costly to attain. Price variation is considered to be both a manifestation and measure of ignorance within the market.<sup>92</sup> It is suggested that information will be acquired through searching until marginal cost equals marginal benefit for each actor with each actor's marginal cost being different. As a result information flows are said to be asymmetric.

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<sup>91</sup> See O.E. Williamson, Markets and Hierarchies: Analysis and Antitrust Implications, (New York 1975), pp.20-27.

<sup>92</sup> G. Stigler, The Organisation of Industry, (Illinois 1968), p. 172.

Stigler suggests, as a prime example of the costs to individuals of making transactions within the market, the search required to purchase a used car. However, this example highlights one of the central contradictions within classical economic theory - that of the individual and the firm.

The expenditure of time for an individual, as opposed to a firm, carrying out search activity cannot simply be considered to be financially negative unless there is an alternative use of the same time which will be remunerative. Normally the cost of individual search can only be considered to be an opportunity cost. Only firms incur financial costs in transactions within markets. The fact that firms have to acquire costly information means that they not only have a greater incentive to ensure that any information is accurate but they also are in a position to demand that the information that they acquire is up to date.<sup>93</sup> Sticking with the car analogy, the British car market, both new and second-hand, is distorted due to the discounts received by company buyers, providing evidence that information has a different role for firms than it has for individuals. Companies have bargaining power within the market place due to their ability to buy in bulk, purchase regularly or tie in particular servicing arrangements. Bargaining power derives from the nature of information acquisition. Firms as purchasers are able to use their size as a method of gaining price advantages compared to individuals. Firms as suppliers know that some sales are more important than others due to their acquisition of information about the purchaser.

Information, then, is not simply reducible to price. Information needs to be of both the market and technical kind.<sup>94</sup> Market information needs testing for quality and

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<sup>93</sup> M.C. Casson, The Firm and the Market: Studies in Multinational Enterprise and the Scope of the Firm, (Cambridge, Mass, 1987), p.14.

<sup>94</sup> See G. B. Richardson, Information and Investment, (Oxford 1990).

reliability, while technical information requires testing for suitability and adaptability.<sup>95</sup>

All of these conditions ensure firms have advantages over individuals. Such differences between individuals and firms within market transactions ensure that the balance of influence between economic actors is not equal and that bargaining power is a function of each actor's control over information.

So in our car analogy, if it is known that a purchaser only wishes to buy a Reliant Robin (a three wheeled car) or alternatively a Rolls Royce then the dealer has a monopolistic control over price. Conversely if the purchaser is the only purchaser of these cars then the relationship is one of monopsony. Either way transactions are determined by information based upon knowledge of substitute goods or the necessity actors have for carrying out transactions at all. Formally put, asymmetric information flows lead to the development of self-interested behaviour, giving rise to the possibility of further market failure as economic agents adopt practices which gain above average returns for the provision of goods and services through the non-disclosure or distortion of information.

There are three main forms of self-interested behaviour.<sup>96</sup> First and foremost is opportunistic behaviour defined as 'self-interest-seeking with guile'. Opportunism is one of the pillars of transaction cost analysis in that all economic actors, both principals and agents, are inclined to engage in the deliberate distortion or non-disclosure of information: opportunism gives rise to uncertainty and risk. The risk from opportunism is high where transactions are unique or where free riders are able to gain free access to information which others have had to purchase. North uses a trivial example of

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<sup>95</sup> M. Casson, 'Economic Perspectives on business information', Information Acumen: The Understanding and Use of Knowledge in Modern Business, ed. L. Bud-Frierman, (1994).

<sup>96</sup> O. E. Williamson, The Economic Institutions of Capitalism, (1985), pp.47-52.

orange sellers (who are unlikely to resort to opportunism if they require customers to return regularly) to suggest that free rider problems or opportunism are limited by both the process of repeated transactions between actors and by markets in which large numbers of actors take part.<sup>97</sup>

Opportunism may also occur where one actor is required to make investments which are non-transferable. Asset specificity can lead to opportunistic monopoly for sellers or alternatively monopsony for purchasers. Williamson suggests opportunist behaviour under these conditions arises out of first mover advantages. Asset specific opportunism requires either particular forms of contract or governance bodies in order to mitigate the limits of bounded rationality.<sup>98</sup>

One contractual method of counter-acting asset-specific opportunism is to rely upon relational as opposed to discrete transactions.<sup>99</sup> Discrete transactions (due to a lack of dependency between agents) are more open to opportunistic behaviour than relational transactions, such as labour contracts, which depend upon mutual co-operation over time and explicitly require the re-negotiation of conditions, as power between those involved changes. Relational transactions are suggested as a key reason why large firms should prefer to deal with other large corporations.<sup>100</sup>

Simple self-interest represents the second form of self-interested behaviour. It is considered to be self-interest with honest disclosure of information where transactions occur under full disclosure and competitive advantage results from

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<sup>97</sup> D.C. North, Structure and Change in Economic History, (New York 1981), p.35.

<sup>98</sup> Williamson, Economic Institutions, p.231, for and J. Kay & D. Thompson, 'Policy for Industry', The Performance of the British Economy, ed. R. Dornbusch & R. Layard, (Oxford 1987).

<sup>99</sup> A. Papathanasis and C. Vassilopoulos, 'Task and Job: The promise of transactional analysis', The American Journal of Economics and Sociology, Vol.50 No.2 (1991) p.169-181.

<sup>100</sup> Ibid., p.175.

technological developments in patents, economies of scale and scope. Simple self-interest, Williamson suggests, is therefore said to represent the standard assumptions of neo-classical economics.<sup>101</sup> Finally the third form of self-interest is considered to be obedience defined as the lack of self-interest. In reality all human micro-economic actions are considered to be related to forms of positive self interest and therefore obedience is effectively not a consideration.

The need for particular contractual arrangements or governance bodies suggests that it is the control over information acquisition, to reduce purchaser's exposure to risk from opportunism, or control over the diffusion of information, to increase seller's ability to utilise opportunist behaviour, that becomes the key to understanding the emergence of institutions themselves.

The starting point for understanding the connection between transaction costs and the formation of institutions is Coase's classic 1937 article on the nature of the firm. Coase's argument was that the firm originates from its ability to carry out transactions at a lower cost internally than externally through the market mechanism: 'the distinguishing feature of the firm is its supersession of the price mechanism.' and that 'The entrepreneur has to carry out his function at less cost...because it is always possible to revert to the open market if he fails to.'<sup>102</sup> As a result, costs of production are reduced in circumstances that allow the entrepreneur-co-ordinator to direct resources rather than the market.

A similarly efficiency based model was the central starting point for Alchian and Demsetz who suggest that the firm is singularly the contractual form that the team

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<sup>101</sup> Williamson, Economic Institutions, p.49.

<sup>102</sup> R.H. Coase, 'The Nature of the Firm', Economica N.S, No.4, November (1937), p.389 and p.392.

use of inputs takes. For Alchian and Demsetz all transactions are identical and so there is no difference between the transactions within a firm and those between a grocer and his/her customers.<sup>103</sup> The entrepreneur's role within the firm becomes one of metering the productivity of the inputs, to prevent shirking and the opportunistic appropriation of the residual product. In so doing the firm becomes an efficient market for information, allowing for recombinations of inputs to take place in a more efficient manner than takes place within external markets. Alchian and Demsetz point out that intrafirm competition is therefore of central importance in understanding business developments.<sup>104</sup>

Efficiency based models and micro-economic thinking revolves around the conceptual framework of rational economic man limited by information asymmetry, which leads to sub-optimal bounded rationality and opportunistic behaviour. Of central importance for economic agents and principals in market transactions is the ability to maximise the possibilities of one's own opportunistic behaviour while simultaneously limiting the opportunistic behaviour of others. The mechanisms for such limitation lie, as mentioned above, in, contractual arrangements and governance bodies. Now imperfections in the market mechanism are overcome and economies achieved through alternatives to the market.

Explanations based upon interest groups, rent-seeking, free rider and opportunism problems, oligopolistic and monopoly influences and ultimately the role of the state in economies are in effect attempts to resolve questions of unequal exchange. Institutional theory either explicitly or implicitly accepts the fact that a

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<sup>103</sup> A. Alchian and H. Demsetz, 'Production, Information Costs and Economic Organisation', American Economic Review, Vol.62, 1972.

<sup>104</sup> Ibid., p.795.

continuous conflict exists between economic actors within markets. This conflict is not simply confined between institutions and the market, but also exists between institutions themselves as interest groups. Interest groups' attempts to achieve greater influence over one another, through rent-seeking behaviour, may achieve a rational environment for themselves, yet in the process may also further increase the problems in another group's environment.<sup>105</sup> It is important to understand conflict within the market as a continuous inter-related, and positively feeding back, process without a final solution: an institution's 'success' in achieving monopoly power can also then be understood as a temporary phenomenon.

The theoretical starting point for study should therefore be a recognition that; 1) market transactions rarely take place on the basis that marginal cost equals price and 2) that economic actors are not equal. Economic actors cannot make perfectly objective choices and benefits in exchange can be unequal. Thus the picture of economic activity we start with is no longer one of equilibrium and rationality but instead disequilibrium and bounded rationality, contradiction and change. Firms' activity then is directed at controlling the destabilising influence of opportunism both within markets and within firms. Such activity may well appear rational for individual firms yet for an economy as a whole may lead to sub-optimal outcomes. Monopoly power is one possible case in point in which firms may reduce the degree to which they are affected by opportunism and in so doing maximise profits, yet consumers themselves may suffer opportunism, so creating sub-optimal outcomes within an economy.

Summarising the discussion so far the suggests that the view that the structure of the market plays a determining role in the development of the firm must be tempered

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<sup>105</sup> D.C. North, Institutions, Institutional Change and Economic Performance, (Cambridge 1990).

by the observation that the firm itself tries to control the operation of the market, or more precisely control information. The control of information leads firms to develop strategies for risk aversion and opportunistic behaviour in order to alter the operation of the market; that is, the structure of the market itself is determined by the activity of firms. It can further be suggested that the origin of any tendency to sclerosis lies in the contradiction and tension posed by this interaction.

Tendencies to sclerosis derive from the interaction of firms' attempts to control the market and the market's influence on firms to alter their form. As firms adopt similar organisational forms in response to competitive pressures, so firms increase the tendencies towards a competitive equilibrium. In this process future innovative strategies become more difficult to adopt, due to the level of initial investment required and the decreasing time between which innovating firms make investments and adaptive firms follow. Yet the alternative of deliberately creating a competitive equilibrium is also not a stable co-operative strategy for a group of rival firms. The process of creating an equilibrium simply reduces pressures for change and increases the degree of sclerosis within the industry, so undermining international competitiveness relative to new market entrants or firms not involved in the co-operative strategy. Even in the case of monopoly, as Schumpeter argued, such dominance is a temporary phenomenon threatened by the 'perennial gale of creative destruction',<sup>106</sup> in which competitors gain innovative advantage unless the monopolist maintains a dynamic approach to innovation.

So, referring to the discussion of changing patterns of world trade above, it could be suggested that the increase in world trade in some sectors of the world

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<sup>106</sup> J.A. Schumpeter, Capitalism, Socialism and Democracy, (1965), p.84.

economy decreased sclerotic tendencies. Firms could adopt innovative strategies for influence within the market and develop new forms of relationship between managers, workers and governments. Alternatively, where the structures of trade in other sectors maintained separated markets, through high barriers to entry for example, industries will not have had as much scope for finding innovative competitive strategies. As a result tendencies to sclerosis will have been reinforced. Such an approach would also suggest that, where world trade was declining, the pressures to reach a competitive equilibrium would increase, as would sclerotic tendencies and under such circumstances separated markets, tariffs etc. would be important in decreasing such tendencies.

- Visible Hands

Explanations based on interest groups have provided powerful tools in economic history. However, there is one important shortcoming in such an analysis: the continuation of a picture in which the market mechanism works in an independent invisible manner. Coase summed it up nicely when he criticised economics for having a world picture in which 'society becomes not an organisation but an organism'.<sup>107</sup> As a result of such criticisms, Coase, correctly, introduced a notion of human agency into the development of the firm, with a recognition that the entrepreneur acts as a director of resources, replacing blind market forces with the conscious act of the individual manager. This recognition of human agency is also what has made Chandler's work so important to business history.

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<sup>107</sup> Coase, op.cit., p.387.

The importance of human agency, acting through organisation and directed by rational entrepreneurs, is a mirror image of the idea of a perfectly operating market. Work has been carried out to try and analyse the limits of rationality in organisations. Vanagunas, working within a transactional framework, has defined two kinds of rationality, formal or calculated rationality and substantive rationality, the taking account of 'ultimate ends'.<sup>108</sup> Calculated rationality is the cause of market failure, leading government, working under substantive rationality, to carry out functions requiring high fixed costs such as the protection of property rights and welfare provision.

Transaction theory's strength lies in its recognition of the role of human agency within the firm as a method by which market mechanisms are counteracted. Its central weakness however is its unwillingness to accept that human agency plays a role in changing the market itself. In effect the transaction cost approach and approaches of market failure maintain the 'society as organism' paradigm, in which the main problem lies with the inadequacies of the human species to displace the organism with organisation, due to some socio-biological irrationality. The reality is, however, that the market, with the development of the firm, became an organisation not an organism and tendencies to sclerosis and sub-optimal solutions arise out of the form that organisation takes.

Now it is, of course, true to say that competitive market pressures create the impression of a society in which market transactions take on a life of their own. This can be seen since no buyer or seller can afford to relax to enjoy a dominant position. Despite such an impression of the market, it is necessary to adopt an approach which

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<sup>108</sup> S. Vanagunas, 'Max Weber's Authority Models and the Theory of X-efficiency', The American Journal of Economics and Sociology, Vol 48 No.4, 1989.

sees market competition not as an independent force leading to either positive or negative outcomes but as the institution itself. This is the point touched on by McNulty in his discussion on the meaning of competition, in which competition in the market is equated merely with market structure and the number of firms operating within it. McNulty argues that the conceptualisation of competition as either a governing force like 'gravity' or an ideal like a 'perfect vacuum' has hindered our ideas on how firms compete, since all competition 'may well be, in fact, competition for a position of monopoly power' and that 'To compete for monopoly power is not...necessarily to realise it.'<sup>109</sup> McNulty, therefore, supports a separation of the notion of competition from market structure. Such a distinction is also made by Kay who maintains that markets need to be narrowly defined by an area in which the same commodity can be purchased for one price or by the limits imposed by consumers ability to substitute one good for another.<sup>110</sup>

One interpretation of Porter and Chandler - deriving from such a perspective - should be that the drive towards competitive advantage or multi-divisional firms is a drive towards control of the market and not just efficiency arising out of the search for scale and scope. That is why dynamic firms are willing to look to anti-competitive agreements on trade. In Porter's words 'Competitive advantage grows fundamentally out of the value a firm is able to create', which itself is determined by both the organisation of production within the firm and the degree to which firms are able to influence the structure of the market.<sup>111</sup>

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<sup>109</sup> P.J. McNulty, 'Economic Theory and the Meaning of Competition', Quarterly Journal of Economics, (1970), p.639-657.

<sup>110</sup> J. Kay, The Foundations of Corporate Success, (Oxford 1993), pp.130-31.

<sup>111</sup> M.E. Porter, Competitive Advantage. Creating and Sustaining Superior Performance, (New York 1985), p.3.

The fact that transaction costs analysis emphasises transaction cost savings, i.e efficiency, as opposed to issues of control, i.e. governance, as the motivating force in the internalisation of market functions has led to challenges over its central tenet - the origins of the firm. Marglin has argued that the motivational factor leading to the creation of the factory system was not efficiency savings but the need to impose both supervisory and disciplinary controls on labour contracts. The putting-out system ensured that workers themselves controlled the balance between labour and leisure on a day to day basis. Putting-out also provided workers with the opportunistic opportunities to cheat employers, through theft, over the level of production in any given period. Marglin suggests that supervisory control within the factory ensured employers could increase labour inputs through control over the division of labour; hence increases in output relied upon longer working periods, not improvements in technical efficiency. Disciplinary control within the factory system, preventing workers from appropriating the results of their labour for themselves, meant that there was also no increase in allocative, (Pareto), efficiency.<sup>112</sup>

Marglin's approach has however been refuted by Landes who questions why, if supervisory and disciplinary control was the object of the factory system and no efficiency improvements derived from its introduction, did workers simply not set up co-operatives for themselves and so by-pass entrepreneurs.<sup>113</sup> The answer to Landes comes in two parts. First, as Hudson and Berg make clear, this is exactly one of the approaches which in fact did occur. The industrial revolution was marked not by a

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<sup>112</sup> S.A. Marglin, 'What Do Bosses Do? The Origins and functions of hierarchy in capitalist production', Review of Radical Political Economics, Vol.6, No.2, 1974 and S.A. Marglin, 'Knowledge and Power', Firms, Organisation and Labour: Approaches to the Economics of Work Organisation, ed. F. Stephen, (1984).

<sup>113</sup> D.S. Landes, 'What Do Bosses Really Do?', Journal of Economic History, No.3, 1986.

rapid, uniform change from putting-out to a factory system but by a slow, regionally diverse transition which included large co-operative factories, sub-contracting of factory space to individual craftsmen and the continuation of putting-out.<sup>114</sup> Despite the telescoping of events by Marglin and Landes the ultimate success of a labour system based upon supervision and discipline is explained by Pitelis. Pitelis suggests that the key distinction to be made is not with the factory system but with the earlier development of the firm itself. Pitelis maintains that the employers' specialist knowledge of the market as a purchaser or raw materials and seller of finished products provided employers with the advantages required to dictate the form of production, putting-out or factory-based, to workers. For Pitelis the 'exploitation of the fruits of the division of labour was the driving force behind the emergence and evolution of the firm.'<sup>115</sup> The merit of an approach based upon power has been conceded by Williamson, although he maintains a lack of operationalisation ensures power remains unsatisfactory as a conceptual tool.<sup>116</sup>

Yet again, therefore, we are returning to the role information plays as a motivating factor leading to the internalisation of transaction costs. A similar control based approach is also adopted by Cowling and Sugden who, in rejecting Coase's model, suggest that firms need to be understood in terms of a 'nexus of strategic decision making' for the control of residual product.<sup>117</sup> Under such a model the boundary between the firm and the market is not the essential distinction of the firm;

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<sup>114</sup> P. Hudson, Regions and Industries, (Cambridge 1990) and M. Berg, Age of Manufactures, (1985).

<sup>115</sup> C. Pitelis, Market and Non Market Hierarchies, (Oxford 1991) p.31.

<sup>116</sup> Williamson, Economic Institutions, p.238

<sup>117</sup> K. Cowling and R. Sugden, 'Behind the Market Facade: A reassessment of the Theory of the Firm', (Unpublished Paper, 1994) and K. Cowling and R. Sugden, Beyond Capitalism, (1994).

rather it is the relationship between the nexus of strategic decision making and factors under its influence that should be examined. Therefore the firm can be considered to cover not simply its own production processes but also those of firms in the supply chain, an example being between Japanese car manufacturers and their suppliers, even where there is no ownership involvement.

Other examples of this need to achieve greater control over labour contracts without leading to increases in efficiency, comes from the move towards internal labour contracts, as opposed to earlier contracting out in the United States steel industry between 1890-1920.<sup>118</sup> More generally, the fact that employers as well as workers may engage in opportunistic behaviour and bargaining leads Skillman to suggest that employers are likely to sacrifice efficiency for control.<sup>119</sup>

The entrepreneur's role in the production process was not therefore as a Coasean resource allocator or an Alchian-Demsetz co-ordinator of inputs but as the autarchic accumulator of the residual product, resulting from their asymmetric access to and control over information in the purchasing and sales processes. The importance of the Marglin/Pitelis approach is to understand the role of the firm in relation to the conflict that exists over the existence of long-term contracts. The firm becomes a governance body for the internal resolution of conflict.

The transaction cost approach has also come under criticism from Lazonick, who similarly places the rise of the firm not merely as a cost-saving mechanism but in terms of achieving organisational capabilities unavailable within the market. In Lazonick's view:

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<sup>118</sup> K. Stone, 'The Origins of Job Structures in the Steel Industry', Review of Radical Political Economics, Vol.6, No.2, 1974.

<sup>119</sup> G.L. Skillman, 'Efficiency vs. Control: A Strategic bargaining analysis of capitalist production, Review of Radical Political Economics, Vol.23, No.1&2, 1991.

'The history of capitalist development in the twentieth century challenges the outlook of those economists who continue to propound, and indeed elaborate, the vision of the market-co-ordinated economy....Without substantial control over market forces, manufacturing enterprises in all the major industries would not have the incentives to make the large-scale investments in plant, equipment and personnel necessary to participate in global competition. Nor would these enterprises have the organisational capabilities to develop and utilise these investments to create value and attain competitive advantage.'<sup>120</sup>

For Lazonick the limits of transaction cost theory arise out of its 'ahistorical and methodological approach',<sup>121</sup> since the fixed costs, incurred by a firm in internalising transactions, are incurred in advance of any savings and under conditions of uncertainty. In order to solve these problems the entrepreneur is forced to look towards investment strategies which are innovative and dynamic and as a result move towards a form of organisation which maximises the economies available within the firm. Thus for Lazonick the market stifles innovation and value creation and needs replacement for economic development to take place.<sup>122</sup>

The advantage of McNulty and business strategists such as Kay and Porter on the one hand and Lazonick on the other is their recognition that neither competition nor markets should be seen as ahistorical independent concepts. Rather, what is necessary is to understand the specific nature of competition within the market. The market itself should be seen as an institution, created and defined by the firms themselves in the process of production and competition. Similarly competition itself should be understood as created and defined by firms in the process of marketing and selling. Neither competition nor markets can be discussed outside the institutional framework in which they exist.

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<sup>120</sup> W. Lazonick, Business Organisation, p.147.

<sup>121</sup> Ibid., p.195.

<sup>122</sup> Ibid., p.65.

It is Lazonick who has gone furthest in attempting to analyse how control over the market has developed. The decision by firms to invest in innovative strategies of production and organisation is a method by which they attempt to increase their control over fixed costs. In so doing innovative firms attempt to increase the fixed costs of later movers, forcing firms to increase expenditure on gaining product acceptability, for example. So innovation and the creation of what Lazonick terms 'organisational capabilities' needs to be understood in the context of firms' drive to gain greater control over their market. Equally, in the case of adaptive investment strategies, the aim of late movers is to reduce the fixed costs which first movers incurred. In so doing, late movers aim at gaining an advantage in organisational capabilities, producing for the cheaper end of a product market being an example. Here again the question of power in the market and ability to influence the changes in the market becomes a crucial determinant of a firm's success or failure. An example of this would be the struggle between firms over formats for high technology goods such as between VHS, Betamax and Philips in video. Such battles are won and lost by the power of firms, and their relationship to bodies such as manufacturers of both players and films, financiers, distributors and government.<sup>123</sup> Outcomes of competition, it can be suggested, are rarely based upon technological superiority or a firm's internal competitive advantage.

The question of power in the markets in which firms operate is a point that even Lazonick understates. When analysing the decline of the cotton industry, Lazonick mentions the rise of the cotton industry and laissez faire during the nineteenth century. However, the rise and fall of cotton was intimately linked to British laissez

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<sup>123</sup> M.A. Cusumano, Y. Mylonadis & R.S. Rosenbloom, 'Strategic Manoeuvring and Mass-Market Dynamics: The Triumph of VHS over Beta', Business History Review, Vol.66, No.1 1992.

faire trade policy, as was the organisation of the industry itself.<sup>124</sup> Lazonick like Marglin, Stone and Pitelis places firms' internal structure as the motivational factor for organisational developments. In contrast the hypothesis here is that it is the power that firms can wield within the market that provides the motivational element in determining organisational developments. Through the development of organisational capabilities, firms influence the institutional form of the market which in turn requires firms to develop new organisational capabilities.

The failure to look at concepts of power in the market as a key determining factor in firms' success and at the market as an institution itself creates serious weaknesses in both transaction and institutional analysis. The forms of power with which this study is primarily concerned are those which allowed for either control over market information, such as retail price maintenance, or control over market structure, such as government restrictions on monopoly.<sup>125</sup> Maintaining both these forms required explicit collusion between interest groups within society and both came under sustained attack, in the post-war period, by other interest groups.

Much of the emphasis on a firm's need for control can also be introduced into an analysis of the internal changes of the firm. Both Lazonick and Coase accept that the advantage of the creation of the firm is that it provides the controllers of resources (be they an owner proprietor or a salaried managerial layer) a greater influence over the use of the factors of production available to them. Thus the internal organisation of the control of power is a crucial factor in the development of firms and involves large numbers of supervisory layers to ensure returns accrue to the controllers of resources.

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<sup>124</sup> W. Lazonick, 'The Cotton Industry', Decline, ed. Elbaum & Lazonick.

<sup>125</sup> See E. Ronald Walker, 'Beyond the Market', Power in Economics, ed. K. Rothschild, (Middlesex 1971).

Leibenstein's notion of X-inefficiencies within firms recognises the difficulty that institutions have in maintaining control over such power.<sup>126</sup> X-inefficiency is a recognition that the labour-wage contract does not take place as freely as classical economics would suggest and that the power relationship between participants needs to be considered.

The drive to control fixed costs relative to other firms can be understood as a mechanism for the enhancement of both power in the market place and power within the firm. Firms will look to alternative methods of internal organisation to achieve greater control in the production process itself, so ensuring the maximum level of output from a workforce. The rise of Taylorism is intimately linked to the need to maintain power over the production process as mass production methods spread.<sup>127</sup> Equally, the shift away from Fordist production methods in the late twentieth century can be seen as a response of employers to the need to establish new organisational capabilities to maintain both power over the production process and power within the market itself. Other forms of internal reorganisation include those documented by Chandler: the development by innovative firms of new production processes and the movement towards integration both vertically and horizontally.

Externally fixed costs can be controlled through the introduction of measures, such as cartel arrangements between firms operating in the same markets, which aim to reduce competitive pressures. The restrictive trade practices in Britain after 1945 should be seen in this light, as firms use black lists, agreed levels of discounts etc., to

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<sup>126</sup> H. Leibenstein, Beyond Economic Man: A New Foundation for Microeconomics, (Cambridge 1976), p.204.

<sup>127</sup> See Montgomery, op.cit., p.9-58 for an example of the change from external sub-contracting to internal direct hiring in the U.S. steel industry and S. Wood and J. Kelly, 'Taylorism, responsible autonomy and management strategy', The Degradation of Work, S. Wood ed., (1985).

reduce competition. The external attempts at control may well be a defensive response to diminishing returns facing adaptive firms where the costs and risks of further innovative strategies are too high. But equally firms may also look to external attempts at control to secure an environment conducive to an innovative strategy.

On another level are attempts by firms to restrict competitive pressures through winning government support for tariff protection. Import substitution has been used as a method of protecting infant industries, but it may also act to maintain individual firms' profitability from international competitors with greater organisational capabilities. Moreover, Jones maintains, the period from the 1930s to the 1970s was one which saw government restrictions emerge world-wide upon the activity of foreign multinational enterprises.<sup>128</sup> In the case of government interest in freer trade, it should not come as a surprise that the economies in which this was promoted (Britain in the nineteenth century and the United States after 1945) were also the economies with industries and firms that appeared to have achieved superior organisational capabilities. Through opening up markets, innovative firms attempt to maximise the return on their investment strategies and alter the structure of the market in order, as Lazonick suggests, to increase the fixed costs incurred by later movers.<sup>129</sup> Interestingly, it was not the United States which appears to have benefited most from the move towards free trade after the 1950s. This raises the question; were the benefits of free trade for economies like the U.S or Britain unevenly spread between individual firms and the national economy?

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<sup>128</sup> G. Jones, The Evolution of International Business, (1996), p.270.

<sup>129</sup> W. Lazonick, Business Organisation, p.205.

- The Role of Government

The discussion so far has maintained that firms are primarily motivated to develop organisational change in order to increase their control over the markets in which they operate. It is immediately obvious that government attitude to such a process would play a significant role within this development. It is government which establishes the framework for economic activity, by defining both property rights and the limits under which economic transactions (and opportunist behaviour) can develop. It is also only government that has the ability to enforce these limits, utilising as D.C. North suggests its 'comparative advantage in violence'.<sup>130</sup> In so defining these limits government provides a framework within which firms can further limit their exposure to opportunism. Importantly, this framework is not static and has changed dramatically in the decades after 1945. All of these changes need to be considered in order to understand firms' motivation for adopting organisational change. The business-government relationship is usually viewed as important for defining the market environment in the key areas of international trade and domestic competition policy. However we would also wish to consider the role government itself has as a market for private industry.<sup>131</sup>

In the area of international trade the post-war period has seen significant, but slow, shifts away from closed, protected markets. The collapse of an international trading system in the inter-war years and the emergence of trading blocs proved highly significant for the development of markets for business.<sup>132</sup> Between 1938 and 1950 the

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<sup>130</sup> North, Structure.

<sup>131</sup> This is a point touched on by W. Grant, Business and Politics in Britain, (Second Edition, Hampshire 1993), pp.63-4.

<sup>132</sup> See The Golden Age of Capitalism, eds., S.A. Marglin and J.B. Schor, (Oxford 1991), pp.65-72 for an assessment of the importance the new international order had for economies after 1945.

sterling area grew in importance for British firms, with the share of exports rising from 44.9% to 47.8%.<sup>133</sup> After 1945 this concentration upon what turned out to be slower growing markets is suggested to have hindered business competitiveness.<sup>134</sup> Not until the Dillon and Kennedy rounds of GATT negotiations from 1962 onwards did tariff barriers fall rapidly, leading to a marked increase in international trade.<sup>135</sup> However, the 50% reduction in tariffs resulting from the Kennedy round is also suggested to have raised British imports by as much as 15%, leading to a temporary re-introduction of tariffs followed by the devaluation of sterling in 1967.<sup>136</sup> One of the bi-products of a reduction in tariffs was an expansion in government subsidies to private industry. By 1970-1 UK government subsidies to private industry had reached approximately 7% of total government expenditure from where they doubled in real terms, reaching some £5.5b by 1974-5 before declining in the late 1970s.<sup>137</sup>

The second area in which government is traditionally understood to have had a major impact on business development is through competition policy. The passing of the Monopolies and Restrictive Trade Practices Act in 1948, the Restrictive Trade Practices Act in 1956, the Resale Prices Act of 1964 and finally the Monopolies and Mergers Act of 1965 together created a market environment which was increasingly hostile to collusion and restrictive trade practices. British competition policy is suggested to have converged with that of the United States over this period leading to a

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<sup>133</sup> Cairncross, op.cit., table 2.3.

<sup>134</sup> A.S. Milward, The European Rescue of the Nation-State, (1992), pp.345-424.

<sup>135</sup> J. Foreman-Peck, A History of the World Economy, (Herts, 1983), p.298.

<sup>136</sup> J. Foreman-Peck, 'Trade and the Balance of Payments', op.cit., eds. Crafts and Woodward, pp.161-2.

<sup>137</sup> G. Denton, S. O'Cleireacain & S. Ash, Trade Effects of Public Subsidies to Private Enterprise, (London 1975), p.51 and J. Tomlinson, 'Dead Ducks, Lame Ducks and Little Grey Swans: British Industrial Policy in the 1970s', Brunel University Discussion Papers in Economics, N.9303, (Undated), Table 1, p.11.

managerial corporate economy which closely approximated that of the United States.<sup>138</sup> This convergence was not however an inevitable, gradual or evolving process. Rather Mercer maintains that the demand for anti-cartel legislation was highly contentious. While anti-cartel legislation was promoted by the United States and sections of the labour movement, the timing of its emergence derived largely from debates between British businessmen. She maintains that the removal of restrictive trade practices, leading to more open competition, was a product of agreement from larger, multinational firms that had developed the organisational capabilities to enter into more direct competition. By the early 1960s British multinationals required a more transparent domestic competitive framework in order to prevent retaliatory action in export markets.<sup>139</sup> Anti-cartel legislation, then, was effectively prevented from materialising until British multinationals required liberalisation within the British economy.<sup>140</sup>

While the creation of an international and domestic competitive business environment dominates the literature on links between business and government, government also acted to enable the creation of organisational capabilities through its role as the single largest purchaser of goods and services from private industry.

The displacement effect of the Second World War on government expenditure permanently raised the level of expenditure in relation to national wealth and thus, with the post-war nationalisation programme, increased the importance of the state sector in the British economy.<sup>141</sup> The overall scale of government expenditure in relation to

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<sup>138</sup> T. Freyer, Regulating Big Business: Antitrust in Great Britain and America 1880-1990, (Cambridge 1992), p.269.

<sup>139</sup> Jones and Kirby, op.cit., p.89.

<sup>140</sup> H. Mercer, Constructing a Competitive Order, (Cambridge 1995), p.173.

<sup>141</sup> A.T. Peacock & J. Wiseman, The Growth of Public Expenditure in the United Kingdom, (Oxford 1961).

national wealth is well known. By the end of the 1940s 17% of GDP was accounted for by the public sector (excluding social security transfer payments) and one half of all capital expenditure was accounted for by the public sector.<sup>142</sup> Between 1950 and 1965 central government expenditure on goods and services rose slowly from 19.8% of GDP in 1950 to 20.9% in 1965. This growth was not, however, continuous and expenditure as a proportion of GDP fluctuated around 20% with 1960 being the year of lowest expenditure at 19.7%.<sup>143</sup>

Post-war Treasury concern focused upon re-establishing sterling as a convertible currency and solving problems caused by a shortage of dollars rather than levels of government spending. Similarly government concern over the budget focused on the degree to which budgetary policy could be married with controls for the management of demand, as opposed to the scale of government expenditure.<sup>144</sup> Despite the focus upon macro-economic issues, government was nevertheless also aware of the degree to which its orders were important for business development. The Lemon Committee established to determine whether advantages could be attained through the standardisation of engineering products reported in 1949 that some 30% of engineering products not exported were purchased by the public sector.<sup>145</sup> Elsewhere the Investments Programme Committee under Sir Edwin Plowden in 1947 undertook the

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<sup>142</sup> A. Cairncross, 'The Post-war Years 1945-77', The Economic History of Britain since 1700, ed. R. Floud and D. McCloskey, Vol.2, (Cambridge 1981), Gourvish & O'Day, op.cit., p.113 and Milward & Singleton, op.cit., p.309.

<sup>143</sup> Artis, op.cit., Table 2.6, p.113.

<sup>144</sup> N. Rollings, 'The Reichstag method of governing?', Labour Governments and Private Industry, eds. H. Mercer, N. Rollings & J. Tomlinson, (Edinburgh 1992), p.17.

<sup>145</sup> Ministry of Supply, Report of the Committee for Standardization of Engineering Products, (1949), p.24.

task of limiting capital investment to those that promoted exports and import saving.<sup>146</sup>

More generally still the nationalisation measures were often understood in terms of the efficiency that state ownership, investment and planning could bring.<sup>147</sup>

Although there was some concern over the growth of public expenditure by British governments in the 1950s and 1960s, this concern again centred upon macroeconomic issues; the prevention of destabilising short-term inflationary pressures.<sup>148</sup> It was not until the Plowden Report, in 1961, that concern over the inadequacies of long term planning within government expenditure programmes emerged. As a result, from the 1960s government consciously began using public sector expenditure as a policy option, to promote changes within private industry. Purchasing policies within the nationalised industries, limiting the numbers of companies capable of submitting tenders, and the creation of the Industrial Reorganisation Corporation were both aimed at promoting mergers and rationalisation.<sup>149</sup> The British government's inability to develop successful planning mechanisms increasingly became a central concern of debates on industrial policy throughout the 1960s.<sup>150</sup>

It is also well known that the defence sector represented a major component of government expenditure.<sup>151</sup> In 1950 40% of all public authority expenditure on

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<sup>146</sup> M. Chick, 'Private industrial Investment', *op.cit.*, eds. Mercer, Rollings and Tomlinson, p.77.

<sup>147</sup> See A.A. Rogow, *The Labour Government and British Industry*, (Oxford 1955), p.161

<sup>148</sup> Cairncross, *British Economy*, p.91.

<sup>149</sup> A. Graham, 'Industrial Policy', *The Labour Government's Economic Record 1964-70*, ed. W. Beckerman, (1972), pp.189-91.

<sup>150</sup> See T.J. Hutton & K.A. Chrystal, 'The Budget and Fiscal Policy', *op.cit.*, eds. Crafts & Woodward, p.61 and A. Shonfield, *Modern Capitalism* (1969) and P. Hall, *Governing the Economy*, (Oxford 1986), p.252.

<sup>151</sup> The discussion that follows conforms to the distinction made within the National Income and Expenditure Accounts between public authorities (national and local government) and public corporations (nationalised industries).

goods and services was accounted for by defence and even after wages and salaries are excluded the figure remains at 21%.<sup>152</sup> This expenditure rose by 1953 to 50% (32% excluding wages and salaries) before falling to 35% (19% excluding wages and salaries) by 1965.<sup>153</sup> The next most important area for public authority expenditure on goods and services was in public health. While health spending increased from 17-20% of total expenditure on goods and services between 1953 and 1965, excluding wages and salaries expenditure remained almost static at around 9%.<sup>154</sup> This skewing of expenditure has led Edgerton to suggest that post-war Britain should be characterised as a warfare rather than welfare state.<sup>155</sup>

Outside of public authority expenditure on goods and services, other private industries found support in the form of expenditure on domestic fixed capital formation, direct subsidies and through the public corporations. Local government housing consistently represented the largest single item of gross fixed capital formation in public authority expenditure, despite falling from 50% of the total in 1950 to 37% by 1963.<sup>156</sup> Agriculture and food was similarly the main beneficiary of support in the form of subsidies throughout the period, accounting for 80% of all subsidies in 1950 and 46% in 1965.<sup>157</sup> Within the nationalised industries themselves it was the purchases of goods and services combined with capital expenditure that proved important. Public corporations' purchases of goods and services, excluding

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<sup>152</sup> National Income and Expenditure Tables for the United Kingdom, 1961, table 44 and D.C. Page, 'Defence Expenditure', National Institute Economic Review, No.10 (1960), table 4.

<sup>153</sup> National Income, 1959, table 42, 1961 table 44 and 1966 tables 47 & 53.

<sup>154</sup> Ibid.

<sup>155</sup> See D.E.H. Edgerton, 'Liberal militarism and the British state' in New Left Review, No.185, 1991.

<sup>156</sup> National Income, 1959, table 41 and 1966 table 46.

<sup>157</sup> Ibid., 1959, table 41 and 1966 table 53.

wages and salaries, was throughout the period equivalent to almost 90% of those of the public authorities, while capital expenditure rose from 59% to 86% of the public authorities total.<sup>158</sup>

National Income and Expenditure data suggest that in the post-war years government and the public corporations acted as significant markets for private industry. However it also appears that these markets were changing over time and becoming more diverse. Defence, agriculture and housing all remained important sectors for government expenditure but all saw their shares of total expenditure fall significantly by the mid 1960s.

- Sectoral importance of government expenditure

Input-Output tables provide an opportunity to examine in greater detail the importance of government expenditure for private industry. Input-Output tables derive from post-war governments' interests in economic management. Their origins lie in the work of the economist Leontief in the 1930s on interdependence of industry within economies.<sup>159</sup> The flow of goods between industrial sectors, and the need to understand the impact of increases in output from individual sectors upon the economy as a whole, led to their widespread use. Input-Output tables use an industry x industry flow matrix to show the dis-aggregated value of purchases of intermediate goods between industries. They also provide aggregated information on final product purchases for current expenditure by consumers and government along with final

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<sup>158</sup> Ibid., 1959, tables 30, 34, 41 & 42 and 1966 tables 36, 47 & 52.

<sup>159</sup> See W. Leontief, Input-Output Economics, (New York, USA 1966), p.134 and W.W. Gossling, Input-Output of the United Kingdom: Proceedings of the 1968 Manchester Conference, (1970).

product purchases leading to domestic capital formation, imports, exports and final output.

Table 1.1 shows the purchases from industry by the public sector (public authorities and public corporations combined), excluding expenditure related to gross domestic capital formation, where they account for over 10% of final domestic output, for the years 1948 and 1963.<sup>160</sup> The table clearly highlights a growing importance of government orders for a wide range of industries by the mid 1960s. This is consistent with the evidence from National Income and Expenditure Tables and suggests that government was increasingly becoming integrated into the whole of the British manufacturing sector as the period developed.

In the case of the aircraft industry public sector orders were almost entirely responsible for the survival of the industry. In the heavy mechanical and high technology industries, including the shipbuilding, locomotive building, radio and telecommunications and scientific instrument industries, the public sector accounted for around 40% of domestic orders. For a wider range of industries outside of the heavy mechanical engineering sector, including the pharmaceutical, oil, wires and cables, rubber, small arms and general mechanical engineering industries, the public sector again represented a key market with around a quarter of total demand.

Below this the public sector was a major market, responsible for over 10% of domestic orders, in a diverse range of industries including domestic electrical appliances, electrical machinery, printing and publishing and lubricating oils, polishes, explosives and general chemicals.

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<sup>160</sup> Input-Output tables primarily relate to intermediary products and therefore do not disaggregate domestic capital formation sufficiently to distinguish between the public sector and private industry.

Table 1.1<sup>161</sup>

Public Sector Purchases of Goods and Services from Manufacturing Industry  
as a Proportion of Domestic Output in 1948 and 1963<sup>162</sup>

	<b>1948</b>	<b>1963</b>
<b>Aircraft</b>	77	80
<b>Shipbuilding &amp; Marine Engineering</b>	13	43
<b>Locomotives, carriages &amp; railway equipment &amp; other vehicles</b>	17	42
<b>Radio and Telecommunications</b>		39
<b>Scientific instruments</b>	12	36
<b>Oils &amp; Greases<sup>163</sup></b>	54	26
<b>Pharmaceutical &amp; toilet preparations</b>	10	26
<b>Insulated wires &amp; cables</b>		25
<b>Motors &amp; cycles</b>	25	
<b>Rubber</b>	22	20
<b>Ordnance, small arms, general mechanical engineering &amp; other mechanical engineering</b>		17
<b>Domestic appliances &amp; miscellaneous electrical goods</b>		14
<b>Electrical machinery</b>		14
<b>Wood &amp; cork</b>	13	
<b>Industrial Engines</b>		12
<b>Engineers small tools</b>		11
<b>Printing &amp; Publishing</b>		11
<b>Chemicals, lubricating oils, dyestuffs, explosives, polishes &amp; allied industries</b>	17	10
<b>Construction</b>		10
<b>Machine tools</b>	10	

It should be borne in mind that these results are open to significant under-estimation measurement errors and should be considered as minimum orders of

<sup>161</sup> See Appendix One for a detailed account of the way in which this table was generated.

<sup>162</sup> Sources: Input-Output Tables for the United Kingdom, 1963, (1970), table 9 public authorities expenditure on goods and services, table A make-matrix and table D industry x industry flow matrix and I.G. Stewart, 'Input-Output Table for the United Kingdom', The Times Review of Industry, December 1958, pp.vii-ix.

<sup>163</sup> Classified as Mineral oil refining in 1963 tables.

magnitude rather than exact calculations, due to limitations of the data. In particular, within the shipbuilding, locomotives and electrical machinery industries it would be expected that public sector orders would be significantly higher. The explanation for this lies in the fact that the input-output data primarily refers to expenditure on goods and services and does not include detailed data on expenditure leading to increases in gross domestic capital formation. In the three industries mentioned the proportion of domestic output accounted for by increases in gross domestic capital formation in 1963 were 47% for electrical machinery, 30% for shipbuilding and 24% for locomotives.<sup>164</sup>

National Income and Expenditure tables contain data on public sector expenditure leading to increases in gross domestic fixed capital formation within the broad categories of plant and machinery, vehicles, ships and aircraft and finally construction (dwellings and other new buildings combined). Table 1.2 shows the results of combining National Income and Expenditure data on capital formation with input-output data on expenditure on goods and services.

Table 1.2 further highlights the growth of public sector orders for a widening range of British manufacturing. Plant and machinery sectors' reliance upon public sector orders increased rapidly in the fifteen years covered by this data, while in the vehicles, ships and aircraft sectors' reliance grew only slowly. If the 1954 categorisation is used, combining vehicles, ships and aircraft with plant and machinery, we find that the growth in the public sector as a market rose from 16.5%, 26.8% and 27.4% in the years 1948, 1954 and 1963 respectively. The construction industry

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<sup>164</sup> Input-Output Tables 1963, table D, columns 77 & 78.

similarly is also highlighted as a major recipient of public sector orders throughout the period.

Table 1.2<sup>165</sup>  
Public Sector Orders as a Percentage of Total Domestic Output 1948-63<sup>166</sup>

	1948	1954	1963
<b>Plant and Machinery</b>	11.22	26.77	24.16
<b>Vehicles, Ships and Aircraft</b>	33.67		38.06
<b>Construction</b>	49.01	52.87	48.97

Over the period 1948-63 there was clearly a shift in the pattern of public sector purchases from private industry. The public sector also represented a larger share of sales to private industry by the early 1960s. While deficiencies within the data make it impossible to show either the exact timing of changes or intermittent fluctuations, they nevertheless present a clear picture of the direction in which the changes were taking place. The public sector as a market was clearly becoming more influential for a significant number of important private industries and firms were increasingly becoming dependent upon its orders for their success. Initially the aircraft, construction

<sup>165</sup> See Appendix One for a detailed account of the way in which this table was generated.

<sup>166</sup> Sources: National Income and Expenditure, 1955, table 51 and, 1969, table 52, Stewart, op.cit., table 2, column 61 minus column 58 and total state purchases derived from table 2, columns 53, 54 and 55 along with table 1, columns 4, 45, 46 and 47, Board of Trade, Input-Output Tables for the United Kingdom 1954, Studies in Official Statistics, No.8, total domestic output for sectors 14-23 inclusive is derived from Table B, column 51 minus column 48. Total state purchases of intermediary and final products is derived from Table A, columns 2, 43,44 and Table 1, column 15. Input-Output Tables 1963, Table 9 for government current account expenditure.

and shipbuilding industry appear as key recipients of public sector orders but this rapidly diversifies to capture virtually all the electrical and mechanical engineering industries and important sectors of the chemical, pharmaceutical and even paper and printing industry.

The emergence of the public sector as a market also appears to coincide chronologically with the development of more stringent competition policy within government from the mid 1950s. The state emerged as a more important partner in the late 1950s and this may well have heightened governments' interest in adjusting the balance between competition and collusion in markets. Alternatively, it may be that in Mercer's framework British business was finding in public sector orders a mechanism for the creation of organisational capabilities which then allowed for the acceptance of the removal of restrictive practices.

- Conclusion

The need to understand the market not as an ahistorical being with its own dynamic but as an institution created and shaped by the need for productive organisations, namely firms, to compete for power is necessary in order to draw the maximum benefit from analysis such as Lazonick's. In such a scenario firms should be understood as risk-averse institutions who are motivated to develop organisational capabilities by their need to control information.<sup>167</sup> Unfortunately, even Lazonick himself appears to shy away from such a conclusion, preferring to limit his criticisms of transaction cost analysis to its lack of understanding of the internal benefits of organisational capabilities. The way in which the institution of the market is shaped

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<sup>167</sup> Richardson, op.cit., pp.173-190.

and altered, through the business-government relationship, therefore takes on a crucial importance in the understanding of the rise of organisational capabilities and needs to be incorporated into a Lazonick/Chandlerian framework in order to fully exploit the insights of their theories.

The discussion above has set out the hypothesis that firms are themselves motivated by the need to control and direct the institution of the market. The discussion further suggested that if the market is indeed an institution then firms should be considered not as transaction cost minimisers but as governance bodies. The ability of firms to succeed in influencing the institutional development of the market is also dependent upon the role of government and oligopolistic firms links to government. Further, the tendency towards sclerosis lies in the inter-relationship and contradictory pressures created between firms' control over the institutional development of the market and the impact of the market on firms themselves.

In order to test the central hypothesis and the subsequent suppositions, the rest of the thesis will examine the development of British industry in the two decades after 1945. In particular we are interested in the movement away from government-imposed, wartime regulation towards de-control and finally the emergence of competitive markets by the early 1960s. In wartime government regulated all aspects of the market, including raw material supply, price, company profitability, labour supply and consumer demand, but by the mid-1960s government regulation and company restrictive practices had been abandoned. The focus of the following chapters is, then, the transition from one competitive framework to another. The chapters' examine how firms responded to these changes. What role did information play in this transition?

Did links to government have an impact?; Did ownership matter and, most fundamentally, how responsive were firms to change?

The following three chapters chart these changes through an examination of firms in three industries. The firms and industries are chosen not for their similarities but rather to test these developments across a small but diverse sample and to gain evidence of the broad range of competitive issues facing firms in this period of rapid changes in market structure.

It is immediately obvious that this thesis concentrates upon a supply-side explanation of change. This is not to remove issues of demand as important elements within these developments. Rather it is to emphasise that firms need to be understood as the active agents in this process. In order to address this imbalance each chapter begins with a discussion of demand side changes before addressing the question of how firms responded and adapted under conditions of uncertainty.

The firms covered in the case studies<sup>are</sup> the Anglo-Iranian Oil Company (subsequently renamed B.P.), the three firms which combined together to form the General Electric Company by 1968 and the grocery retailer J.Sainsbury. All three proved to be highly successful in the post-war period. Their success suggests that not only were they all capable of responding well to changes within the market environment but, if the hypothesis is correct, they were also successful in adapting the market environment to their own advantage.

Finally, in the conclusion the thesis returns to a theoretical approach based upon a transaction cost analysis to discuss the degree to which firms' use of information and an institutional perspective of markets informs our understanding of

business history and economic development. The conclusion will also examine further hypotheses emerging from this study and possibilities for future research.

- Chapter Two
- The Anglo-Iranian Oil Company 1945-54: Successful market governance.

*'for the purposes of the case, [the company is]  
indistinguishable from the government of Great Britain.'*<sup>1</sup>

- Introduction

The oil industry must be the prime example for any study examining the ability of business to govern markets. The industry is arguably the most famous case of an industry dominated by the cartelized control of production.<sup>2</sup> Ever since the oil price shocks of the 1970s the Organisation of Petroleum Exporting Countries, OPEC, has been synonymous with restrictive controls preventing the operation of the 'free market'. The reputation of the oil industry is not however simply linked to OPEC. Prior to the emergence of OPEC, the oil industry had won itself an almost unchallenged reputation for oligopolistic practices and profiteering. The fully integrated major oil companies, dubbed the Seven Sisters, were the focus of damning criticism from nationalist opposition movements within oil producing countries and the historiography of the oil industry is dominated by criticism of the power of the majors.

The oil industry has been accused of structuring markets nationally and internationally to exploit consumers in the advanced world. Thus 'transnational firms

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<sup>1</sup> Explanation given by Judge Kirkland of the U.S. Federal District Court for quashing the subpoena issued against the Anglo Iranian Oil Co., by the U.S. Justice Department during anti-trust investigations. *Times*, 16 December 1952.

<sup>2</sup> See A. Sampson, *The Seven Sisters*, (1975) and D. Yergin, *The Prize*, (1991) for two of the most popular histories of the industry.

view individual states as resources to provide conditions amenable to business'.<sup>3</sup>

Alternatively the oil majors are presented as a mechanism through which the first world exploits the wealth and resources of the third world. They have been dubbed western governments' willing 'vehicle of the national interest' on the understanding that, in international commercial oil matters, a policy of economic liberalism, i.e. no direct government involvement, would be pursued in return for the companies' active participation in the promotion of their government's international interests.<sup>4</sup>

The oil industry has certainly been recognised as an industry with major strategic importance for all industrialised nations. Most famously this was stated immediately after the First World War by Lord Curzon, a member of the British War Cabinet and later Foreign Secretary, who recognised that 'The Allied cause had floated to victory upon a wave of oil'.<sup>5</sup> As recently as 1991 the access to reserves and the control over the production of oil provided the major reason for a further war in the Middle East. While this strategic importance suggests a continuity in the relationship of the oil industry to governments, it is also the case that the nature of the relationship and the structure of the industry itself has changed dramatically over the period.

It is this changing relationship that has provided a qualification to the dominant historiography. Bamberg, author of the second volume of the British Petroleum Company's, (B.P.), official history, has suggested that, rather than the oil majors dominating government policy, they were simply attempting to cope in an 'unstable and uncertain environment'. B.P. in particular was subject to severe economic fluctuations and suffered from being a 'pawn' in a global ideological conflict between

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<sup>3</sup> G.P. Nowell, Mercantile States and the World Oil Cartel 1900-39, (New York 1994), p.286.

<sup>4</sup> D.S. Painter, Private Power and Public Policy, (1986), p.208.

<sup>5</sup> Quoted in Yergin, op.cit., p.183.

superpowers.<sup>6</sup> The oil industry, then, in more acute form than any other industry, embodies the issues involved in the original hypothesis concerning structuring of markets. Our hypothesis suggests that firms' activities are understandable in terms of their attempts to control and change their environment. The reason why firms are required to control their environment lies in the difficulties they face due to opportunism and, most importantly, information asymmetry. If firms are to reduce their exposure to opportunist behaviour they are required to control the flow of information to markets. Vertical integration, collusion, price controls and market sharing therefore become understandable as methods of influencing information flows, or of governing the market.

- Issues and Hypotheses

The chapter examines the degree to which the institutional framework of the oil industry was intimately linked to the continued presence of the major oil companies and, further, examines the complex linkages between the companies and the governments of both the developed and newly industrialising world. To what degree would the removal of any major element of those linkages or an individual player have disturbed the entire institutional framework throughout the world?

This chapter also examines the degree to which the oil companies themselves have been successful in controlling their environment. In particular the chapter will examine whether the British government was simply a malleable institution captured by transnational capital, or, was the Anglo-Iranian Oil Company, AIOC, merely an

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<sup>6</sup> J. Bamberg, The History of the British Petroleum Company: The Anglo-Iranian Years 1928-54, Vol.2, (Cambridge 1994), pp.517-21.

expendable firm whose disappearance would not have had severe repercussions for the rest of the oil industry?<sup>7</sup>

The focus of the chapter is the development of the industry between 1945 and the mid 1950s, with a specific emphasis upon the changes that took place within the AIOC. This ten year period is the shortest of any of the three case studies and is due to the influence of international considerations upon the oil industry. Decisions on the timing on the removal of wartime controls were not the preserve of individual governments. While the British government could maintain domestic petrol rationing until 1950, it was unable directly to influence the growth of demand internationally. Hence both oil exporting and importing countries required the relaxation of controls over the trade in oil from the earliest possible date. International aspects of demand and supply also dominated oil company strategy. This was not simply due to the fact that crude oil originates in one part of the world and is used in another, but was linked to the very structure of an oil industry itself, based upon a high level of vertical integration and multinational operations. It will be suggested that the structure of the industry is intimately bound-up with and determined by the specific needs of market governance. It will also be suggested that the regulation of the market also determines the external barriers of the oil companies themselves. As a result it will be possible to determine whether the oil industry is as collusive and anti-competitive as much of the historiography maintains; or was the oil industry simply a more visible example of businesses' attempts at market governance?

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<sup>7</sup> The Anglo-Iranian Oil Company, AIOC, had been known as the Anglo-Persian Oil Company until 1935 and has been known as British Petroleum since 1955. This chapter will refer to AIOC throughout.

Essentially the chapter will show that the immediate post-war period presented the major oil companies with a dilemma of how to regulate markets. Could the companies prevent a return to the slump conditions of the 1930s, while simultaneously reconciling the political demands of the victorious allied powers for a plentiful and cheap supply of oil to all friendly nations? The key to the resolution of this dilemma lay in information flows. Crucially, could information related to the market (absolute size and growth of demand) be translated into co-ordinated activity, among those with interests in production, to ensure an equilibrium between demand and supply was achieved?

To emphasise the international nature of the industry is not to underestimate the importance of the British market. The chapter documents developments within the British oil market in order both to highlight the detailed way in which oil companies themselves reconciled international issues, within a particular market, and to highlight the difficulty firms faced interacting with government institutions. The chapter maintains that the government/industry relationship in Britain, although not without conflict, was in general extremely favourable towards the oil industry and AIOC in particular. This relationship also proved crucial to the creation of a stable market structure in an industry containing a small number of multinational oligopolistic firms.

Finally, it will be shown that the changes in the structure of the industry required the companies themselves to examine their own internal structure. Changes in the post-war industrial structure required new forms of company organisation to ensure that a continued balance between supply and demand could be maintained. As a result not only did the oil companies adjust their production processes, to maximise the use of continuous flow techniques, but companies also altered the boundary between

internalised transaction costs and external market operations. However external constraints, placed on the ability of companies to adopt new organisational forms, also hindered their ability to alter the structure of the industry itself. Hence the relationship between company organisation and industrial structure should be seen as a dynamic and inter-dependent one.

- Demand for Oil

The description of the post-war world growth in demand for oil inevitably relies upon adjectives such as enormous, gargantuan or exponential. In order to satisfy rising demand, daily crude oil production, in the free world alone, rose from 8.7 million barrels in 1945 to 42 million barrels by 1972.<sup>8</sup> By the 1950s, measurement errors of a billion barrels 'or so' in estimated reserves for individual fields were no longer considered important.<sup>9</sup>

In order to gain some understanding of this growth the measurement of rising demand will be restricted to the British economy. The British market for oil products was not untypical of economies in the developed world and, of equal importance, growth in demand was not unrepresentative. The British market was the second largest single market for oil products (outside Russia) and of major importance for oil companies throughout this period.

Consumption of petroleum products in Britain had grown almost continuously throughout the interwar period, even in the worst years of the recession. The total increase in inland consumption from 2.6 million tons per annum in 1921 to 9.0 million

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<sup>8</sup> Yergin, op.cit., p.500.

<sup>9</sup> Letter by the geologist E. DeGolyer to F.E. Wellings of the Iraq Petroleum Company. Ibid., p.499.

tons at the peak in 1938 represented a 246% increase.<sup>10</sup> This growth in consumption came overwhelmingly (73%) from the rise in demand for motor spirit (including aviation spirit) whose consumption rose 568% and for fuel and diesel oil whose consumption rose 232%. The 1930s saw at first a slowing down of the rate of increase in consumption and in 1939 a slight fall in consumption, (see Figure 2.1). Thus by the start of the Second World War total inland consumption of petroleum products was a little under 9.0 million tons per annum.

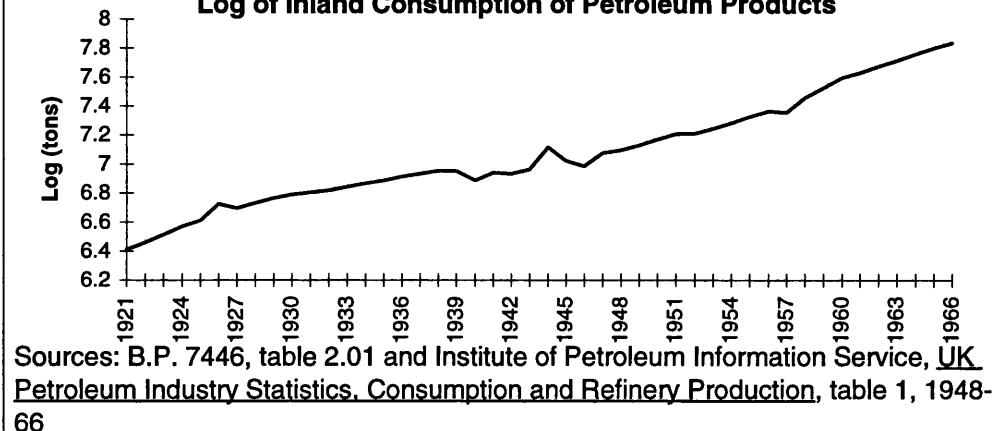
The war years themselves saw a more mixed picture. An initial fall in consumption in 1940 of 1.2 million tons, almost exclusively accounted for by a fall in motor spirit, was followed by a period of generally static consumption between 8.6-9.1 million tons per annum between 1941-43. Another significant change lay in the redistribution of consumption patterns, with a fall in most areas counteracted by a rise in consumption of aviation spirit. In 1944, however, a rapid increase took place, with consumption reaching a new peak of 13.0 million tons. This increase was almost entirely accounted for by a rise in military consumption of aviation spirit; it was only temporary: total consumption was to fall back again to 9.6 million tons by 1946. This was again almost entirely due to falls in demand for aviation spirit and in fact virtually all other oil products saw a rise in consumption. Nevertheless by 1946 total consumption was higher than in any year prior to the war.<sup>11</sup>

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<sup>10</sup> All figures for consumption refer to inland consumption excluding refinery consumption and bunkering and unless specified otherwise, derive from British Petroleum Archive (hereafter B.P.) 7446, Petroleum Statistics of the British Isles 1954, Table 2.01 and Institute of Petroleum Information Service, U.K. Petroleum Industry Statistics, Consumption and Refinery Production, Table 1, years 1948-66.

<sup>11</sup> Official government figures for wartime consumption differ from those quoted above, although the trends discussed do not. See Fighting with Figures, (1996), table 5.16.

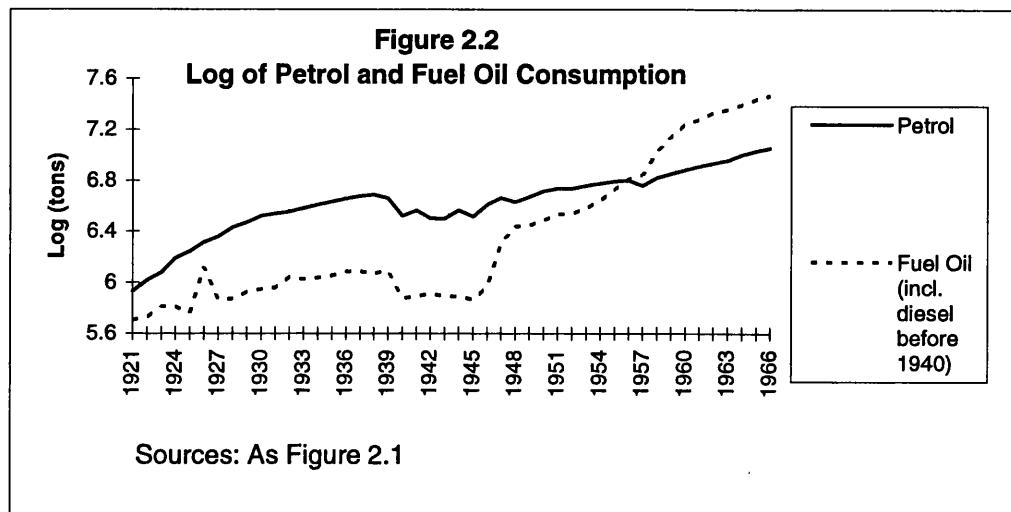
**Figure 2.1**  
**Log of Inland Consumption of Petroleum Products**



The years 1946-66 saw an acceleration in the growth of demand, compared with the interwar years, with consumption rising from 9.6 million tons to 68.4 million tons per annum, an increase of 673%. While motor spirit consumption rose 277% and accounted for 12% of the total increase, the most important component element in the rise in consumption now came from fuel oil, whose increase alone accounted for 48% of total growth (see Figure 2.2). Sales of other petroleum products such as diesel fuel, along with gas and diesel oils, also increased and new products such as light distillate and chemical feedstock, which had previously been of little significance, became important elements in the pattern of consumption.

Demand for refined oil products was strong and growing throughout the period under consideration. The growth in mass markets was intimately linked in the interwar years to the newly developing industries, notably the car industry. It was the emergence of the car industry that provided the market for motor spirit and provided an outlet for over 50% of the oil industry's products in these years, measured either by quantity or price. However by 1956 fuel oil had overtaken motor spirit as the single largest product, by quantity, in the British market for the oil industry. If fuel oil is taken with

gas and diesel oils then the demise of motor spirit as the premier product came in 1954.<sup>12</sup>



Order of magnitude estimates derived from input-output tables show that by 1963 sales related to the motor industry must have been well below 40% of domestic consumption.<sup>13</sup> Increasingly the oil industry's growth was reflecting not merely the growth of the motor industry but the growth of industry generally. Oil's importance was as an intermediary product for industry, as opposed to a consumer product for owners of motor vehicles. In industries with large energy requirements, oil provided a flexible substitute for more traditional solid fuels. Markets were also found among smaller users for the central heating of offices, flats and industrial units.<sup>14</sup>

<sup>12</sup> Institute of Petroleum Information Service, *ibid.*, table 1, 1957.

<sup>13</sup> Input-Output Tables for the United Kingdom for 1963, (1970), table D. If all intermediate purchases from the motor vehicles and transport industries are included and the (invalid) assumption is made that all final product purchases by consumers and public authorities are purchases for motor vehicles, then total purchases account for 39% of total domestic consumption.

<sup>14</sup> For contemporary discussions on the uses of fuel oils see C.A. Roast & W.E.J. Broom, 'Place of Fuel Oil in the U.K. Fuel Economy', Institute of Petroleum, The Post-War Expansion of the U.K. Petroleum Industry, (1954).

This was part of a general trend away from solid fuels. Government policy from the late 1940s was to increase coal and oil supplies and prevent any further coal shortages of the kind that had developed in the years after 1945. Although the demise of coal was still many years ahead, the weakening of the dominance of coal as an energy source had begun. The shift away from coal was so strong that, even when the government attempted to slow the contraction of the coal industry in order to maintain employment levels in the early 1960s, the rise in consumption of fuel oil continued relentlessly.<sup>15</sup>

The replacement of coal by oil was an international phenomenon. Throughout Europe the market for oil as a source of energy was increasing. Britain lagged behind France and Italy in replacing coal, although Britain was ahead of West Germany throughout the 1940s and 1950s. In terms of energy consumption per capita, however, Britain was ahead of other European countries until the 1970s.<sup>16</sup>

- Limitations on domestic demand

Although demand increased rapidly after 1945 it did not do so free from all restrictions. The restrictions upon demand reflected both the difficulties of readjustment in the aftermath of the Second World War and the rapidity with which growth in demand for oil products re-established itself.

Wartime regulations restricted the quality of motor spirit to one grade through the limitation on octane content. The use of pooling until 1948, whereby all producers supplied the Petroleum Board who in turn supplied retailers with unbranded products, also prevented oil companies from marketing products. On top of this, quantity

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<sup>15</sup> Yergin, op.cit., p.544.

<sup>16</sup> P. Odell, Oil and World Power, (seventh ed. Middlesex 1983), figure 1, p.118.

controls, via the rationing of motor spirit for private motoring, continued until 1950.

Post-war pooling and rationing of motor spirit was the consequence of the combined shortages of physical supply and shortages of hard currency to pay for imports.

British fuel and power demands were restricted through a shortage of all fuels, most importantly coal, which was still responsible for supplying 90% of all energy requirements in 1952.<sup>17</sup> Shortages of coal encouraged the British government to promote the use of fuel oil as a replacement for industrial purposes. In 1947 the oil companies and government clashed over the companies' inability to supply adequate quantities of fuel oil to Britain. Within a year the coal/oil conversion campaign was abandoned.<sup>18</sup>

A more long lasting restriction was that imposed by the shortage of dollars. With the end of the war in the Pacific came a rapid abandonment of the United States policy of wartime economic support. The economic benefits derived from the U.S. Lend-Lease agreement were unilaterally withdrawn from the British government two days after the Japanese surrender. Despite the explicit stipulation, in the U.S. Congress at the time of approval, that aid would be withdrawn on cessation of the war, its removal caused consternation within the British government. The funding from Lend-Lease had been used to finance two-thirds of Britain's external deficit during the war; its removal therefore magnified the difficulties of re-conversion. These problems were still further compounded by the surge in exports from the United States between 1946 and 1947. In 1947 the U.S. trade surplus amounted to over \$12b.<sup>19</sup>

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<sup>17</sup> Ibid., p.118.

<sup>18</sup> See Bamberg, op.cit., pp.315-321.

<sup>19</sup> A. Cairncross, Years of Recovery, 1945-51, (1985), p.70.

The dollar shortage was not, of course, simply a British problem; rather it affected the whole of the European continent and indeed the world economy. It also ensured that the solution to the problem, Marshall Aid, would place the United States at the heart of economic and political settlement within Europe.<sup>20</sup>

The dollar shortage placed limitations upon the rise in sales of oil, due to the unwillingness of the British government to purchase oil from American companies, who required payment in dollars.<sup>21</sup> Attempts by the British government to encourage domestic oil companies to increase their operations (which would either reduce dollar payments or earn dollar exchange) was, as will be documented, at the heart of difficulties between the government and the British oil companies in this period.

Difficulties in satisfying demand were not restricted to governments but were also linked to company activity. The effect of the war was to ensure government action significantly distorted the structure of consumption patterns between 1940 and 1945, altering the demands on oil companies and in turn impacting upon firms' post-war decisions. The major oil companies believed, towards the end of the war, that the slight 1938-49 fall in consumption could reassert itself and, as will be shown, these views proved crucial to explaining the actions of the major oil companies after 1945. Although expectations changed with post-war experience, the combination of government's attempts to address re-conversion issues and companies' attempts to

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<sup>20</sup> See A. Carew, Labour under the Marshall Plan, (Manchester 1987) and A. Milward, The Reconstruction of Western Europe 1945-51, (1984) for more on the wider political and economic issues relating to Marshall Aid.

<sup>21</sup> See C.R. Schenk, 'Exchange controls and multinational enterprise: the Sterling/Dollar oil controversy in the 1950s', (Unpublished paper 1995) for details of British government policy and H.R. Larson, E.H. Knowlton & C.S. Popple, History of Standard Oil Company (New Jersey). New Horizons 1927-50, (New York), pp.701-713 for the impact on the Standard Oil Co. (New Jersey).

forecast demand resulted in an intensification of the difficulties of ensuring adequate supply.

- Supply and government regulation

It is in the area of supply that changes in government and company activity can most easily be seen. The post-war period saw rapid changes in the supply of oil products to importing countries. Western economies rapidly developed domestic refining capabilities in the first decade after 1945. Before 1940 only around 25% of British demand for refined products was satisfied from domestic refineries whereas after 1945 consumption was increasingly satisfied through domestic refining. The growth of domestic refining was such that a net surplus of refined products existed by 1952.<sup>22</sup> It is important to note that, although a surplus of refining capacity existed in Britain, refined imports still continued, although in diminished quantities, due to the fact that not all product lines had a domestic surplus and at other times imported refined products were cheaper than domestically produced products.

The decision to increase domestic refining was one of the main changes in companies' investment strategies after 1945. This shift was an international phenomenon, with governments using a 'carrot and stick' approach of offering tariff protection to oil companies.<sup>23</sup> Shortages of dollars for imports and possible dollar earnings from exports of refined products also played a major role in promoting domestic refining. In Britain the wartime ban on imports of Russian oil continued both to promote domestic refining and reduce dollar payments.

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<sup>22</sup> B.P. 7446, *op.cit.*, table 1.10.

<sup>23</sup> Odell, *op.cit.*, p.112.

The companies themselves also had commercial reasons for rapidly adopting domestic refining. Transportation costs were falling as large oil tankers began to be commissioned and the siting of refineries outside the Middle East acted to spread the political risks taken by companies such as AIOC. Despite domestic refining increasingly being supported by both governments and companies, the move towards domestic refining was not a smooth one. The issue was at the centre of debate between oil companies and their respective governments.

In contrast to demand (where world trends could be examined through the British experience), it is virtually impossible to understand changes in British supply without examining changing trends within world supply. International issues dominated supply considerations for the oil companies. A further contrast with demand lies in government's role in influencing supply patterns. Whereas government policy was unable to prevent an inevitable rise in demand, government policy, particularly that of the United States, played a decisive role in determining post-war developments in supply. After the Second World War the Middle East became the centre for oil exploration. Between 1948 and 1972 Middle East output of crude oil was to rise from under 13% to over 43% of world production.<sup>24</sup> By 1956 the Middle East also contained over 63% of the world's proven reserves.<sup>25</sup>

Towards the end of the war worries within the United States over the extent of domestic oil reserves led the government actively to promote oil exploration outside the U.S.A. and, as a result, the new emphasis upon the exploitation of Middle East oil was directly shaped by United States government policy. Government concern for

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<sup>24</sup> Yergin, op.cit., p.500.

<sup>25</sup> The Structure of British Industry, ed. D. Burn (Cambridge 1958), Vol.1, p.158.

adequate supplies lay at the heart of the partnerships which had emerged between the governments of Britain and America and their respective oil companies.

By the outbreak of the First World War governments had recognised that oil was to be of major strategic value within developed economies. This recognition came earlier in Britain than in the United States, probably due to the fact that Britain was a nation without significant known oil reserves, whereas the United States remained a net oil exporter until after 1945. As a result of the economic and military role of oil and the strategic value governments placed on it, government links to the oil industry were inevitably to be close, with the consequence that companies' needs were important considerations both for foreign policy and competition policy.

By the end of World War One the United States government was ensuring that domestic oil companies were taking full part in the division of the old Ottoman Empire and gaining access to Middle East oil concessions.<sup>26</sup> Indeed government intervention was essential for the inclusion of United States companies in the oil concessions of the 1920s. The demand for an 'open door' policy to oil concessions, i.e. inclusion of United States interests, would not have developed without the explicit intervention of the United States government.<sup>27</sup> Once the U.S. majors had gained entry into the Middle East concession agreements, the open door policy was however 'pragmatically' forgotten with the 'self denial' clause of the Red Line Agreement.<sup>28</sup> The 'self-denial' clause prevented further exploration within the Red Line area, covering the whole of

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<sup>26</sup> See Larson, Knowlton & Popple, *op.cit.*, p.43 for details of the origins of the Red Line Agreement.

<sup>27</sup> An account sympathetic to the U.S. oil companies makes plain that it was the State Department that was most insistent upon an open door policy. See S.J. Randell, *United States Foreign Oil Policy 1919-48*, (Montreal, Canada 1985), pp.37-38.

<sup>28</sup> *Ibid.*, p.40.

the Middle East with the exception of Iran and Kuwait, without the prior agreement from all participants to the agreement.

From 1943 these concerns also led the U.S. Petroleum Administration to believe that the 'national policy of the United States should aim at securing, for American nationals, access to the world's oil resources.'<sup>29</sup> Middle East oil was of such importance that Harold Ickes, appointed by F.D. Roosevelt as Petroleum Coordinator for National Defence in 1941, urged the government to take a proprietary and managerial control of U.S. foreign operating companies.<sup>30</sup> Although the proposal was abandoned, this highlights the growing concern of the United States government over Middle East oil.

After 1945 the Truman doctrine, for the containment of the spread of communism, ensured that United States oil companies would actively participate in oil exploration in the Middle East, in order both to guarantee long term oil supplies for the U.S. and to increase the United States' influence within the Middle East, to counter the threat of the Soviet Union.<sup>31</sup> It was these concerns that led the American owned oil majors to call for a re-negotiation of the Red Line agreement after 1945. As Holman, the President of Standard Oil (New Jersey) stated 'There had been a substantial change in the attitude of the American public and Government toward restrictive agreements and, under current conditions, reaffirmation of the agreement seemed inadvisable.'<sup>32</sup>

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<sup>29</sup> R.H.K. Vietor, Energy Policy in America since 1945, (Cambridge 1984), p.29.

<sup>30</sup> Ibid., p.29 and Randell, op.cit., p.142.

<sup>31</sup> Randell, op.cit., pp.236-244 and Vietor, op.cit., p.15.

<sup>32</sup> United States Federal Trade Commission, The International Petroleum Cartel, (Washington USA, 1952), p.101

The British government was also attempting to reassert its influence in the Middle East after the Second World War.<sup>33</sup> British oil needs throughout the period from 1921 to 1966 were almost exclusively satisfied through imports. Prior to 1940 the four most important sources for oil imports, in decreasing order, were Venezuela, Iran, the United States and Russia;<sup>34</sup> yet by 1951 the Middle East alone provided over 80% of supplies.<sup>35</sup>

The motivation of the British government's interest in the Middle East was however somewhat different to that of the United States. British companies already controlled exploration across large parts of the Middle East through AIOC's exclusive Iranian concession and through AIOC's support for the 'self denial' clause. Neither was the British government as obsessed with the Soviet threat as the Americans. Instead domestic economic issues played a central role in determining policy, most notably British government attempts to reduce the economy's reliance upon dollar purchases. To alleviate balance of payments constraints, the British restricted dollar oil imports to oils (such as lubricating oil) which could not be obtained elsewhere than from dollar sources.<sup>36</sup>

By 1945 then, both the British and United States governments were keen to ensure the participation of the oil majors in the development of the post-war settlement. However, the oil companies themselves had a differing viewpoint: their concern was to ensure that supply did not exceed demand. To understand the differing attitude of the oil industry after the Second World War it is necessary to understand

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<sup>33</sup> J. Saville, The Politics of Continuity. British Foreign Policy and the Labour Government 1945-6, (1993).

<sup>34</sup> Yergin, op.cit., pp.236 and 264.

<sup>35</sup> The Petroleum Times, 4th May 1951, p.337.

<sup>36</sup> Bamberg, op.cit., pp.321-4.

why the industry was characterised by a small number of fully integrated firms and why these firms faced a crisis in the 1930s. It was these experiences that informed company thinking throughout the industry in the post-war years.

- Imperfect competition and company regulation

The oil industry's early development was technologically determined by the ability to transfer experimental chemical and engineering knowledge into applied processes. The origins of the modern oil industry lie in the 1850s and derive from the ability to break down crude oil into lighter component mixtures to create saleable products.<sup>37</sup> The crucial technologically determining element for the industry was the progression from batch production to continuous flow techniques in the refining process. The first commercial continuous flow refining plant originated from 1885 and rapidly became the normal method of refining, allowing for greater throughput of crude oil. Useable products had initially been created by the repeated vaporisation of heavy crude oils but the replacement of vaporisation first by cracking and in the 1930s by catalytic cracking ensured that the oil industry could rapidly increase throughput.<sup>38</sup>

The use of continuous flow technologies determined the structure of the industry which emerged in the late nineteenth and early twentieth century. Oil companies were required both to secure a steady source of crude oil, ready for processing, and secure a steady supply of outlets for the products. Under these conditions information relating to final product markets had to be matched with information relating to sources of raw materials and information relating to production and transportation capabilities. This therefore required companies either to create

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<sup>37</sup> Burn, op.cit., p.158.

<sup>38</sup> British Petroleum, Our Industry, (3rd ed. 1958), p.13.

capabilities, or to make long term contracts, for transportation from oil fields to refineries, refining, then further, often, international transportation and local distribution and sales networks.

The need for fine balances between supply, refining, distribution and sales was of primary concern to industries, such as the oil industry, which relied upon continuous flow technology.<sup>39</sup> It was this striving for a balance between demand and supply that is central to an understanding of the oil industry.<sup>40</sup> Not surprisingly, the first company to emerge capable of maximising the use of continuous flow technology, with an investment strategy based on vertical integration, appeared in the economy with the largest single market for oil products, the United States. The Standard Oil Company was the largest company in the U.S. until 1902 and thereafter it remained the second largest company until its forcible break-up in 1911, following an anti-trust investigation.<sup>41</sup>

While vertical integration was an efficient organisational strategy, it alone could not provide firms with the competitiveness to survive, long term, within the oil industry. Firms were rapidly forced to operate on a multinational if not global basis. This structure and scale of operations was necessary in order to compete against the predatory strategies adopted by other integrated firms, which aimed at driving competitors out of business.<sup>42</sup> The fully integrated firms used price reductions and cross subsidisation in order to force competitors to exit from markets. Multinational integrated oil firms such as Standard Oil sold products at a loss in competitive markets,

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<sup>39</sup> A. D. Chandler, Scale and Scope, (1990), pp.23-25.

<sup>40</sup> It is Bamberg's contention that AIOC's difficulty in achieving a balance of supply and demand proved to be one of the company's central weaknesses. Bamberg, op.cit., p.278.

<sup>41</sup> A. D. Chandler, Strategy and Structure, (Cambridge, Mass 1991), p.165.

<sup>42</sup> Sampson, op.cit., pp.62-66 for case of how Shell challenged Standard Oil.

using excess profits gained in markets where no competition existed, to remove competitor companies. Such 'cut-throat' competition was extensively used in the industry's early development.<sup>43</sup> Only by operating on a multinational basis could oil companies use a tit-for-tat strategy to deter the multinational integrated firms from such activity.

Firms therefore required not only upstream organisational capabilities in exploitation of oil fields and pipeline transportation as well as midstream capabilities in refining capacity and international transportation, but also investments on a multinational basis in the downstream capabilities of national distribution and sales networks to guarantee markets for refined products. A high degree of vertical integration, combined with multinational operations, became both a pre-requisite for survival and a significant barrier to entry for competitors. This strategy was to ensure that only seven major integrated companies, five American, one British and one Anglo-Dutch, popularly known as the 'Seven Sisters' or 'majors' were to dominate the world's oil resources. An indication of the size of these majors comes from the fact that, of the three largest non U.S. private corporations measured by sales in 1964, two were the oil majors Royal Dutch Shell and AIOC.<sup>44</sup> Similarly all five of the U.S. oil majors were among the 16 largest corporations in the United States.<sup>45</sup>

These early barriers to entry were all based upon physical capital investment, producing an integrated chain, rather than ones based upon the cost of information, patenting or the following of learning curves. Unfortunately, vertical integration and multinational operations still proved incapable of creating stability within the industry.

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<sup>43</sup> See Yergin, op.cit., p.72 for detail of Standard Oil's use of this strategy.

<sup>44</sup> Fortune, August 1965, p.170

<sup>45</sup> Ibid., July 1965, p.150

The degree of vertical integration and the scale of production necessary to guarantee economies of scale, while ensuring that the industry's structure would develop with a small number of very large firms, did not resolve the problem of balancing demand with supply. Indeed the development of multinational firms (although aimed at preventing intense competition) arguably intensified the difficulties of achieving a balance between supply and demand through the creation of an excess of supply.

Before 1945 the danger of intense price competition between larger integrated firms spilling beyond single international boundaries and onto the world markets was such that the majors developed new strategies to reduce the pressures of competition. Importantly, it was the major oil companies' competitive strategy that dictated that they attempt to achieve secure markets for the sales of oil products. The majors became more reliant <sup>on</sup> ~~non~~ physical barriers to entry. Outside the United States, concessionary agreements, providing exclusive exploration rights, between the oil companies and the rulers of the nations in which exploration took place became increasingly important. The Red Line Agreement negotiated between 1922-8 was the most far reaching of these agreements. The importance of the Red Line Agreement was that it allowed for the limitation of the supply of products to markets, in order to maintain price levels, through the 'self-denial' clause's strict limitation upon exploration.

Firms also attempted to reduce the pressure of price competition through a reduction in competition for market share. The Achnacarry, or As-Is, Agreement in 1928 is the most famous example of this strategy. The aim of 'As-Is' was to ensure that each company's market share, in each national market, was guaranteed by its rivals, so reducing competitive pressures. From the 1920s the major oil firms aimed to

achieve an oligopolistic cartel which regulated all aspects of the industry from production to market share and prices.

Despite the elaborate attempts to control access to oil fields and the market for oil products, the integrated oil companies were unable, in the interwar years, to fully achieve a balance between supply and demand, with the result that they were unable to prevent competition from emerging. The depression of the early 1930s was so deep that, despite the cartelization of the industry, over-production and price collapses developed. The problem was most stark in the unregulated American market. In the United States smaller non-integrated firms could achieve temporary success in developing upstream areas of production with new oil fields where, under the law of capture, oil concessions for whole fields were illegal and oil belonged to whoever extracted it. As a result drilling wells were geographically highly concentrated, literally next to one another, with a mass of small non-integrated oil companies racing to extract as much oil for themselves as they could before the fields were exhausted. The instability caused by this lack of regulation was catastrophic in the United States market and threatened the structure of the world oil market created by the integrated companies by the 1930s, as excess oil flowed onto the world market.

The scale of the depression in the United States, leading to reduced demand, combined with the discovery of the East Texas oil field sent oil prices tumbling. Despite a fall in world oil production from 199.5 million tons in 1929 to 175.7 million tons by 1932, prices per ton fell from a high of \$13.78 in 1926 to \$7.45 in 1930 and from there to \$1.12 in May 1931.<sup>46</sup>

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<sup>46</sup> It should be noted that the price of oil decreased below \$1 per ton at the lowest point. R.W Ferrier, The History of the British Petroleum Co., Vol.1 1901-32, (Cambridge 1982), p.639 and Yergin, op.cit., p.247. Barrels converted at the rate of 7.45 barrels = 1 ton.

This instability in the US market led the majors to demand federal and national government regulation. The Texas Railroad Commission, established in 1932, was designed to oversee the introduction of a quota system for production. This was reinforced by the introduction of the National Recovery Administration Oil Code in September 1933.<sup>47</sup> Although the NRA code was ruled unconstitutional in January 1935, within one month the still more powerful Connolly (Hot Oil) Act was passed outlawing the extraction of oil above agreed quotas.<sup>48</sup>

Outside the unregulated U.S. market the majors were more successful in achieving the balance between supply and demand that they desired. However, as Bamberg argues, this balance was bought at a considerable cost. Despite extensive restrictive agreements the oil majors had to accept rapidly falling profit margins in order to maintain stability.<sup>49</sup> Nevertheless the combination of falling profit margins with the threat of cut-throat competition, as the large integrated firms relied upon their international profits to cross-subsidise the temporary competition in individual national markets, proved with few exceptions, a successful barrier to entry.

It was the experience of the interwar period that was responsible for shaping post-war views of the oil companies. For the oil companies the American experience needed to be avoided; hence they were utterly opposed to the changes which would lead to the de-regulation of markets and favoured co-operation on the limitation of exploration and production. These fears of over-supply and un-regulated markets explain why the oil companies looked to inter-firm restrictive arrangements both in the interwar years and after 1945. The oil majors also recognised the need for partnership

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<sup>47</sup> G.D. Libecap, 'The Political Economy of Crude Oil Cartelization in the United States 1933-72', Journal of Economic History, No.4, 1989, pp.838-9

<sup>48</sup> K.R. Mirow and H. Maurer, Webs of Power, (Boston USA 1982), pp.75-6.

<sup>49</sup> Bamberg, op.cit., p.514

between government and themselves. The U.S. experience highlighted that the industry's high degree of vertical integration and oligopolistic structure could not be maintained, at times of stress, without both extensive co-operative arrangements and active government support.

- AIOC and the creation of the 1945 Settlement

With the knowledge of these twin approaches (government political concern for secure supplies and company commercial concern for the regulation of markets), it is possible to highlight how supply considerations were reconciled in the first post-war decade with respect to the British market and the British company AIOC.

The need to create a highly structured market through inter-firm co-operation and co-operation with government can most clearly be seen in the experience of the AIOC. AIOC's relationship with the Britain government has been described as 'exceptional' due to the Admiralty's purchase for £2m, in 1914, of 51% of the company shares.<sup>50</sup> The purchase of shares in a private company by a government department was certainly exceptional, although Harold Ickes's recommendation to take proprietary and managerial control of U.S. Middle East interests would have gone well beyond the financial interest the British government held in AIOC. The 'exceptional' relationship was arguably by 1945 more a reflection of government's general attitude to the oil industry than a relationship with particular firms.

The purchase of shares by the British government was understood as a mechanism for maintaining security over oil supplies for the Empire and the navy and

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<sup>50</sup> See G. Jones, The State and the Emergence of the British Oil Industry, (1981) for a detailed history of the birth of AIOC.

not as an attempt to gain managerial control, unlike the Ickes proposal.<sup>51</sup> Although the British government would appoint two directors, it was explicitly stated that it would not interfere in the commercial decisions of the company. This abdication of responsibility by the government was in fact to lead to criticisms from the Foreign Office, of the 'superannuated civil servants' appointed as directors by the Admiralty after the nationalisation of the Iranian oil fields in 1951.<sup>52</sup>

As with other majors AIOC entered into the co-operative agreements during the inter-war period. Indeed AIOC was central to the whole co-operative process with AIOC's Managing Director and Deputy Chairman, William Fraser, drafting the original Achnacarry agreement.<sup>53</sup> The company had also succeeded in making more far-reaching agreements with Shell, in 1928, forming the Consolidated Petroleum Company and the Consolidated Refineries. These companies were established to market products within a consolidated area, stretching from Cyprus in the north to South Africa in the South and Ceylon in the East.<sup>54</sup> In response to competition within Britain itself, Shell and AIOC formed Shell-Mex & B.P., in 1932, to market and distribute their products domestically.<sup>55</sup>

Within the British market the three major companies AIOC, Shell and Standard Oil (New Jersey), together known as the combine, dominated supply. In 1928, a year when competition was at its height, the three companies accounted for between 85-95% of sales across all the major product areas.<sup>56</sup> When a new entrant did establish

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<sup>51</sup> See Ferrier, op.cit., p.243, for Cabinet discussion, in 1916, of the Board of Trade memorandum 'The Future of Oil Supplies'.

<sup>52</sup> Sampson, op.cit., p.136.

<sup>53</sup> Bamberg, op.cit., p.109.

<sup>54</sup> Ferrier, op.cit., p.512 and B.P., Our Industry, p.412.

<sup>55</sup> Bamberg, op.cit., p. 107 and p.119.

<sup>56</sup> Federal Trade Commission, op.cit., table 17, p.317.

itself, such as the Russian Oil Products Ltd. with a 6.6% share of the motor spirit market by 1929, the combine rapidly struck agreements to limit price competition.<sup>57</sup> The U.S. Federal Trade Commission enquiry into petroleum cartels considered the British market to be 'remarkable' for its price stability in the 1930s. Only 17 price changes took place for wholesale products in the nine years from 1930-39. Five of these occurred in 1931 alone, itself reflecting the wider difficulties within world markets, and a further six occurred in 1937-8, due to rapid fluctuations in Gulf export prices and tanker charges.<sup>58</sup> The 'solidity of the structure of control' within the British market can be compared with the instability of the unregulated U.S. market where in the twenty years to 1933, before regulation, crude oil prices changed 67 times.<sup>59</sup>

The British market was therefore typical of regulated markets throughout the world and AIOC was typical of the major oil companies in its attitude to co-operation and maintaining structured markets. As a company actively involved in the regulation of world markets AIOC was therefore closely involved in post-war discussions on the development of post-war supply and was particularly concerned to maintain its own interests within the Middle East.

Three distinct views were held towards the end of the war on the future prospects of the industry: those of the governments of the United States and Britain and, third, that of the oil companies themselves. Both the United States and British governments foresaw an era in which a 'greatly increased demand' would develop on a world-wide basis. In the short term it was expected that a temporary problem might develop, namely an excess of supply caused by the transition to peace, which would

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<sup>57</sup> Bamberg, op.cit., p. 130 for ROP's market share and Federal Trade Commission, ibid., p.314 for details of the 1929 agreement.

<sup>58</sup> Federal Trade Commission, ibid., pp.319-20.

<sup>59</sup> Ibid., p.320 for 'solidity' quote and Libecap, op.cit., p.842 for US price changes.

require an 'orderly adjustment'.<sup>60</sup> An excess of supply, even if temporary, was very much at odds with the expectations for other raw materials in the immediate aftermath of 1945, when rationing and shortage were the norm.<sup>61</sup>

The projections of a greatly increased demand were based upon the recognition that oil was essential to creating a 'collective security' around the world. The two governments therefore placed the need for a 'ready access to oil to all nations under (conditions of) expansion and abundance' at the top of their agendas.<sup>62</sup> As a result the setting up of an Anglo-American Oil Commission was proposed, with the aim of settling disputes over oil supplies between nations.<sup>63</sup> Although the United States government later abandoned this idea, there remained two key concerns for the United States. First, the United States had extensively used its own oil reserves during the war and wished to guarantee continued access to oil. Second, the 'self-denial' clause of the Red Line Agreement presented an impediment to further access to new sources of oil and could threaten the long term stability of the West.

In contrast, the British government's interest lay primarily in ensuring the continuation of what a Treasury official stated was 'a nicely adjusted balance between competing interests' and preventing any open competition in which the Americans would 'hold most of the trump cards'.<sup>64</sup> They maintained that there was no shortage of oil and that discussion should focus upon the world situation, rather than simply the Middle East.<sup>65</sup> The British government's view was that British firms were not in a

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<sup>60</sup> PRO POWE 33/1492, Anglo-American Exploratory Discussion on Petroleum, 18 April 1944, p.1.

<sup>61</sup> A. Cairncross, The British Economy since 1945, (1992), pp.64-65.

<sup>62</sup> All quotes from PRO POWE 33/1492, op.cit., pp.2-8.

<sup>63</sup> See PRO POWE 33/1391 for Minutes of proposed Anglo-American Petroleum Commission.

<sup>64</sup> PRO T 236/219, Oil Policy Document written by M.T. Flett, 20 June 1944, p.5.

<sup>65</sup> PRO POWE 33/1492, op.cit., pp.22-23.

position to compete in open markets and, probably more importantly given Britain's financial dependence upon the United States, the government was not capable of resisting United States government demands to open up the Middle East. Under these circumstances cartelization could defend both company and government interests. British interests, therefore, were considered to lie in the re-introduction of the pre-war cartel structures, with agreement on market shares, product quality and prices among the oligopolistic firms and in the prevention of any changes to the agreements regulating exploration in the Middle East.

The third view on post-war developments was held by the oil companies themselves. The discussions held purely between the oil companies suggest that (while a party to the inter-governmental committees) they privately took a much more pessimistic view of the prospects for the industry.<sup>66</sup> Expectations of a return to the conditions of the 1930s were widely held: as a result discussions took place between the major companies to discuss how to prevent 'a struggle for markets' which would be 'damaging to all'. The period between the end of the European war and the end of the war against Japan saw meetings between Standard Oil (New Jersey) and AIOC to find a solution. Standard Oil expected a major fall in orders following the ending of the war against Japan and AIOC agreed with such a prognosis.<sup>67</sup> Indeed this was borne out in Britain, with the war time consumption peak of petroleum products in 1944 followed by the 26% drop to 1946. This fall in consumption, combined with the proposed doubling of production from Iran and a tripling from the Iraq Petroleum Company administered fields, threatened new price instability. Standard Oil stated that while, due to anti-trust laws, it could not formally adhere to the 'As-Is' agreement 'they wanted no

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<sup>66</sup> Larson, Knowlton and Popple, op.cit., p.663.

<sup>67</sup> B.P. 43853, Note of meeting 18 June 1945, p.1.

greater percentage of the trade than they had previously enjoyed.' In other words a re-introduction of the principle of 'As-Is', but without the formalised structure of the original agreement or the restrictions of the 'self-denial' clause on further exploration. On AIOC's part, while agreeing with Standard's analysis of the situation, they considered their 'fundamental policy' to be 'the maintenance of Persian production on an acceptable scale.'<sup>68</sup> Therefore for AIOC any limitation of production had to come from fields outside of Iran; this would have to involve agreement from the other partners in groups such as the Iraq Petroleum Company. Over the next two months further meetings elaborated the views of not only AIOC and Standard Oil (New Jersey) but also of Shell. Both AIOC and Shell wished to abide by the Red-Line agreement although it is suggested that neither company was prepared to vigorously defend the agreement against Standard Oil (New Jersey).<sup>69</sup>

The expected need for an agreement creating an 'orderly adjustment' to production was central to AIOC company thinking towards the end of the war. To avoid a return to the worst conditions of the 1930s would require co-operation and planning between the major companies. Yet the co-operation of the original 'As-Is' agreement and the 'self-denial' clause structured into the Red Line agreement had failed to prevent the collapse of prices following the slump of 1931 and the over-production caused by the exploitation of fields like the East Texas oil field.

It would appear, then, that both governments and companies like AIOC were on collision course over the resolution of supply issues. In actual fact, however, the threatened slump in oil demand proved only temporary and, instead, demand rose at

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<sup>68</sup> Ibid., p.1. Persia was renamed Iran in 1935, although the name Persia continued to be used.

<sup>69</sup> Federal Trade Commission, op.cit., p102

such a rate that shortages existed by 1947. The rapid rise in demand allowed the companies to accept the abandonment of the 'self denial' clause following the signing of the *Memorandum Regarding Heads of Agreement* in November 1948.<sup>70</sup> At the same time however the oil majors did not abandon their co-operative strategies to regulate the market.

- AIOC and Successful Company Regulation after 1945

The rapid post-war growth in demand provided the majors with the degree of flexibility required to accept government inspired liberalisation of the Middle East and to respond to changes in markets, while still maintaining a highly structured market environment. The essential difference in the post-war period was that, under conditions of rapidly rising demand, companies wished to avoid the 'restrictive covenants' that had been common in interwar agreements.<sup>71</sup> Participants to agreements, while agreeing to sharing markets and preventing direct competition, nevertheless wished to remain free to respond flexibly to the new conditions.

It should immediately be stressed that it would be wrong to assume from the above that, because companies operated in structured, cartelized markets, neither competition nor conflict existed. Competition did exist but in strictly defined forms which all competitors accepted. Where these formal and informal conditions were broken, open competition could and did break out until a new set of conditions was accepted. By examining AIOC it is possible to show both the degree of flexibility provided by the post-war conditions and the methods adopted to resolve conflict and competition.

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<sup>70</sup> *Ibid.*, p.105.

<sup>71</sup> B.P.43853, Letter from Sir William Fraser to G. Legh-Jones, 13 January 1949.

In 1949 both Shell and AIOC agreed to end the restrictions imposed upon each other's activity, contained within the 'Marriage Letters' during the establishment of the consolidated companies.<sup>72</sup> The consolidated companies therefore had not only originally agreed to combine marketing and distribution facilities but had agreed to restrict any new operations of each partner to specific geographic regions. The only exceptions to the ending of these restrictions was to be the continuation of restrictions safeguarding AIOC's operations in Iran and Mesopotamia and Shell's operations in Indonesia and British Borneo.

One new arrangement entered into between AIOC and Shell in 1949 covered the sale of aviation spirit. All aviation spirit sales in the Eastern hemisphere, covering Africa, Europe, South East Asia and Australia, were to be merged into a single company, while retaining separate brands. The agreement was to ensure a Shell/AIOC split of 50:50 by 1955 from the 72.5:27.5 share that existed in 1949. Such an agreement would have enormous impact on the market for aviation spirit and as Shell pointed out 'advantage might be gained by the set-up which in the initial years at least would indicate two independent and competing organisations.'<sup>73</sup> While AIOC wanted an 'overt' act early on to announce the merger, it was Shell's view that it need only take place as a 'Postscript at some date after the fruits of the secret and illicit association have been fully harvested.'<sup>74</sup> The logic behind this agreement was that AIOC with an over-capacity in the production of aviation spirit would gain access to Shell's extensive distribution and sales network, while Shell would gain access to AIOC's supplies on favourable terms. The ability to reduce competition between firms

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<sup>72</sup> Ibid.

<sup>73</sup> Ibid., letter G. Legh-Jones to Sir William Fraser, 19 January 1949.

<sup>74</sup> B.P. 80918, Joint AIOC/Shell Aviation Agreement, 15 May 1951.

within individual markets would also enable each company to retain the benefits of economies of scale, while maximising the ability to engage in cut-throat competition, as a joint company, if so desired against external third-party competitors.

Despite the adjustments made to the companies' quotas in 1951, the agreement was generally not implemented, resulting in the mutual termination of the agreement in 1952. The specific failure of the agreement was due to Shell's unwillingness to hand over market share and to AIOC's unwillingness to supply Shell with aviation spirit on 'most favoured nation terms' following its loss of the Iranian Abadan refinery in 1951, due to nationalisation.<sup>75</sup>

More generally it might be suggested that the Aviation Agreement failed because it still reflected the restrictive conditions under which the companies had operated in the 1930s, whereas under the post-war conditions a less restricting type of agreement was required. Comparing the decisions in 1949 to end the Marriage Letters and to enter into the Aviation Agreement, it could be suggested that the two companies were only beginning to alter their views and respond to the new post-war era.

Despite this set-back for co-operation between AIOC and Shell, further collaboration continued. Both companies began to meet from December 1951 to discuss future investment programmes in order to avoid duplication of investment and direct competition. AIOC, even after losing its Iranian production, was against manufacturing aviation spirit in its Aden refinery 'unless forced to' by government.<sup>76</sup> Similarly, when discussing expansion plans for B.P. Chemicals at Grangemouth, the

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<sup>75</sup> B.P. 80918, op.cit., p.1-2, 19 May 1954.

<sup>76</sup> B.P. 70322, Shell Refinery Plans, 14 February 1952.

company agreed not to manufacture tetra-ethyl lead, the anti-knocking agent in leaded petrol, because this would compete with Shell.<sup>77</sup>

The flexibility provided by the growth of post-war demand can also be seen within the majors' approach to competition. AIOC generally opposed moves to the monopolistic control of markets, recognising that this could only lead to complaints from competitors and possible investigation by government. When it did find competitors attempting to win market share, in particular if its own market share was considered too high, AIOC was prepared to concede sales, on condition that competitors did not introduce products of a better quality or at lower prices.

One of the most important cases of this was in the Australian market in 1955. The AIOC/Australian-government-owned company, Commonwealth Oil Refineries Ltd, COR, had increased sales of products by 268% against an overall increase in consumption of only 108% between 1938 and 1950.<sup>78</sup> AIOC's sales in the Australasian market grew at a faster rate than any other geographical market after 1945 and was one of the company's marketing success stories.<sup>79</sup>

By 1955 COR not only held 43% of the Australian furnace oil market but also held a contract with the government body, the Australian Shipping Board, for fuel oil, which included a continuation clause virtually guaranteeing its renewal. Further, in the area of motor spirit both AIOC and Shell had combined together to fix prices and quality. This overall market position was considered to be too dominant by AIOC.<sup>80</sup>

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<sup>77</sup> B.P. 25725, British Petroleum Chemicals Forward Programme, p.2, 9th March 1954.

<sup>78</sup> B.P., 95170, AIOC evidence to Federal Trade Commission Investigation on the International Petroleum Cartel, Appendix II, 29th September 1952.

<sup>79</sup> Bamberg, op.cit., p.297.

<sup>80</sup> B.P. 65179, 28th December 1955, p.1.

AIOC were concerned about the 'difficulties through political channels' that could be made by the American entrant Caltex, if the continuation clause were discovered; it was also worried that the French firm Compagnie Française des Pétroles, CFP, might undermine price and quality agreements in motor spirit.<sup>81</sup> As a result of these fears, AIOC took the view, here expressed with reference to CFP's entry into the motor spirit market, that 'if some general understanding on quality and price could be reached [COR] would maintain our existing sales policy i.e. [COR] would neither facilitate by price cutting markets or take any special steps to impede [CFP's] entry into market in return for which [CFP] would be accepted from the outset as entitled to participate in industry discussions.'<sup>82</sup>

The approach adopted in Australia was in stark contrast to that taken in Britain to Russian oil imports where a ban had been introduced since 1938, with the result that Shell-Mex & B.P's market share in motor spirit sales had increased from 42% in 1938 to over 51% by 1954.<sup>83</sup> The important difference in these two examples lies in the knowledge AIOC had that 'political difficulties' were unlikely to surface within the British government. The British government supported a ban on Russian imports in order to reduce dollar payments and to actively promote the growth of output from oil fields controlled by British firms, notably from AIOC.

The evidence of co-operation between AIOC and Shell and from the Australian market reinforces the conclusion that AIOC, and other major oil companies, did not act simply as short-run profit-maximising organisations. The motivation of company

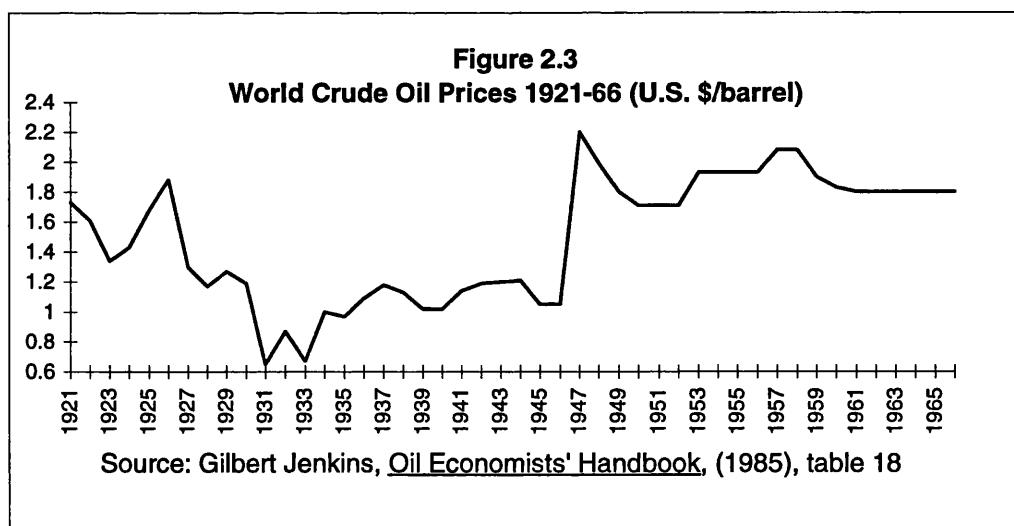
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<sup>81</sup> Ibid., Letter G.R. Shelbourne to H.G. Cooper, 26th August 1955.

<sup>82</sup> Ibid., COR Melbourne telegram to AIOC Head Office, 8th February 1955.

<sup>83</sup> Bamberg, *op.cit.*, p.130 and B.P.7446, table 2.15.

activity came from the need to safeguard the survival of an international industrial structure whereby large oligopolistic firms were able to protect the stability reached in consumer markets. Only by following such a strategy could changes in product prices be controlled on a long-term basis, so ensuring that long term decision making was not jeopardised by wildly fluctuating consumer prices. As can be seen from Figure 2.3, the oil majors were successful in preventing the wildly fluctuating nominal price changes that had occurred in the interwar years from returning. Real oil prices were falling after 1945 (see below), but for the companies this was more than compensated for by rising demand. AIOC was able to increase its sales tonnage from 20.4m long tons in 1946 to 39.8m long tons by 1950, with real pre-tax profits rising over 53% from £15.3m to £23.5m (at constant 1929 prices and dollar/sterling exchange rate).<sup>84</sup>



The impact of falling real oil prices combined with rising demand on AIOC's profitability after 1950 is more difficult to trace. The data provided in the company accounts is not wholly reliable and makes analysis of company profitability extremely

<sup>84</sup> Bamberg, ibid., table 20.1, p.515.

difficult. The consolidated accounts produced from 1947 excluded major subsidiary companies, including most of the subsidiary marketing companies.<sup>85</sup> Although this was not unusual for the period, the international nature of the industry makes these omissions arguably more important. Still more importantly however, the loss of the Iranian oil fields and the imposition of an accumulated tax liability on operations in Kuwait in 1954 makes the use of trading profit data for the years 1951-54 particularly problematic. For this reason two sets of data are provided for the years 1951-54, gross trading profit before and after depreciation. The gross trading profit after depreciation is technically more consistent, in an accounting framework, as it makes adjustment for the impact of changes in capital assets and tax liabilities. However, our concern lies in distinguishing between developments occurring within the industry over time and the specific impact of the nationalisation on AIOC. Therefore gross trading profit before depreciation for the years 1951-4 provides a more reliable proxy measure of profitability for the counter-factual case of AIOC retaining its Iranian operations.<sup>86</sup>

Despite these difficulties, it is clear from Figure 2.4 that the company was able to boost its profits in real terms over the period, as a whole, even after taking into account the difficulties caused by the nationalisation of its major oil fields in Iran between 1951-54 (see below).<sup>87</sup> Real gross profits were still higher in 1952 than they

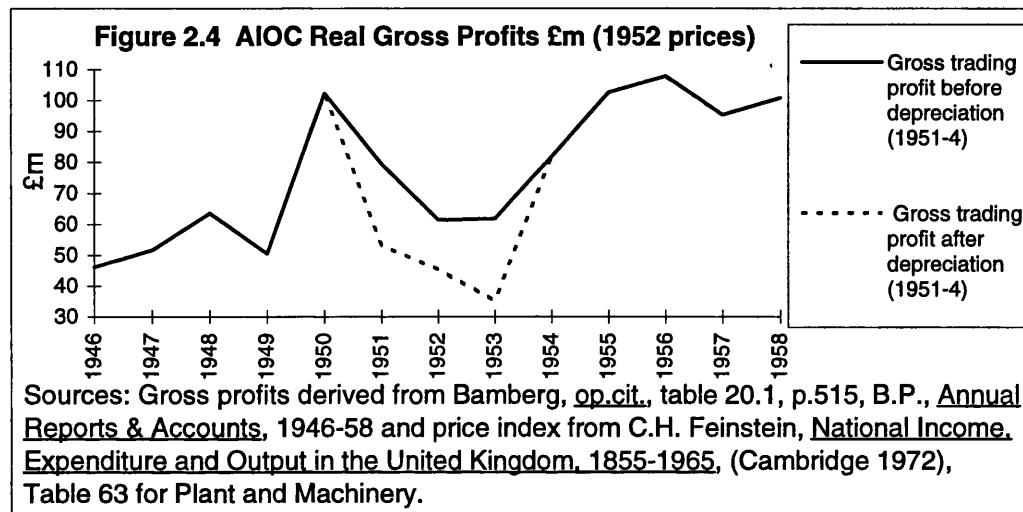
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<sup>85</sup> *Ibid.*, Appendix 1, p.523 for a discussion on the limitations of the company accounts. Discussions with Jim Bamberg suggest that firm conclusions cannot be drawn from the company accounts in this period.

<sup>86</sup> Nationalisation in 1951 saw sales fall 9.6% (from 39.8m tons in 1950 to 36m tons in 1951) yet the consolidated balance sheet suggests that gross trading profits, after depreciation, fell 44% (from £85.7m in 1950 to £47.7m in 1951) whereas if depreciation is excluded the fall was 17% (to £71.4m). B.P. Annual Report and Accounts for the years 1950-52 and Bamberg, *op.cit.*, table 20.1, p.515

<sup>87</sup> A price index for plant and machinery is used in Figure 2.4 to allow for comparison between the evidence presented here and that contained within Bamberg's official history.

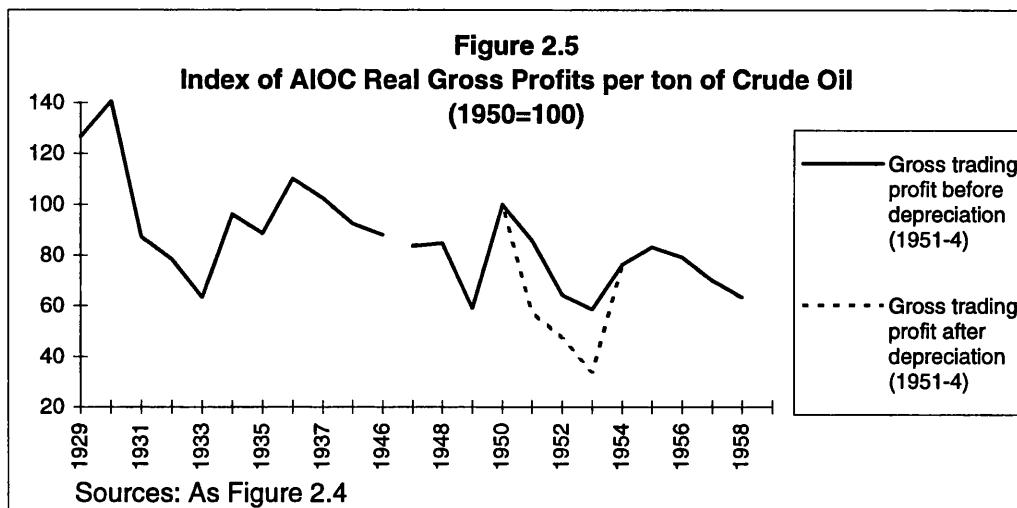
had been in 1949, depreciation apart, despite the loss of the company's Iranian oil fields one year earlier.<sup>88</sup>



It is also possible to gauge the success of the post-war strategy followed by AIOC from Figure 2.5. Against a background of falling profit margins AIOC and other major companies were able to avoid the 'struggle for markets' which had been characteristic of the interwar years. It also appears that the companies were able to reduce, although not remove, the wide fluctuations in profit margins in these years.

The establishment of a market structure facilitating international co-operation between oligopolistic firms did not mean that firms could simply enjoy monopoly profits in a passive way. Firms had continually to strive to change their methods of operation in order to maintain a stable market structure.

<sup>88</sup> This is still true even if a GDP or retail price index is used. See Appendix 2 for the results using alternative price indices.



Monopoly profits reflected a Schumpeterian process whereby oil majors had to run to stand still. In particular, companies were forced to adapt to a market environment characterised by falling profit margins. While monopoly profits are associated with higher prices, some evidence on the impact on price changes after anti-trust cases suggests that horizontal price fixing was arranged to ensure lower prices.<sup>89</sup> One reason behind such a development may have been the creation of a barrier to entry for new competitors. Although in the case of AIOC, it should be added that, the profits it derived throughout the period were so high that it never required external financing for investment.

One of the new strategies AIOC developed within this environment was in the utilisation of refined oil products in chemical manufacturing. British Petroleum Chemicals was set up and operated plant on the Grangemouth refinery site with the intention of creating chemical products for sale in new markets. AIOC also entered into a joint venture with the Distillers Company in 1947, after a failed attempt to link up with ICI, in order to further develop its chemical manufacturing capabilities.<sup>90</sup>

<sup>89</sup> M.F. Sproul, 'Antitrust and Prices', *Journal of Political Economy*, No.4, Vol.101, 1993.

<sup>90</sup> B.P. 8651, letter from Lord McGowan to Sir William Fraser, 31st July 1947.

Oil companies also focused more closely upon the retailing of products such as motor spirit to consumers. Prior to 1950 petrol stations were owned by independent proprietors and had to be approved by the Motor Agents Association, MAA, before the national oil companies would supply them with branded products. Oil companies themselves owned few stations, preferring to supply individual traders and providing staff training through the ownership of a small number of outlets. Wholesale and retail prices were fixed and price competition was controlled through the Motor Trades Association, the MAA and the oil companies.<sup>91</sup> The advantage of such a situation for the oil companies was that prices could be maintained through the application of 'As-Is' principle into the retail market and products could be sold in a large number of sites.<sup>92</sup> Oil companies avoided a strategy of forward vertical integration directly into retailing because the large number of outlets and the (as yet, small) markets made turnover of products too low for large scale investment. With the ending of petrol rationing in 1950, oil companies moved rapidly towards exclusive dealing, or solus, agreements with petrol stations for the supply of products.<sup>93</sup> By 1953 at least 80% of petrol retailers had entered into solus agreements with suppliers.<sup>94</sup> Solus agreements, originating in the United States, enabled oil companies to gain economies of scale by reducing the number of deliveries while at the same time increasing the quantity supplied. Solus agreements also allowed oil companies to increase their advertising impact through the display of company signs. In return oil companies provided rebates on purchases, free training for staff and improvement loans to retailers. A third and

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<sup>91</sup> Federal Trades Commission, op.cit., pp.311-20.

<sup>92</sup> Ibid., p.320.

<sup>93</sup> Monopolies and Restrictive Trade Practices Commission, Report on the Supply of Petrol to Retailers in the United Kingdom, pp.30-9, (1967).

<sup>94</sup> Ibid., p.20.

final motivation of the solus arrangement was to prevent the return of independent retailers using cheaper unbranded products, as had occurred with Russian petrol in the 1930s. As a result by 1954 only 12.7% of all sites were both independently owned and supplied, with the majority of these sites equipped with only one pump.<sup>95</sup> Consumer sales of motor spirit in Britain by 1954 became dominated by the creation of larger designated sites with three or more pumps primarily for the sale of petrol. There were 36,404 sites throughout the British Isles, 16,326 (45%), containing three or more pumps. Shell-Mex & B.P. directly controlled, through tied agents, 7,696, or 47% of these.<sup>96</sup>

From 1953 Shell-Mex & B.P. started a new strategy of direct ownership of sites. In 1955 the company opened a new petrol station in Reading which was of the modern design we know today.<sup>97</sup> The company provided leases to the tenants of the sites and tied the site directly to the company for the sale of products through solus agreements.

This strategy evolved from the United States, where the 1949 Supreme Court anti-trust case against Standard Oil of California and six other oil companies outlawed exclusive dealing agreements. Instead of stations retaining independence through the adoption of 'split-pump' arrangements, whereby many companies' products would be sold, oil companies moved rapidly to direct ownership of outlets.<sup>98</sup> In Britain in 1955 the government refused to mount a Monopolies Commission investigation into the

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<sup>95</sup> B.P. 7446, table 3.10.

<sup>96</sup> Ibid.

<sup>97</sup> See Times, 17th June 1955.

<sup>98</sup> See Y.J. Lin, 'The Dampening of Competition Effect of Exclusive Dealing', Journal of Industrial Economics, 39, 1990, pp. 209-223 and D.P. O'Brien and G. Shaffer, 'On the Dampening-of-Competition Effect of Exclusive Dealing', Journal of Industrial Economics, No.2, 1993 pp.215-221.

distribution and sales of petrol in Britain.<sup>99</sup> Nevertheless the oil companies adopted a strategy of vertical integration towards the market. There are a number of possible explanations for this change. While Shell-Mex & B.P. argued there was a need for modernisation and injection of capital into the retailing of petrol, oil companies also saw in direct ownership a way of pre-empting possible monopoly investigations into restrictive dealing arrangements.<sup>100</sup> Second, while the long run increase in demand for petrol encouraged oil companies to develop new marketing opportunities, through the greater control over the distribution and sale of products that direct ownership provided, it simultaneously also provided new physical barriers to entry, at a time when less integrated firms were beginning to establish themselves. Thus the movement from solus agreements to direct ownership in petrol retailing appears to inextricably combine elements of governance with efficiency.

The favourable post-war conditions provided the background for a flexible approach to the resolution of competitive pressures. This flexibility ensured that restrictions upon competitors' operations could be abandoned, new entrants could be accommodated and the majors could move towards direct selling of products to mass consumers. Rising demand also allowed the majors to accept changes in British and American governments' post-war oil policy. As a result the history of the industry from the end of the Second World War to the mid-nineteen fifties needs to be understood as the high point of the history of the majors' inter-company co-operation and market control.

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<sup>99</sup> See PRO POWE 33/2193, Possible Monopolies Commission investigation into Distribution in the oil Industry, 1955.

<sup>100</sup> Monopolies and Restrictive Trade Practices Commission, op.cit., p.56.

- The Majors under Threat

To say that the years from 1945 to the mid-nineteen fifties represents the high point of the majors' market control is not to suggest that conflict did not emerge. Despite the successful liberalisation of exploration within the Red Line area, it was in firms' relationships with governments that the difficulties within the market structuring approach faced its most severe difficulties. These difficulties first focused upon domestic reconstruction issues, centering upon the impact of shortages of raw materials and government attempts to limit their damage. From the early 1950s onwards more serious international threats emerged, linked to the political hostility oil companies were facing in the Middle East and the emergence of national and non-integrated or independent oil companies.

- Domestic Threats

The shortages of raw materials such as steel and coal provided the greatest problems for the West European economies in the aftermath of the war. Such shortages were considered to be both short-term and unavoidable, given the destruction and dislocation caused by war. As noted above the fall in demand for oil products anticipated by the oil companies proved to be only a short-term phenomenon and by 1947 the British economy was already facing a shortfall of oil supplies by some 200,000 tons.<sup>101</sup>

The shortage of oil was a major problem for the British government and in response the government pressurised both AIOC and Shell to provide extra supplies. Conflict between the companies and the British government arose in these early post-

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<sup>101</sup> Bamberg, op.cit., p.319.

war years over these requests and over AIOC and Shell's continued supply of oil to other nations. AIOC claimed that to divert supplies from foreign countries to Britain would undermine its commercial position in overseas markets.<sup>102</sup> However, to what extent was this 'shortage' of oil a deliberate policy of AIOC to maintain price levels in a sellers' market? or a result of the after-effects of the war?

In 1949 AIOC estimates of its oil requirements for the following five years, allowing for a 4.5% annual increase, suggested demand would increase (see Table 2.1) from 39.6 million tons in 1950 to 53.5 million by 1954. Crude oil production was split between Iran, Kuwait and Iraq Petroleum Company, IPC, with Iran providing almost 70% (see Table 2.2) of supplies. Yet the crude oil availability from Iran (see Table 2.3) was in all years far in excess of the actual production target set. Iranian production estimated never rose above 85% of the fields' capacity.

This point is reinforced when we consider that, when AIOC lost its Iranian oil fields in 1951 it had replaced the lost production with oil from Kuwait and IPC within two years.<sup>103</sup> When Iranian oil again came on stream, the company was able to achieve a new record level of sales in 1956 of 56 million tons, exceeding the 1950 high by 14.5 million tons.<sup>104</sup> AIOC recognised the excess productive capacity of its oil fields, stating in 1949 that there is 'no necessity for any major alteration to our crude oil policy.'<sup>105</sup> Therefore we can conclude that there was no shortage of crude oil.

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<sup>102</sup> *Ibid.*, pp.321-3.

<sup>103</sup> B.P. 72322, Production Department Report 1952.

<sup>104</sup> B.P., Our Industry, p.413.

<sup>105</sup> B.P. 91002, Forward Programme 1950-54, 8 September 1949, p.2

Table 2.1.  
Estimated Anglo Iranian Oil Company Crude Oil Requirements 1950-54 (M tons).<sup>106</sup>

	1950	1951	1952	1953	1954
<b>Product Requirements</b>	27.2	28.6	30.2	31.4	32.5
<b>Crude oil sales</b>	9.0	10.2	16.9	17.0	17.0
<b>Crude to meet Product Requirements</b>	30.6	32.1	33.9	35.3	36.5
<b>* TOTAL (M tons) crude oil requirements</b>	39.6	42.3	50.8	52.3	53.5

\* Total is given by the addition of rows two and three

Table 2.2  
Estimated Anglo Iranian Crude Oil Production by Region 1950-54 (M tons).<sup>107</sup>

	1950	1951	1952	1953	1954
<b>Iran</b>	28.5	30.5	34.5	36.5	38.5
<b>Kuwait</b>	10.4	11.3	11.3	11.3	11.3
<b>IPC</b>	2.6	4.4	4.5	5.2	5.2
<b>Total (M tons)</b>	41.5	46.2	50.3	53.0	55.0

Table 2.3  
Estimated Iranian Crude Oil Availability 1950-53 (M tons).<sup>108</sup>

	1950	1951	1952	1953
<b>Availability</b>	33.0	35.0	40.5	43.0
<b>Desirable Capacity</b>	35.0	37.5	39.5	42.0

<sup>106</sup> Ibid., pp.1-2.

<sup>107</sup> Ibid., p.2.

<sup>108</sup> B.P. 72339, Forward Programme Statement on Crude Availability 22 May 1950.

With regard to refining however, AIOC was, prior to 1950, already running plant to its limits and would be facing a shortfall by 1953 (See Table 2.4). The 'oil shortage' problem for both the British economy and AIOC lay not in the extraction of crude oil but in its transportation and refinement into useable products. This was AIOC's long-term weakness as a company: it had increasingly become a major producer and supplier of crude oil but had never created the extensive refining and sales networks necessary to fully utilise its upstream capacity. This had been one reason for AIOC's adoption of long term supply agreements, such as that with Standard Oil (New Jersey) in 1946.<sup>109</sup>

Table 2.4  
Estimated Refinery Capacity 1950-54.<sup>110</sup>

Million Tons	1950	1951	1952	1953	1954
<b>Product Requirements</b>	27.2	28.6	30.2	31.4	32.5
<b>Crude to meet Product Requirements</b>	30.6	32.1	33.9	35.3	36.5
<b>Target Capacity</b>	31.5	32.1	34.1	36.1	36.1
<b>Existing Refining Capacity*</b>	30.7	33.5	35.1	34.5	34.5

\* Of this the Abadan refinery complex contributed 25 million tons alone.

Some of the shortages in transportation and refining derived from the after-effects of the war. AIOC lost 44 ships from its tanker fleet of 93 vessels as well as 39 out of the 102 ships that AIOC controlled for the Ministry of War Transport.<sup>111</sup> A

<sup>109</sup> Bamberg, op.cit., pp. 303-5

<sup>110</sup> B.P. 72339, op.cit., p.2 and appendix C and B.P. 69283, Memorandum to Finance Committee, 8 December 1949, p.1.

<sup>111</sup> Longhurst, op.cit., (1959) p.127 and B.P. Briefing Paper, The Road from Persia, (1993), p.5.

shortage of shipping existed and (despite AIOC's own fleet expanding to 139 ships by 1950) the company was forced to commit a further £20m expenditure on shipping between 1950-54.<sup>112</sup> This expenditure represented one of the company's major investment programmes, accounting for 12.2% of the total investment programme of £164.7m.<sup>113</sup> In 1950 the capital expenditure allowed for shipping was only exceeded by that of refining.<sup>114</sup>

However, in terms of shortages of refining capacity, the war cannot be singled out as the major causal factor. By 1947 a realisation had developed that a rapid long-term rise in demand for oil products was occurring. The Marshall Aid Planning Group for the European Zone estimated that the demand for oil would rise from its 1946 level of 33m tons in 1946 to a minimum of 43m tons by 1947, 59m tons by 1949 and 69m tons by 1951. The rise in demand would require an extra 30-40m tons of refining capacity.<sup>115</sup> The key factors in the shortage of refining capacity lay with the unexpectedly rapid rise in demand for refined oil products, in particular the 20m tons increase in United States demand, which itself exceeded total British consumption!<sup>116</sup> This increase, combined with the lack of strength in AIOC's downstream operations, was the cause of the shortage in refining as much as the effects of war. It was also this background that brought AIOC into further conflict with the British government over steel allocations and the construction of new refining capacity.

As a refining plant would take four years to come on stream, AIOC clearly had an urgent need for raw materials such as steel and manufactured plant. Much of the

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<sup>112</sup> Bamberg, *op.cit.*, p.291.

<sup>113</sup> B.P.69283, Five Year Capital Expenditure 1949.

<sup>114</sup> *Ibid.*, Total annual capital expenditure cap was set at £30m with shipping allocated £6m.

<sup>115</sup> B.P.72339, Forward Requirements, 17 November 1947.

<sup>116</sup> PRO T 236/1314, Cabinet Production Committee, PC(47)24, 10th December 1947.

manufactured plant would need to come from the United States, as they held a technological lead in such equipment. The oil industry's consumption of steel and importation of dollar manufactures ~~was~~<sup>was</sup> inevitably going to create an area of conflict between the companies and government. In September 1947 the steel allocation to the oil industry was limited to 800,000 tons per annum, of which 500,000 tons (rising to 600,000) was to come from United Kingdom sources.<sup>117</sup> AIOC complained bitterly that its steel allocation was barely enough to maintain existing operations. G.H. Coxon, the Director of the Central Planning Department for AIOC, maintained that efforts to increase refining capacity were being 'nullified by our complete inability to get the necessary permits from government.'<sup>118</sup> However, was it really the case that the oil companies were singled out for particularly harsh treatment?

Government ministers and civil servants generally supported the oil companies in their demands for raw materials, recognising the role the oil industry could play in providing valuable export earnings. This recognition can even be said to have extended as far as the Treasury itself, who were prepared to sanction an increase in imports of semi-manufactured goods from the United States in order to promote domestic refining.<sup>119</sup> Unofficially the oil companies were also informed that government would rather the companies themselves prioritised investment programmes and that their decision would be supported.<sup>120</sup> This was a suggestion rejected by AIOC, but shows that government was not opposed to oil company expansion, merely that a shortage of steel was a fact that could not be ignored. Similarly when in 1948 government worries

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<sup>117</sup> Ibid., 5th September 1947 and Bamberg, *op.cit.*, p.311.

<sup>118</sup> B.P. 72339, *op.cit.*, p.2.

<sup>119</sup> PRO T 236/1314, *op.cit.*, Overseas Steel Programme for the Oil Industry, 29th October 1947, p.2.

<sup>120</sup> B.P. 72339, *op.cit.*, p.2.

over oil supplies increased the steel allocator for the Petroleum Division in the Ministry of Fuel and Power suggested to both AIOC and Shell that it would be 'an excellent opportunity to press again for a higher allocation of steel to the oil industry.'<sup>121</sup> The view that the oil industry was favourably treated is reinforced when we consider that shipbuilders were also prioritised in steel allocations and that the oil industry was the major private purchaser of shipping in the post-war period.

While the oil industry was favourably treated there were nevertheless three real reasons for conflict over steel allocations with government. The first was the massive projected increase in production of crude oil by the companies. The Ministry of Fuel and Power oil expansion programme suggested that British companies' crude oil production would increase from 54 million tons in 1947 to 100 million tons by 1954, requiring 3.8 million tons of steel for production purposes alone. The Treasury considered this to be 'quite fantastic' and were opposed to an expansion on such a large scale.<sup>122</sup>

The second, and most important, disagreement between the government and AIOC lay in the companies' use of steel. After the war Britain became a large net exporter of steel, averaging some 1.68m ingot tons from 1946-55 compared with under 0.5m ingot tons in the decade before the war.<sup>123</sup> Central to government thinking was the need to increase exports of finished goods in order to earn as much foreign currency, especially dollars, as possible.<sup>124</sup> As a result the exporting of steel was considered less favourably than when used domestically. The oil companies, in

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<sup>121</sup> Ibid., Note of meeting between the Petroleum Division and H.E. Snow, 14 May 1948, p.2.

<sup>122</sup> PRO T 236/1314, Cabinet Investment Programme, 5th September 1947.

<sup>123</sup> Burn, *op.cit.*, p.272.

<sup>124</sup> PRO T 236/1314, *op.cit.*, Note to Chairman from G.H. Coxon 17th November 1947, p.2.

particular, faced criticisms on this issue. In October 1947 the steel allocator rejected a requested quarterly increase to 153,000 tons to the Petroleum Division and instead reduced the allocation of 138,000 tons to 133,000 tons per quarter, or 532,000 tons per annum.<sup>125</sup> The reason behind this cut was that almost all the steel allocated to the oil industry was being used outside Britain and as a result the Treasury argued for a limit of 100,000 tons per quarter on the allocation to the Petroleum Division available for export.<sup>126</sup>

Conflict between government and oil companies over the exporting of steel was not unique to Britain. In the United States export restrictions were introduced in 1947 and as a result Standard Oil (New Jersey) was unable to gain steel for the expansion of its Creole operations in Venezuela.<sup>127</sup> U.S. export restrictions also had the effect of removing the possibility of importing extra steel into Britain from the U.S. to satisfy the shortages and resolve this conflict.

The final area of conflict over steel allocations was again linked to the issue of how allocations should be used rather than the quantity allocated. As early as 1945 government had been seeking to boost domestic refining to save sterling expenditure, create both direct and indirect employment and boost dollar earnings through exports of refined products.<sup>128</sup> However it was not until 1947-8 that the companies themselves became convinced of the advantages of domestic refining.<sup>129</sup> The government's aim to increase domestic refining meant an increase of capacity from 4.8 million tons throughput to 20 million tons between 1947 and 1952, with a total steel requirement of

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<sup>125</sup> Ibid., and Bamberg, op.cit., p.311.

<sup>126</sup> PRO T 236/1314, op.cit., 5th September 1947 and 29th October 1947.

<sup>127</sup> Larson, Knowlton and Popple, op.cit., p.668 and p.671.

<sup>128</sup> PRO POWE 33/1478, Post-War Planning; Home Oil Refining, 13 March 1945, pp.1-6.

<sup>129</sup> Bamberg, op.cit., p.289

330,000 tons.<sup>130</sup> Once agreement was made between the government and the oil companies steel allocations were made on top of the oil industry's existing allocation and priority was given for its delivery. Authorisation for the use of reserves was also provided, even though it was suggested that there was little chance of these projects being started by 1948.<sup>131</sup>

AIOC's decision to build a refinery plant in Kent with capacity of 2 million tons per year for the supply of customers in the South East was chosen for a number of reasons. First, although oil companies preferred to build refineries near to the area of crude production, the Abadan refinery, with its capacity of 25 million tons per year, was judged both politically and strategically to be a 'considerable placing of eggs in one basket'.<sup>132</sup> Second, Abadan was already facing extensive work to improve the quality and diversity of products in order to satisfy changes in demand. Finally, while AIOC was considering a maritime site for a new refinery, the possibility of an immediate start for such a project was slim. Therefore a commercially sized plant which coincided with the demand in the region and could be expanded if a maritime site was postponed appeared as a rational decision for AIOC. A Kent refinery would also be seen by the government as AIOC acquiescing in their calls for increasing domestic refining capacity.

The key factor in the difficulties AIOC faced in gaining steel allocations was the limits imposed upon construction, given the international shortages of raw materials rather than the difficulty importing steel from the United States, assuming it had been available, would cause for the balance of payments. Steel shortages certainly

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<sup>130</sup> PRO T 236/1314, op.cit., Annex B, 4th September 1947.

<sup>131</sup> Ibid., 5th September 1947.

<sup>132</sup> B.P.72339, AIOC Policy Document, p.10.

delayed AIOC's investment plans, but these were seen as short-term problems caused by the redirection of the economy towards peacetime. These were problems facing all the majors both in the U.S. and Britain.<sup>133</sup> Nevertheless, the oil industry fared remarkably well and definitely benefited from its links to government. The refinery expansion project was an outstanding success, raising capacity from 17.6% of total consumption in 1947 to 101% by 1952.<sup>134</sup> The oil companies' change to favour refining close to markets proved important to achieving this success. AIOC placed the refining expansion at the top of its capital investment programme, accounting for £81.3m, or 49%, of capital total expenditure between 1950-54. The Abadan and Kent refinery projects were to be the most significant.

While post-war shortages may have created difficulties in the relationship between oil companies and governments, these were not significant enough to disturb the balance within markets which the majors were able to achieve. In fact the slowing down of investment plans and restrictions upon supply may also have slowed down the emergence of the more significant international threats to the market structure created in the post-war settlement.

- Internationally

The flexibility of approach afforded the oil majors by the rapid growth of demand certainly provided them with the ability to strive for a balance between demand and supply. AIOC could allow the entrance of CFP or Caltex into the Australian market. However, in doing so the majors were sowing the seeds for a further crisis within the industry.

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<sup>133</sup> Larson, Knowlton and Popple, *op.cit.*, pp.668-671

<sup>134</sup> B.P. 7446, table 1.10.

Pressures were building up which threatened the majors' dominance of supply. The growing demands of economic nationalism, from opposition movements within oil exporting economies, combined with demands for greater competition and a reduction of restrictions, from oil importing Western economies, were to threaten the post-war settlement within the industry. In so doing it was also to highlight the degree to which the oil majors could gain support from their respective governments. Nowhere were these dangers more starkly brought home than in the nationalisation of the Iranian oil fields in 1951, the U.S. anti-trust case in 1952 and the challenge to the majors' regulation of the European market after 1954.

The relevance of these events for this study is to what degree was AIOC, or were the oil majors generally, commercially-motivated organisations?, or were they simply private "ministries" for their respective Western governments? Following on from the answer to the above is the question, to what extent was the successful structuring of the oil industry a result of the combination of interests between strictly commercial oil firms and Western governments or the result of government structuring of markets? And, finally, how 'exceptional' does this make the oil industry?

In 1951 AIOC's most important oil fields and its massive Abadan refinery complex were nationalised, by the Iranian government headed by Muhammad Musaddiq, following nationalist agitation involving the pro-soviet Tudeh Party.<sup>135</sup> In response, an international boycott of Iranian oil was introduced that lasted until 1954, when AIOC regained access to its lost oil after a military coup.

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<sup>135</sup> For the nationalisation see Bamberg, *op.cit.*, pp.410-436, F. Fesharaki, Development of the Iranian Oil Industry, (New York 1976) and C.T. Rand, Making Democracy Safe for Oil, (Boston USA 1975).

AIOC was seen within the Iranian nationalist movement to be part and parcel of the British government and as such it became the focus for nationalist propaganda. AIOC itself felt unjustly portrayed as part of the British government. The company maintained that it had not used 'duress' to obtain its 1933 concession and that, rather than exploiting the country's natural resources, it had been part and parcel of creating the new wealth within the country.<sup>136</sup> AIOC had not only invested £95.8m in Iran between 1924-50 but had paid over £113.9m in royalties from 1913-50.<sup>137</sup> On top of this the company was also criticised by the British government for not doing more to reach an earlier settlement with the nationalist movement.<sup>138</sup> AIOC felt it was stuck between a rock and a hard place.

The guaranteed independence of AIOC from the British government ensured that the company increasingly saw itself as a strictly commercial enterprise, as opposed to an arm of the civil service. Bamberg, convincingly, documents that, while under Cadman (Chairman from 1927-41) the company was prepared to act as a diplomatic representative of the government, under Fraser (Chairman from 1941-56) the company took on a more hard-nosed commercial attitude.<sup>139</sup> This change in ethos ensured that, as Bamberg highlights, Fraser incurred hostility, if not contempt, from not only the British government but also from within the United States administration.<sup>140</sup> Behind this clash of personalities lay a real issue. AIOC was struggling to achieve a balance

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<sup>136</sup> B.P. 9233, The Company's Interest in Iran, p.5, 2 July 1951.

<sup>137</sup> *Ibid.*, 20 September 1951.

<sup>138</sup> PRO POWE 33/1968, Letter from D.A.H. Wright (Foreign Office) to V.S. Butler (Ministry of Fuel and Power) for an example of the criticism of AIOC's tendency to 'run Persia too much from London', 29th May 1952.

<sup>139</sup> Bamberg, *op.cit.*, p53 and pp.326-8.

<sup>140</sup> *Ibid.*, pp.326-8 and p.463.

between supply and demand in a period in which the international system of regulation for the industry was to face a series of fundamental challenges.

The independence from the British government that the company felt it had was most clearly stated in its post-war policy document. This explicitly spelt out that its central concern lay with maintaining its own relationship with Iran at all costs:

‘From the company’s point of view...the position of Iran [is] unique.’  
‘A clear distinction must always be drawn between those considerations that are paramount and those that are secondary. The position of Iran is obviously paramount and, wherever a conflict of interests arises, must always be given precedence.’<sup>141</sup>

The company’s attitude to the ‘requirements of the British Empire’ were explicitly stated to be of ‘secondary’ importance.<sup>142</sup> This document was written exactly two years after the conflict with the British government over the diversion of fuel oil from other European economies, when AIOC, for fear of losing market share, was refusing to satisfy the ‘requirements of the British’ government. The British government had been crucial for the creation of AIOC. Not only had it purchased shares, but it had been instrumental in creating a distribution company for AIOC products with the sale of a tanker fleet to the company. On top of this the government, through the Admiralty, was also a guaranteed market for the company’s products. Nevertheless AIOC took a strictly commercial attitude and saw its primary concern as the continuation of the Iranian supply concession rather than satisfying the demand for products. AIOC’s focus on supply rather than demand can be said to have also placed the requirements of the British government ‘second’ to those of Iran.

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<sup>141</sup> B.P. 72339, Forward Planning, 17.11.49 pp.5-9.

<sup>142</sup> Ibid., p.5-9.

Could AIOC have reached a settlement with the nationalist movement in 1951?

The company was certainly well aware of the increasing militancy of the nationalist movement symbolised by the growth of the communist Tudeh Party in Iran and better informed than at least some in government of the strength of nationalist support. Whereas the Admiralty thought Iranians should feel 'gratitude' to the British, AIOC recognised that the feeling in Tehran was that 'the British government had been getting far too much out of Persia.'<sup>143</sup> Two of the issues that caused particular problems for AIOC were that the British government was receiving more in taxes and dividend payments than the Iranian government and second that the Admiralty maintained a contract with AIOC to buy oil at discounted prices.<sup>144</sup> AIOC also recognised as early as 1948 that a re-negotiation of the 1933 concession might be necessary following the Venezuelan agreement granting a 50/50 split of profits between the government and the oil companies.<sup>145</sup>

The company policy was, without doubt, to reach an agreement if one had been possible. In Fraser, a more strictly commercially minded Chairman, was a man who would certainly have taken a more internationalist perspective than Cadman and would have been more likely to sever the links with the British government if a deal with the nationalist movement had been feasible.

Such a scenario, however, was unrealistic, given both the conditions within Iran itself and the institutional framework of the industry as a whole. The failure to pass the Supplemental Agreement after 1949 lay less with the Iranian government opposition to

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<sup>143</sup> B.P. 8334 Meeting between N.A Gass and Admiralty 13 December 1948.

<sup>144</sup> Ibid., p.2, AIOC's contract with the Admiralty to supply cheap fuel oil became intensely embarrassing for AIOC when the Admiralty began selling excess fuel oil at below market prices.

<sup>145</sup> B.P. 8334, meeting between Sir Wilfred Eady of the Treasury and Sir William Fraser 9 August 1948.

it than with the recognition that, given the growing strength of the nationalist movement, the Iranian government could not reach an agreement without signing its own political death warrant. That this is so can be seen from Musaddiq's assertion that the Iranian National Front government would have paid compensation for nationalisation if the pressure on him had not been so great.<sup>146</sup> Therefore even if the Supplemental Agreement had been passed, it would probably not have prevented the nationalisation measures.

Not only was the nationalist movement unwilling to reach an agreement but for AIOC any agreement removing them from Iran would have threatened the whole basis of international regulation and control which the oil majors had long fought to maintain. Industry regulation was based upon the control of the market for both crude oil and petroleum products, predicated on vertical integration and exclusive control over the extraction of crude oil. The central issue at stake was not company/government profit sharing but the control over the extraction of oil. After the Aramco consortium reached a 50:50 profit sharing deal with the Saudi government in 1950, oil company officials conceded that even a 15:85 split favouring the producer country's government would still have been profitable.<sup>147</sup>

The essential point was that to have conceded control of crude oil to the nation where it was extracted would have created in one stroke instability throughout the industry, by making even the Venezuelan 50:50 agreement look like highway robbery, by the oil companies, to the nationalist movements of producer nations.

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<sup>146</sup> Rand, op.cit., p.138.

<sup>147</sup> PRO POWE 33/2105, Middle East Oil Policy. G.C. Pebham to Anthony Eden No.41(E) 1534/20/54 14th March 1954.

Previous attempts at removing oil companies' control over the extraction of crude oil, such as the nationalisation of the Mexican oil fields in March 1938, had led to boycotts by the oil companies for the very reason that the viability of a strategy of vertical integration, pursued by the fully integrated major oil companies, would have been gravely threatened. A Shell director recognised this when referring to the Mexican nationalisation, stating that removing the company's control 'would jeopardise the whole structure of international trade and the security of foreign investment'.<sup>148</sup> In the case of Iran, AIOC's Director of operations within Iran was surely correct when he stated that 'If Mossadeq were allowed to get away with this [nationalisation]...Other Mossadeqhs would arise and what would be left of the fabric of the oil industry?'.<sup>149</sup>

As a result of the impasse, AIOC found itself with a company policy of supporting a 'strong government' in Iran before 1951. It was even suggested to AIOC that they should contemplate military occupation, with the setting up of a new colony surrounding the oil fields, populated by refugees displaced from the newly formed Indian and Pakistani states.<sup>150</sup> Yet it was this strong government policy that had linked AIOC to a discredited regime and helped ensure AIOC became a target for the nationalist opposition.

The second issue which threatened the international regulation of the oil industry was the anti-trust investigations, initiated by the United States Justice Department, between 1947 and 1952. The oil majors were accused of over-charging

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<sup>148</sup> Quoted in Yergin, *op.cit.*, p.276.

<sup>149</sup> Quoted in Bamberg, *op.cit.*, p.464. There are two English translations for the National Front leader's name.

<sup>150</sup> B.P. 8334, letter N.A. Gass to Sir William Fraser, 15 November 1948, for 'stronger government' and B.P.9233, letter from Hollis Burrows to N.A. Gass, 3 January 1951, for military occupation.

the European Co-operation Agency, by \$67m, for oil imports into Europe.<sup>151</sup> While price fixing in international markets fell outside the jurisdiction of the U.S. anti-trust laws, funding for the ECA came from Marshall Aid, and hence it was the American tax-payer who was being over-charged, which in turn brought the issue within the remit of the U.S. anti-trust legislation. The U.S. government's Mutual Security Agency further maintained that oil imports into the United States realised a net price some 30% lower than those in Europe, leading the anti-trust investigators to further suggest that the majors were also harming domestic producers through the undercharging for imports into the U.S.<sup>152</sup> As part of the investigation, the Justice department issued a subpoena ordering the companies to disclose internal documents.

Unlike the Iranian case, the company clearly wished to be closely linked to the British government in order to frustrate the Justice Department's demands for access to company records.<sup>153</sup> The British Government ordered the oil companies not to pass on any documents to the US, or disclose any material, without first gaining their approval. Eventually the Justice Department subpoena of AIOC was quashed on the grounds that 'for the purposes of the case, (the company was) indistinguishable from the government of Great Britain.'<sup>154</sup> In this instance the government/company relationship proved extremely important in preventing any disruption to the industry's structure.

The key to British government support for AIOC was not ownership of shares but the strategic role oil played in creating a collective security in the face of the emerging cold war. The British government not only refused to allow AIOC and Shell to pass documents to the United States Justice Department but it also gave similar

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<sup>151</sup> Financial Times, 27th August 1952.

<sup>152</sup> Wall Street Journal, 22nd August 1952.

<sup>153</sup> B.P.71283 and B.P. 35984, on cartel allegations.

<sup>154</sup> Times, 16 December 1952.

instructions to the subsidiarys of all the United States oil companies operating in Britain, including Esso, Vacuum and Regent.<sup>155</sup> The oil companies were extremely eager to gain this cover from the British Government even though, on their own admission, the documents requested were 'fairly innocuous'.<sup>156</sup> Government support went so far as to cover not only 100% U.S.-owned subsidiaries, such as Esso, but subsidiaries which were not even mentioned by the original subpoena. The scope of these restrictions was such that the British Government was in the incredible position of preventing a U.S parent company from examining its own subsidiaries' files! Not surprisingly the British Government recognised that the instruction 'admittedly has no force of law in an American Court'.<sup>157</sup>

The U.S.-owned firms also gained support from the U.S. State Department, with the result that the original anti-trust case was abandoned. The conclusion to be drawn from this is that share ownership was not the deciding factor in the 'exceptional' government/oil company relationship. Instead the 'exceptional' relationship which AIOC enjoyed with the British Government should be understood as indicative of a relationship between oil companies generally and their primary government.

Precisely what can be concluded from the nationalisation and anti-trust events in terms of the linkage between government and oil industry? It is the contention of Nowell that oil companies proved successful in substituting oil companies' interests for the interests of the nation state, with the result that consumers lose out, for example through higher product prices. States became subordinate players in the rationalising of

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<sup>155</sup> See Appendix Three for text of H.M.G.'s letter to US oil companies.

<sup>156</sup> PRO POWE 33/1857, notes of meeting between Vacuum Oil Co. and Ministry for Fuel and Power, Treasury and the Foreign Office 7th October 1952.

<sup>157</sup> PRO POWE 33/1857, letter from J.H. Brook from the Ministry of Fuel and Power to R.L. Sich, 25th November 1952.

the international oil market and this subordination was at its most successful in cases where the state identified with a national firm. Further Nowell suggests that states could be encouraged to wage conflict with other states with the aim of winning 'special privileges', although these privileges and the institutional arrangements for the sharing of these privileges, such as cartels, were ephemeral and open to capture by other interest groups.<sup>158</sup> In Nowell's case study of the French oil industry before 1940 he suggests that what has been described as 'etatism', should be considered to be the successful co-opting of the French state in the interests of the emergent French oil industry in a process of transnational structuring. The high point of this transnational structuring came in the successful creation of the Compagnie Française des Pétroles and its subsequent development to become what is often referred to as the eighth sister.<sup>159</sup>

An alternative view, at first glance, is presented by Painter, who suggests that the unifying theme of both the U.S. independent, domestic, producers and the major multinational oil companies was the limitation of the government's role in foreign oil affairs.<sup>160</sup> United States governments were content to rely upon the U.S. majors to protect and promote the national interest; the U.S. government would limit itself to preventing or reversing nationalisation by producer countries. This resulted in a 'reliance on the major oil companies as vehicles of the national interest in foreign oil' which in turn 'facilitated control of the world oil economy by the most powerful private interests'.<sup>161</sup> Whether or not Nowell and Painter's views can be interpreted as compatible with one another derives from the definition of the 'national interest'.

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<sup>158</sup> Nowell, op.cit., p.43

<sup>159</sup> Ibid., p.170.

<sup>160</sup> Painter, op.cit., p.203.

<sup>161</sup> Ibid., p.208.

Nowell is careful to avoid defining the national interest - preferring to suggest that it represents the interests of a collection of rival interest groups. Thus for Nowell 'Much of politics is argument over what constitutes the national interest. There is no answer.'<sup>162</sup> Transnational structuring becomes a broad, international interpretation of rent-seeking behaviour.<sup>163</sup> In Painter's approach the national interest directed government to pursue an 'Open Door' policy for access to oil as this 'could provide a model for other raw materials and would best serve U.S. interests because U.S. companies were favourably positioned to gain advantage from equality of access'.<sup>164</sup> If the national interest included, as U.S. President F.D. Roosevelt and the U.S. Petroleum Administration believed in 1943, the 'securing for American nationals access to the world's oil resources',<sup>165</sup> then Nowell and Painter's views can clearly be combined. Such an interpretation would suggest the relationship between company and government was essentially co-operative rather than one to be understood in terms of institutional capture.

In contrast, Bamberg contends that, while the oil companies strove towards achieving a highly structured market, they were far from successful. In particular AIOC, because of the relative international weakness of the British government and hostility from the United States government, suffered greatly to the extent that it almost lost all its control over Iranian oil. Thus, for Bamberg, the success of AIOC lay in its ability to 'cope in an unstable and uncertain environment'.<sup>166</sup>

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<sup>162</sup> Nowell, op.cit., p.11.

<sup>163</sup> Ibid., p.15.

<sup>164</sup> Painter, op.cit., p.202.

<sup>165</sup> Vietor, op.cit., p.29.

<sup>166</sup> Bamberg, op.cit., p.517.

The events surrounding the anti-trust investigations lend support to the view put forward by Nowell that the oil companies were able to gain support from governments to substitute private company interests for more domestic national interests considerations. The United States anti-trust legislation was clearly abrogated, with the consent of the State Department, on the issue of price fixing for oil sales to Europe. European economies and consumers were charged artificially high prices for oil while conversely U.S. domestic producers suffered unfair competition from artificially low prices. In Painter's interpretation the excess profits accruing to the oil majors would, for the U.S. government, represent a price worth paying for establishing its international political and economic hegemony within the Middle East.

Painter's view that government played no role (outside of the security and stability of the Middle East) also needs qualifying. Despite opposition from the un-integrated independent companies operating within the United States domestic market, United States foreign oil policy clearly had a significant impact on domestic oil policy considerations.

Similarly the British government, with Cabinet approval, was prepared to issue instructions which were highly contentious.<sup>167</sup> The British government could, arguably, prevent British owned companies from passing files held in the U.K. to American officials, yet it could not legally prevent a 100% foreign owned firm passing files to its parent company on the basis that these might then be handed over to a third party. Two months before instructions were sent to the U.S.-owned companies operating in Britain it was accepted that 'It is common ground (between the British government and the

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<sup>167</sup> PRO POWE 33/1857, Cabinet approval for the wording of the instructions was given on 30th September 1952. See Letter from J.H. Brook to R.L. Sich, 10th October 1952.

U.S. oil companies Esso, Regent and Vacuum) that there is no pretence of a legal basis for requiring an English company to withhold from its associates its ordinary business documents and information'.<sup>168</sup> That it was widely accepted that these instructions were contentious is still further backed up by the knowledge that both the Attorney General and the Treasury were both opposed to their use, arguing that, as the subpoena was on the US parent firms within the US and not their British subsidiaries, international comity was not breached.<sup>169</sup>

On the anti-trust issue Bamberg's thesis appears weakest, as it was AIOC and Shell that first received government protection against the Justice Department. However on AIOC's permanent loss of access to Iranian oil, Bamberg's case appears stronger. The importance of the nationalisation events in Iran can be gauged by Penrose's parallel with the shock faced by Standard Oil in 1911.<sup>170</sup> It can also be accepted that the United States government would have sacrificed AIOC if the need had arisen. However, AIOC not only maintained its link to Iran, after the CIA-backed coup, but also continued to be the largest element in the consortium that took over Iranian production in 1954.<sup>171</sup>

The explanation for this again in part lies with the close links AIOC had with the British government. The boycott of Iranian oil, which followed the nationalisation measures, saw AIOC work very closely with the British government to ensure its effectiveness. In 1951 Iranian oil production ceased, with the exception of a kerosene

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<sup>168</sup> Ibid., 3rd October 1952.

<sup>169</sup> Ibid., Letter from V. Butler to J.H. Brook, 26th November 1952.

<sup>170</sup> E.T. Penrose, The Large International Firm in Developing Countries, (1968), p.114.

<sup>171</sup> See M.A. Heiss, 'The United States, Great Britain and the Creation of the Iranian Oil Consortium, 1953-1954', International History Review, No.3, 1994 for details of the negotiations leading to AIOC's return to Iran.

plant for the domestic market.<sup>172</sup> Yet by 1953 the boycott was beginning to be undermined. In 1952 Iran supplied \$60,000 of oil to Japan and in 1953 after a bartering agreement was signed \$1.2m of oil was supplied.<sup>173</sup> On top of this Italian tankers were also known to have been loaded at Abadan.<sup>174</sup> The oil deal with Japan was trivial but for AIOC any breaking of the boycott could soon turn into abandonment. AIOC pressed the British government to enlist United States support for a re-affirmation of the boycott and in June it was suggested, by one company official, that the British government might 'seize a Japanese tanker, not necessarily one carrying Persian oil' to highlight the government's commitment to the boycott.<sup>175</sup> Simultaneously, the British government was also making plain to the United States by June 1953 that if Musaddiq was to be removed by force the British would prefer not to 'go it alone'.<sup>176</sup> British government interests in the Middle East lay both with the valuable overseas earnings oil companies made to the Treasury and the extensive investment made by companies, such as AIOC. It was therefore abundantly clear to the American government that the British government's interests coincided with those of AIOC and it was not prepared to see the company abandoned in the dispute.

The second, and most important, reason why AIOC was not sacrificed by the United States government on the altar of the fight against communism lies in the link AIOC had to other major oil companies. Here an Olsonian analogy is useful. Olson

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<sup>172</sup> Economist Intelligence Unit, Economic Review of Persia, No.2, 1952, p.2.

<sup>173</sup> Ibid., No.6, 1954, table 15.

<sup>174</sup> Times, 4th May 1953.

<sup>175</sup> PRO POWE 33/2090, Report of discussion between AIOC's Mr Rice and A.D.M. Ross on U.S. and U.K. views on Nationalisation, 19th June 1953.

<sup>176</sup> PRO POWE 33/1968, Middle East Oil Policy, 12th June 1953, meeting between Mr V.S. Butler & J.H. Brookes (Ministry of Fuel and Power) with E. Moline U.S. Petroleum Attaché.

has suggested that economies grow more slowly where narrow distributional coalitions develop over time. In economies undergoing defeat in war, revolution or occupation these distributional coalitions are removed allowing the market to operate more efficiently which in turn leads to more rapid growth.<sup>177</sup> For Olson distributional coalitions were initially mainly considered to be political parties and pressure groups, but also included trade unions and business organisations.<sup>178</sup> However Olson has explicitly extended his approach to distributional coalitions at the level of the firm. For Olson 'The general point is that organisations to cartelise markets or to lobby governments do not need a majority or even a plurality of the society to obtain their objectives'.<sup>179</sup> It can be suggested that the major oil companies represent an Olsonian distributional coalition and the events between 1951-2 provided a series of Olsonian shocks to AIOC.<sup>180</sup> However, AIOC's ability to survive Olsonian shocks lay not with a destruction of a distributional coalition, namely the AIOC/Iranian concession agreement, but in the continuation of strong distributional coalitions, namely those between governments and those between the major oil companies.<sup>181</sup> Competitor companies and governments were not prepared to see AIOC destroyed: rather they worked to ensure that no competitor would gain new crude oil supplies, following the nationalisation, through the enforcement of the boycott. After the military coup the oil company/government coalition ensured that AIOC not only regained much of the oil

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<sup>177</sup> See M. Olson, The Rise and Decline of Nations, (New Haven, Conn., 1982).

<sup>178</sup> Ibid., p.76.

<sup>179</sup> M. Olson, 'The Devolution of Encompassing Organisations', (Unpublished paper presented at LSE 1995 and in the author's possession), p.41

<sup>180</sup> The five American, one British and one Anglo-Dutch oil companies that made up the majors could not be considered to be an encompassing coalition, as neither independents, producer nations, nor consumers were able to participate.

<sup>181</sup> Note the difference in the shock faced by Standard Oil when it was broken up following the anti-trust case of 1911. See E.T. Penrose, op.cit., p.114.

production it had lost but ensured compensation payments from competitors who gained new supplies of Iranian oil.

To continue with the Olsonian language the conclusion to draw would be that the non-encompassing distributional coalition of major oil companies foresaw a threat to its own existence if one member of the coalition was removed. Profit maximisation, by taking advantage of AIOC's discomfiture, was firmly placed at the bottom of the agenda, below the stabilisation of the market and defence of the industry's oligopolistic structure. Instead of competing, the distributional coalitions of oil companies and their governments acted as part of a coherent and unified group in order to maintain international stability, even if this was at the expense of abandoning profit maximisation in the short term. The scale of the threat, posed by the spread of communism, ensured that even those governments that were attempting to create national oil companies in opposition to the majors, such as France and Italy, were reluctantly prepared to abide by the boycott of Iran. Significantly, this suggests that increases in monopolistic control by non-encompassing distributional coalitions, rather than the break-up of distributional coalitions, was important to the continued maintenance of a 'collective security' based upon access to oil under conditions of 'expansion and abundance'.<sup>182</sup>

We are left therefore with a view of the AIOC and British government link which suggests that the company proved very successful in gaining support from government for the defence of oil interests. However it was not simply the use of states for company interests that was essential in successfully resisting threats to the market

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<sup>182</sup> PRO POWE 33/1492, op.cit., p.1

structure. Of greater importance in defending AIOC's interests in the Middle East and against anti-trust investigations was the company's linkages to the other majors. The removal of one player in the oligopolistic structure would have thrown the world oil industry into turmoil removing controls over supply and competition. Still more worrying would have been the ability of producer nations to wrest control over the extraction of oil from the majors, through the breaking of concessionary agreements.

A second weakness in Nowell's thesis lies in the view AIOC had of its own operations. AIOC's post-war policy document proved wrong in that the Iranian concession, despite AIOC's intentions, ultimately turned out to be of 'secondary' importance while the link with the British government proved to be of 'paramount' importance. Iranian oil could be substituted for oil from Kuwait, but without the link to the British government AIOC may not have recovered from the Iranian episode and it may not have withstood a confrontation with sections of the United States government either. Thus Nowell's view of a world of coherent company activity in which nation states are subordinated actors needs qualification.

Finally, it is also clear that over both nationalisation and international oil pricing the British and U.S. governments had similar interests to the oil majors. The British government had its own interests at heart when it secured the continuation of AIOC's role within Iran. By 1952 Britain for the first time became a net exporter of refined products. Exports of capital for the oil industry and dollar oil purchases had been the single largest commodity group within the current account deficit in hard currency balances between 1946-52, accounting for the £1.7b.<sup>183</sup> Hence the British

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<sup>183</sup> Cairncross, Years of Recovery, pp. 79-80 and Bamberg, op.cit., p. 321.

government should not be seen simply as an institution captured by monopolistic private industry.

The independence of the British government from AIOC is still more clearly seen if we consider the conflicts between the company and the government during post-war reconstruction. Whether we choose the case of oil shortages and the diversion of supplies, the shortages of steel or the move towards domestic refining it is far from clear that the British government subordinated the national interest to those of the oil companies. Nowell's thesis appears to be a good deal less secure in the examination of more detailed changes within the domestic industry. Indeed it is Bamberg's thesis that these conflicts and the damage done to AIOC show the degree to which the company was unable to control events.

The interpretation offered here is that, whether we examine conflicts over Iranian nationalisation, U.S. anti-trust investigations or domestic reconstruction, it is clear that neither the oil companies nor governments were able to adopt autonomous approaches. Both companies and governments, while presenting independent viewpoints, were nevertheless mutually dependent upon one another. AIOC would have liked to have avoided being so closely linked to the British government within Iran and the British government would have liked to have had greater influence over AIOC commercial operations, over diverting supplies or refinery investment decisions. Yet both sides required support from one another. Thus government must be seen more as a partner than a subordinate to the oil companies. Government could achieve success when AIOC supported its plans, in particular the move towards domestic refining was a remarkable success story under conditions of shortage and post-war reconstruction. Equally, however, as the redirection of supplies issue shows, the oil companies were

able to resist unwarranted government interference unless, as in the case of domestic refining, developments began to favour their own interests.

The origins of the success in this period derives, not from the dominance of either government or company, but from the realisation that both sets of interests required a combined and collaborative response. The benefits of oligopoly, primarily control over the balance of supply and demand plus control over the rate of change of product prices (see below), derived not from institutional capture but from the co-operation between government and oil companies.

The relationship between government and AIOC in the post-war era does not appear to be exceptional for the oil industry. Shell and U.S. majors were able to achieve similar concessions from governments. Still more importantly, however, this relationship was not capable by the end of the 1950s of preventing the challenge to the structured markets, from within European markets, which the oil majors had so carefully maintained.

- European Threats

The strategic importance of oil was not lost on other European nations. France and Italy were both keen to create national oil companies for exactly the same reasons as the British: guaranteeing of supply, employment opportunities, dollar shortages and export earnings were international issues. European governments encouraged the development of national oil companies, most notably CFP in France and ENI in Italy. Access to supplies for these new national companies was a crucial issue for their growth. By the mid 1950s the national companies were able to gain supplies from the

open market, in particular oil from the non-integrated producing companies within the U.S. and from Russia was supplied to European markets.

While agreements could be made with companies such as CFP, who had been incorporated into the Middle East agreements, in other European markets price competition began to emerge. From an era of relative price comparability across Europe, Table 2.5 highlights the diverging pattern of fuel oil prices across the European market from the early 1950s.

Within Britain, France & the Netherlands, established national oil companies gained support from government for the regulation of supplies and the maintenance of product prices. In Italy, however, governments were keen to develop national oil companies, and alongside Germany, utilised cheaper imports to challenge the majors' regulation.

By the late 1950s, the ability of the majors to limit supplies to markets was again under threat. As Shell recognised in 1962, while a controllable surplus had existed in the past, 'in recent years it had got out of hand with the advent of new sources of oil and a large number of new operators'.<sup>184</sup> The ability of the majors to maintain higher prices within protected markets was also beginning to be questioned. In 1961 the cement industry and the Iron and Steel Confederation were complaining over the failure of British fuel oil prices to fall in line with other parts of Europe.<sup>185</sup> And in 1962 the Treasury was also moving towards the repeal of limitations upon the importation of Russian oil.<sup>186</sup>

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<sup>184</sup> PRO POWE 61/108, Mr. Wilkinson on Shell policy, 25th April 1962.

<sup>185</sup> PRO POWE 61/49, D.H. Crofton to J.D. Bryars, 13th July 1961.

<sup>186</sup> PRO POWE 61/108, A. MacKay to K.L. Stock, 2nd February 1962.

Table 2.5  
Estimated Fuel Oil Price Index 1954-61(1954=100).

	U.K	France	Germany	Italy	Netherlands	Belgium
<b>1954</b>	100	100	100	100	100	100
<b>1955</b>	102	103	105	102	103	105
<b>1956</b>	112	110	109	112	127	114
<b>1957</b>	138	131	114	112	153	133
<b>1958</b>	116	145	82	107	113	110
<b>1959</b>	118	148	77	93	110	105
<b>1960</b>	122	145	77	86	110	110
<b>1961</b>	139	141	77	86	117	105

Source: PRO POWE 61/108, The Coal Reappraisal Group, CRG 4, 7th February 1962.  
 Derived from Oil and Gas International and Petroleum Times

With the establishment of new refining and distribution companies, combined with the challenge that OPEC, formed in 1960, was to make, the vertically integrated oil companies' system of regulated markets was being undermined. The high point of structured markets and control over supplies was nearing an end.<sup>187</sup> However, this end, it should be stated, was slow coming. Vernon notes that until the early 1970s the seven majors continued to produce almost 70% of crude oil and were also the purchasers of approximately 70% of all oil traded internationally.<sup>188</sup>

<sup>187</sup> See R. Vernon, Two Hungry Giants: The United States and Japan in the Quest for Oil and Ores, (Cambridge, Mass 1983), pp.19-37, for the undermining of the majors influence after 1960.

<sup>188</sup> Ibid., tables 2.1 & 2.2

- The Majors and Oil Pricing

That the major integrated oil companies' strategy of creating a balance between supply and demand through co-operation between firms and governments was highly successful may be widely accepted. The U.S. anti-trust case and the British Treasury highlighted that significant price variations existed across markets which were not explainable in terms of either differences in product quality or regional transportation costs. Certainly some, although not all, of this price variation was due to government activity, including increased taxation upon oil products, in Britain, by the early 1960s to support coal prices. In 1961 *The Times* also suggested that government had used 'persuasion' to prevent companies from reducing fuel oil prices.<sup>189</sup>

Government intervention in price determination was not however the whole story. Penrose maintains that 'crude oil 'prices' in the post-war period up to the late 1950s were more related to the internal requirements of the international firms than to conditions in any free market for crude oil'.<sup>190</sup> In the nine years to 1956, the average annual posted (export) price of Saudi Arabian crude f.o.b. Ras Tanura changed in only four years and f.o.b. prices in the U.S. Gulf oil only changed in one of the nine years.<sup>191</sup> Even more remarkably price stability within the regulated U.S. market after 1934 meant that there were only 24 price variations for crude oil in the 38 years up to 1972.

The explanation for such price stability, Penrose suggests, lies in the fact that crude oil prices reflected transfer prices within organisations rather than expressions of market competition. By the 1960s seven companies controlled 75% of total crude oil production outside the U.S. and the Eastern bloc.<sup>192</sup> The oil companies were able to

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<sup>189</sup> *Times*, 22nd March 1961.

<sup>190</sup> Penrose, *op.cit.*, p.186 and p.190

<sup>191</sup> *Ibid.*, p.189.

<sup>192</sup> *Ibid.*, p.88.

control not only prices but also the expansion of crude oil supplies onto the market. Penrose points out that crude oil prices and supply varied only marginally during the events between 1951-4, when Iranian production ceased and then re-entered the market (see Figures 2.3 and 2.6).<sup>193</sup> Penrose's emphasis upon company control over crude oil prices is not wholly accepted. However, while Adelman presents an alternative explanation for price stability, (based upon government support for limitations on imports into the U.S.A. acting to stabilise prices), it is nevertheless accepted that the 1950s was the high point for the majors' control over the market.<sup>194</sup>

It also appears that the majors were able to significantly influence product prices. Nominal price variations, after 1947, were never as extreme as before 1945, although, in real terms, prices were falling steadily (See Figures 2.7 and 2.8). As discussed above, against this background AIOC was still able to increase gross profits between 1946 and 1950 from £28.9m to £85.7m at current prices, or 53% in real terms.<sup>195</sup>

Penrose's emphasis upon control over supply, similarly, appears to explain control over prices within product markets. Vertical integration was such that, in product markets such as Britain, the Shell-Mex & B.P. group alone were directly responsible for the supply of 76.1% of the total quantity of fuel oil consumed in 1954. If some of the smaller distribution companies which were supplied by the Shell-Mex & B.P. group are included, this total rises to 80.8%. The next largest competitor was Standard Oil (Esso) with 15.6% of sales.<sup>196</sup> In other words in the single most important market for oil products in Britain, AIOC and Shell, through their associated company,

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<sup>193</sup> Penrose, op.cit., p.150.

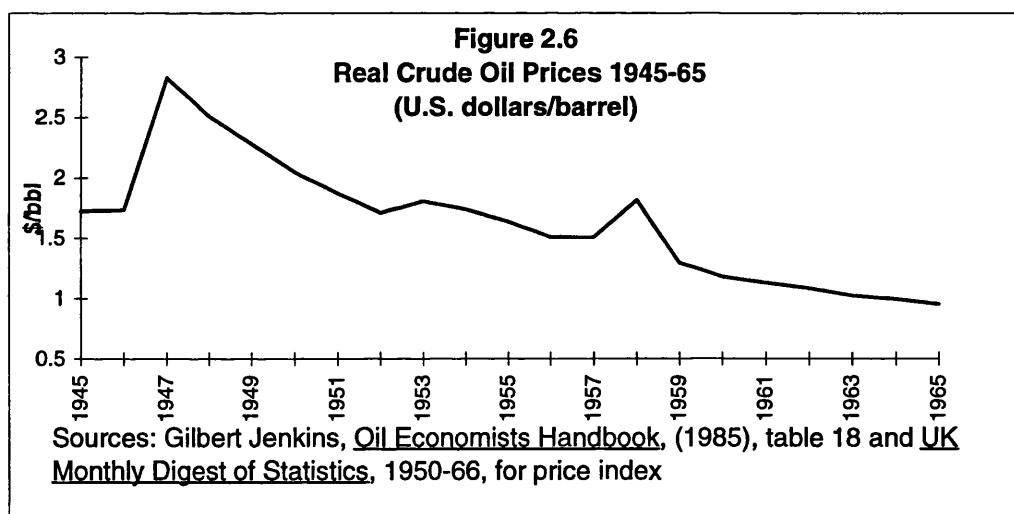
<sup>194</sup> M.A. Adelman, The World Petroleum Market, (Baltimore 1972), pp.139-56.

<sup>195</sup> Bamberg, op.cit., p.275.

<sup>196</sup> B.P.7446, op.cit., table 2.21.

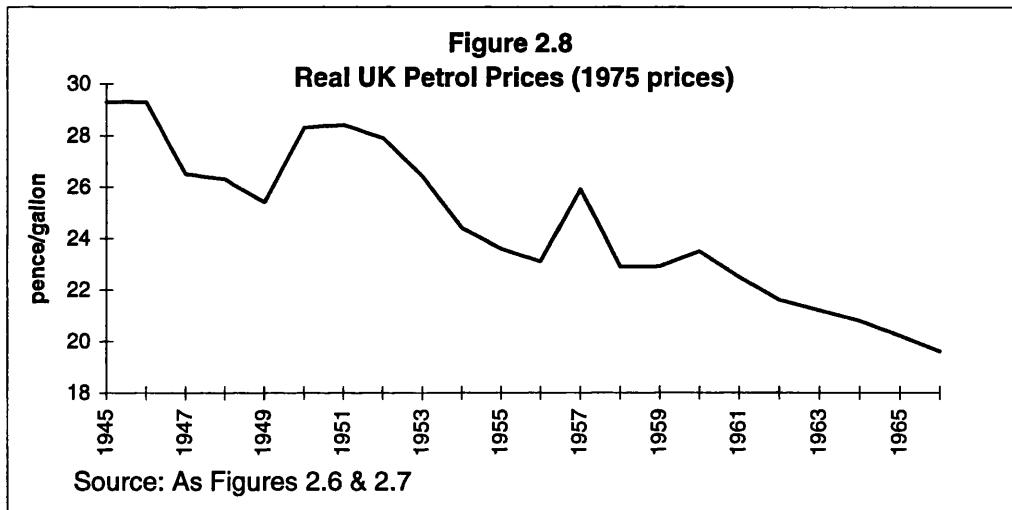
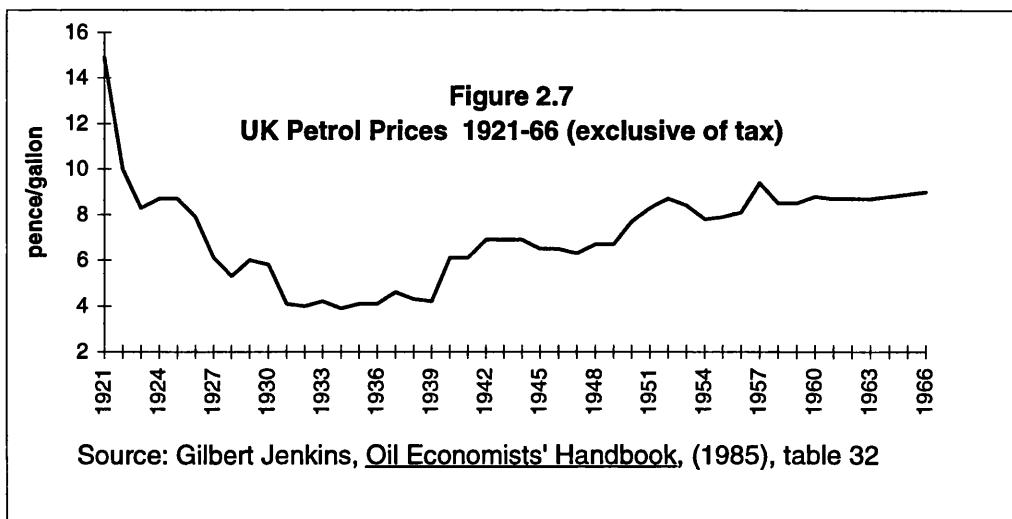
maintained a monopoly of supply in the legal sense and a virtual monopoly in the popular sense.<sup>197</sup>

A similar picture can be described for the market in motor spirit in 1954. While Shell-Mex & B.P. were directly responsible for sales of 32.6% amongst dealers and 33.1% among commercial consumers, the company was, through sales to secondary distributor companies, indirectly responsible for 51.4% of sales among dealers and 51.1% of sales among commercial consumers.<sup>198</sup>



<sup>197</sup> Using the legal sense of a monopoly as controlling over 33% of output. See J.G. Walshe, 'Industrial Organisation and Competition Policy' *The British Economy Since 1945*, (eds.) N.F.R. Crafts & N. Woodward, (Oxford 1991), p.368.

<sup>198</sup> B.P. 7446, op.cit., table 2.15.



- Conclusion

The experience of the post-war years was to the satisfaction of both the companies and governments concerned, in that an expansion and abundance of oil did indeed develop, ironically after an initial shortage, and so did the highly cartelized structure of the oligopolistic industry, made up of agreements on production, distribution and sales, which the companies had strived for. Under the conditions of rising demand, involving a form of Neo As-Is, informal and formal agreements

between the oil companies stood a much greater chance of success. The high point for co-operation and control was between 1945 and the mid 1950s, when it was threatened by new developments.

A return to a period of over-production of crude oil by the late 1950s provided the opportunity for the rise of less integrated 'independents', who were able to avoid making extensive investments backward to production and rely upon the creation of organisational capabilities based upon refining, marketing and retailing. The effect of the rise of the independents can be seen on the divergence in prices between economies such as Italy and West Germany, which utilised the over production of crude oil to challenge the hold of the majors (see Table 2.5). This threat forced the majors to react by reducing the posted price of crude oil (the price royalties to producer nations were calculated from), which in turn led, directly, to the formation by oil producing nations of the Organisation of Oil Exporting Countries, OPEC, in 1960.

The link between the major oil companies and their respective governments proved essential for the establishment and maintenance of an institutional structure favourable to the oil companies. The cases of Iranian nationalisation and the U.S. anti-trust investigation highlight the importance of the relationship between the British government and AIOC. Nevertheless government cannot be considered to have been simply malleable to oil companies' concerns. Rather government maintained its own agenda. This agenda, based upon domestic and international economic considerations, at times brought government into conflict with AIOC. While Nowell is correct to emphasise the nature of transnational restructuring, governments were not impartial observers; rather, they, too, were concerned to maximise their political and economic objectives as nation states, through a tight control over access to oil.

Our starting point in the last chapter was the question of the nature of information acquisition and asymmetric information flows. In the oil industry between 1944-5 the governments of Britain and the United States held differing views of the post-war world compared to the majors. Despite these differences, a high degree of co-operation emerged which the chapter suggests led to a period of successful market governance. The issue of asymmetric information flows was however more important between governments of the oil producing countries and the oil majors. The oil producing countries' inability to free themselves from long-term, contractual agreements based upon concessionary bargaining provided one area of focus for continuing conflict, including further wars such as the Suez crisis in 1956.

Conflicts over long-term contracting raise questions over the longevity of the success which the oil majors achieved. The high point of market structuring within the oil industry was relatively short-lived, lasting between one and two decades. From the end of the 1950s new mechanisms for market structuring had to be developed, including a dispersion of oil exploration away from the Middle East and new forms of contractual arrangements within the Middle East itself. This reinforces the view put forward in Chapter One that the process of influencing the institutional form of the market is a dynamic dialectical process. A further consideration raised by the short term nature of this success derives from the issue of exceptionalism. It may well be that the relationship between oil companies and governments was simply more visible, perhaps due to the internationalised nature of the industry, and therefore the oil industry may not be quite as exceptional as the dominant historiography implies. Both of these issues will clearly be of concern in the following case studies.

- **Chapter Three**
- **The General Electric Company 1945-65: Failure in market governance.**

“what a wonderful opportunity we have to educate the [Monopolies] Commission and through them the whole country as to the reasonableness of our well established customs.”<sup>1</sup>

- **Introduction**

How typical was the experience of the oil industry for British manufacturing industry generally? How important were close links to government for the successful development of an industry and creation of a balance between supply and demand for the development of industrial corporations? What role do issues of ownership play in determining firms' success in structuring markets? These were some of the issues which emerged from the case study of the oil industry and which will be further developed in this chapter.

The electrical engineering industry represents one of the success stories for British manufacturing industry. The industry belongs to what is often described as the second industrial revolution and can trace its roots back to the later decades of the nineteenth century with the supply of electric lighting in urban areas.<sup>2</sup> Britain's early industrialisation, utilising gas for public lighting, may have led to a slow development

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<sup>1</sup> W.L. Wates, Chairman of British Electrical and Allied Manufacturers Association (hereafter BEAMA), Newsheet, 10th May 1951 on the investigations into restrictive practices within the electrical engineering industry.

<sup>2</sup> See A.G. Whyte, Forty Years of Electrical Progress. The Story of the GEC, (1930) and T. Sakamoto, ‘Technology and Business in the British Electrical Industry 1880-1914’, Development and Diffusion of Technology: Electrical and Chemical Industries, ed. A. Okochi and H. Uchida, (Tokyo 1980).

of the electrical industry before 1914, but by the end of the 1930s the industry appears to have caught up with other European producers in the production of modern machinery.<sup>3</sup> In the three decades after 1935 the industry saw both its employment and its share of total manufacturing output more than double.<sup>4</sup> Finally, by the early 1970s the major British company General Electric Co., GEC, was the third largest electrical manufacturing concern in Europe and eighth within the world.<sup>5</sup> Thus in electrical engineering, as with oil, we have an industry in which the opportunities for dynamic firms to emerge existed.

The historiography of the industry certainly reflects this impressive growth. Business history studies are dominated by the triumph of technology over adversity, documenting a history of twentieth century innovation and diffusion.<sup>6</sup> The two world wars in particular stand out in this historiography as marking a leap forward for both innovation and the creation of new markets for the subsequent diffusion of new products.<sup>7</sup>

It is in this role of diffusion of high technology products and a reliance on government purchasing that the industry has found its critics. At one level the British electrical manufacturing industry is said to have been over-committed to the development of products for the arms trade or for the repression of civilian

<sup>3</sup> A. D. Chandler, Scale and Scope, (1990), p356.

<sup>4</sup> United Kingdom Census of Production, 1948 and 1968, Summary Report, Table 1.

<sup>5</sup> Counter Intelligence Services, The General Electric Company, An Anti-Report, (1973), p.3.

<sup>6</sup> H. Nockolds, Lucas: The First Hundred Years, Vol.II, (Vancouver, Canada, 1978) and Whyte, op.cit., (1930).

<sup>7</sup> See W.J. Baker, A History of the Marconi Company, (1970) as a particular case in point.

populations.<sup>8</sup> This commitment is subsequently said to have not only led companies to give political support to repressive regimes but also jeopardised the non-military trade of British companies with other developing economies.<sup>9</sup> For example GEC's involvement with the apartheid regime in South Africa after 1976 was criticised as it threatened to 'sacrifice our trading prospects with those nations whose economic strength appears to be increasing in order to protect our trade with a country whose prospects for survival in the long-term can at best be described as doubtful.'<sup>10</sup> While claims at this level are difficult, if not impossible, to evaluate, the point serves to highlight a similarity with the previous case study. Anglo-Iranian's support for 'strong government', from a discredited regime, created significant difficulties in maintaining the industry's stability. In general then, economic issues facing business operating within a multinational framework should not simply be divorced from the political arena.

An over-commitment to government purchasing has also led to a more narrowly focused criticism of the companies themselves. GEC, in particular, from the 1960s onwards is suggested to have adopted a short-termist approach to investment and product development, relying upon a small set of monthly financial statistics to determine strategic direction.<sup>11</sup> Indeed, short-termism was promoted as a

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<sup>8</sup> Counter Intelligence Services, The Arms Industry, No.31, (1982).

<sup>9</sup> See Christian Concern for Southern Africa, GEC Ltd., A Review of the Company's Relationship with South Africa (1976).

<sup>10</sup> Ibid., p.3.

<sup>11</sup> K. Williams, J. Williams & D. Thomas, Why are the British Bad at Manufacturing?, (1983) for more on Arnold Weinstock's managerial style.

positive virtue when the company publicly claimed that its development time span was limited to twelve months.<sup>12</sup>

A second set of criticisms laid at the door of the industry is that of collusive behaviour. Cartelization has a long tradition within the industry, with the Phoebus agreement, regulating competition between electric lamp manufacturers, and the International Notification and Compensation Agreement, regulating competition between capital goods manufacturers, being almost as famous as those within the oil industry.<sup>13</sup>

Domestically the cartels, or rings, are said to have had the effect of allowing the 'least efficient to stay in business' and acted to bloc the quest for efficiency which would ultimately have led to cheaper products.<sup>14</sup> Support for collusive behaviour continued even after the break-up of many of the rings. The rationalisation after 1968 is suggested to have been achieved at a 'high cost', involving increases in market power and continued extraction of monopoly profits.<sup>15</sup>

Internationally collusive behaviour is suggested to have had a much more deleterious impact. In developing economies the rings are accused of systematically weakening infant domestic electrical engineering industries, with the result that

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<sup>12</sup> "We look 12 months ahead...We don't look in detail beyond two years." Quoted in CIS, *op.cit.*, (1973), p.3.

<sup>13</sup> See D. Barjot, International Cartels Revisited 1880-1980, (Caen 1995) and E. Hexner, International Cartels, (1946) for general historical interpretations of the impact of cartels.

<sup>14</sup> R. Jones & O. Marriott, Anatomy of a Merger, (1970), p.318.

<sup>15</sup> See K. Cowling, P. Stoneman, J. Cubbin, J. Cable, G. Hall, S. Domberger and P. Dutton, Mergers and Economic Performance, (Cambridge 1980), pp.206-8

import substitution policies were undermined in economies such as Brazil, and economies subsequently suffered from rising imports from the rings participants.<sup>16</sup>

Thus again, as with the previous case study, the relationship between companies and governments and between the companies themselves appears to lie at the heart of any understanding of the industry. Similarly the wider issues of market information, pricing, competition and its regulation are all subjects of importance for the industry.

- Issues and Hypotheses

The electrical manufacturing industry represents an extremely diverse and continually changing industry. The industry as a whole has changed significantly and in the post-war decades the rate of change increased, as technical innovation combined with commercial exploitation to open up new uses for electrical appliances and new markets for electrical goods. The industry covers not only capital goods produced for the electrical industry and used in power generation and distribution (such as turbines, transformers, switchgear and cabling) and capital goods used in other commercial, industrial and military areas (such as computers, telecommunications and radar equipment) but also extends to consumer products for domestic uses (such as heating, lighting and entertainment). Thus the industry ranges from the manufacturing of electric light bulbs to the building of space stations, it covers both high and low technology appliances, capital, consumer, intermediate and end-user products. The diversification and expansion of the electrical manufacturing industry means that, for

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<sup>16</sup> K.R. Mirow and H. Maurer, Webs of Power, (Boston, Mass 1982), p.6.

the most part, its products are part of a new industry much of which dates from the Second World War: computers and nuclear power are but two areas of recent development.

The general definition used in this chapter corresponds to those products covered by the Electrical Engineering Industry, Order IX of the 1968 Census of Production.<sup>17</sup> The diversity of the electrical manufacturing industry creates major problems in attempting to make generalisations about either the industry or the companies involved within it. Nevertheless, the chapter will be emphasising general processes operating across the whole industry. A more detailed discussion will focus primarily upon the electricity generating capital goods sector, because, not only was the heavy electricity generating plant sector of central importance for both domestic and export orders, but it was in this sector that the processes we are concerned with were most apparent. The electronics and armaments sectors will not be the subject of such detailed examination, with the exception of their wider impact on research and development. This is because most of the commercial developments within the electronics sector (semi-conductors, micro electronic circuits and capital goods such as mainframe computers) post-dates the period under discussion.<sup>18</sup>

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<sup>17</sup> This covers machinery, wires and cables, telegraph and telephone equipment, radio and electronic components, broadcasting receiving and sound reproducing equipment, computers, electronic capital goods, domestic electrical appliances and miscellaneous electrical goods but does not cover watches and clocks, scientific instruments nor photographic and document copying equipment.

<sup>18</sup> Baker, op.cit, pp.394-6, for the Marconi Co.'s pioneering work on early integrated circuits. For a discussion of the development of the computer industry see J. Hendry, Innovating for Failure: Government Policy and the Early British Computer Industry, (Cambridge, Massachusetts 1989) and R. Hamilton, 'Despite Best Intentions: The evolution of the British minicomputer industry', Business History, No.2, 1996.

This chapter aims to examine the development of the industry in the two decades after 1945, prior to the radical transformation of the industry in 1967-68. In these two years the General Electric Company Limited acquired Associated Electrical Industries Limited (AEI) and the English Electric Company Limited. GEC purchased AEI in 1967 (following a successful take-over bid) and then in 1968 a merger with English Electric completed the process. The take-over and merger represented a mammoth leap forward for GEC in terms of the scale of resources open to it, with sales of almost £1b and assets of over £1b. The merger also made GEC the largest private employer in Britain, with a workforce of some 240,000.<sup>19</sup> As a result of the merger, GEC gained a 90% share of the UK locomotives and equipment market, 70% of the grid switchgear market and 50% of the turbo generator, process control and automation and defence electronics markets.<sup>20</sup> This chapter will suggest that the creation of a large electrical manufacturing company such as GEC in the late 1960s represented an attempt at resolving the challenges which the industry had faced since the end of the Second World War. The formation of the modern GEC, through the purchase of AEI and the merger with English Electric, was arguably a conclusion for processes which this study aims to highlight in the years from 1945-65.<sup>21</sup>

The study focuses upon the changing structure of the market facing the electrical manufacturing industry and, through the development of the three major constituent firms which formed GEC, examines the attempts by companies to

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<sup>19</sup> Jones and Marriott, op.cit., p.12.

<sup>20</sup> Industrial Reorganisation Corporation, 14th September 1968. Quoted in CIS, op.cit., (1973), p.34.

<sup>21</sup> For a discussion of the merger itself see Jones and Marriott, op.cit., pp.265-313 and for the impact of the merger see Cowling et. al., pp198-213 and pp238-269.

influence those changes after 1945. There are two key areas of interest in the study.

First, the move away from formal cartel arrangements both in Britain and internationally from the early 1950s onwards and the emergence of competition initially in domestic appliances and later in capital goods. Second, the role played by the growth of government procurement contracts on the development of the firms and the industry itself.

Our interest is in the use of information under conditions of uncertainty. Did the existence of formal cartels reflect high levels of uncertainty and risks of opportunism within the industry? Were cartels a reflection of the need to develop governance procedures where high levels of asset-specific investment was required? What does their abandonment then tell us about information asymmetry, risk and opportunism within electrical engineering? We are also interested in the impact of the development of market governance mechanisms on firms. Did a reduction in competitive pressures help or hinder the development of organisational capabilities? What role did government orders play in electrical engineering? Finally, what was the impact of market governance mechanisms on the market? Are firms successful in controlling competition within the market? Or do firms simply face a continually changing environment in which new competitive threats always emerge?

These issues will be addressed through the testing of two specific questions in this chapter. Did the ending of formal cartels have a detrimental effect on the companies concerned, by simply highlighting the lack of international competitiveness? If this is so it would suggest that increasing information asymmetry, through cartels, is simply a market governance mechanism for the uncompetitive firm.

Second did government orders provide a secure backdrop for company investment in areas such as research and development, and if so, could the companies utilise this security to improve their competitive position in more hostile markets (i.e. is the restriction of information necessary for the creation of organisational capabilities)?

The chapter will follow the model of the previous chapter; first it will examine the growth of demand for electrical engineering products, and in particular focus upon the pattern of international trade, before discussing supply and the regulation of markets. In so doing it will examine the apparent paradox of its growing importance to the British economy yet relative decline in world markets.

The chapter will highlight the link between this paradox and the regulation of competition, before exploring the pressures leading to change within the industry. In response to these pressures, firms developed alternative regulatory responses. These changes further highlight the role played by information acquisition and ownership patterns in explaining firms' initial motivation in developing market governance mechanisms. Finally, the chapter examines the impact these processes had on the firms themselves, by examining the degree to which they hindered or helped the creation of competitive firms.

- Demand for Electrical Engineering Equipment

The pattern of demand for electrical equipment in the 1940s was markedly different from that of the 1950s. Throughout the 1940s demand alternated between high levels of defence orders and high levels of civilian orders, whereas in the 1950s

high levels of demand for defence equipment reinforced high levels of demand for civilian products.

The Second World War engulfed the productive capacity of the electrical manufacturing industry. Unsurprisingly there was high demand for military devices such as radar, aircraft guidance systems and telecommunications equipment. The industry was not only responsible for supplying complete systems but also components and products including circuits, fuses, switches, bulbs and batteries, along with the countless number of other products required in all military equipment using electrical power. Largely as a result of this military demand, real net output grew by 49% between 1935 and 1948, employment rose over 85% and the number of establishments within the industry virtually doubled to over 1600 (see Table 3.1).<sup>22</sup> For firms in the industry, between 1940 and 1945, output was almost exclusively for the war effort. At GEC, 93% of output was defence-related, while for competitors such as EMI the figure was 98%.<sup>23</sup> The picture was also the same internationally: output from the US firm, General Electric, was also almost totally war-related.<sup>24</sup>

The dramatic fall in UK government expenditure on defence (from over £5b in 1944 to £750m by 1948) presented industries such as electrical manufacturing with major reconversion difficulties.<sup>25</sup> Yet, despite the move away from wartime

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<sup>22</sup> United Kingdom Census of Production, 1951, Summary Report Table 1. Figures only refer to larger establishments employing over 25 workers. In 1948 only 1.6% of workers within the industry were employed in smaller establishments.

<sup>23</sup> Sir Alexander Aikman, EMI Chairman's Annual Report, 1946, p.4 and GEC Archive (hereafter GEC), Box 1952, Witton News Jubilee 1902-52, p.13.

<sup>24</sup> Even during 1945, the year of reconversion, war production for General Electric (USA) amounted to over 75% of net sales. General Electric (USA) Yearbook, 1945 pp.33-37 and 1947.

<sup>25</sup> A. Cairncross, Years of Recovery, (1985), p.212.

production, the growth in output of the industry continued. Output growth was now markedly different from the wartime growth: the industry no longer relied purely upon the military. Post-war reconstruction saw major problems of satisfying demand for electricity, with winter power cuts still taking place as late as the early 1950s.<sup>26</sup> The United Kingdom, as with other developed countries, also saw its consumption of electricity growing at around 7% per annum and consumption was therefore expected to roughly double every decade.<sup>27</sup> Not only was there a large market for civilian versions of military products like radar, as well as aircraft and marine guidance systems, after 1945, but there was also a growing market for a wider range of capital and intermediate goods within industry, as the use of electrical machinery and power in the production process spread.

On top of these industrial markets the early post-war years saw an emerging civilian market for new domestic appliances such as televisions, washing machines and refrigerators, despite the continuation of rationing. Between 1945 and 1950 revenue from sales of television sets grew from £0.42m to £29.98m, while sales of radiograms grew from under £10,000 to £10.65m.<sup>28</sup>

Demand grew steadily in the 1940s but it was the 1950s that saw high defence and civilian demand coincide. In 1951 the outbreak of the Korean war resulted in a rapid rise in defence spending. Military expenditure in Britain rose from £861m to £1,652m between 1951-3, representing a rise from 7.0% to 10.3% of GNP.<sup>29</sup> Military

<sup>26</sup> See L. Hannah, Engineers, Managers and Politicians, (1982), pp.23-9.

<sup>27</sup> Ministry of Supply, Exports of Heavy Electrical Plant, Part 1., (1954), p.8-9.

<sup>28</sup> T. Wilson, 'The Electronics Industry', The Structure of British Industry, Vol.2, ed. D. Burn, (Cambridge 1958), p.138.

<sup>29</sup> D.C. Paige, 'Defence Expenditure', National Institute Economic Review, No.10 1960, p.28

spending stayed at these levels in money terms throughout the 1950s, although if measured as a percentage of GNP it gradually fell to 7.5% by 1960.

The spread of domestic household appliances within British society was also extremely rapid after 1950. This development had a profound social impact as new forms of entertainment and culture entered into society for the first time. Equally these developments were part and parcel of a radical change in the roles of women. Between 1950 and 1959, sales of television sets, refrigerators, washing-machines and vacuum cleaners grew on average by a rate of 16.5% against an annual average increase in consumer sales of only 2.2%.<sup>30</sup> Demand for these products was spreading well beyond the realms of the upper classes and into many middle class homes. The spread of domestic appliances into lower class households was however significantly slower and not until the 1958 did the majority of lower class households possess either a television set or a vacuum cleaner, along with the most popular domestic appliances, the electric iron and the radio.<sup>31</sup>

The increase in demand for domestic appliances arose from the combination of rising real incomes and the substantial fall in the real cost of products in the 1950s. The 1950s saw the relative retail price of televisions and refrigerators fall by a third, washing machines by a quarter and vacuum cleaners by a fifth. These price falls accounted for approximately 30-50% of the rise in demand.<sup>32</sup> Non-monetary stimulus to demand also proved important with the learning effect, as consumers became

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<sup>30</sup> L. Needleman, 'The Demand for Domestic Appliances', National Institute Economic Review, No.12, 1960, p.24.

<sup>31</sup> Upper class households accounted for 11% of households, middle class for 18% and lower class for 71%, ibid., p.27.

<sup>32</sup> Ibid., p.29.

familiarised with products, and later the replacement of older equipment boosting sales. Another factor which effected the market for domestic appliances was the development of saturation levels, the point at which every household would own an appliance and new purchases would be the result of replacement. Saturation effects occurred at different times according to social class.

1959 represented the peak year for sales throughout the 1950s and 1960s for domestic appliances, with sales of televisions, refrigerators, washing machines and vacuum cleaners totalling 1.5% of total expenditure, some £6.5b.<sup>33</sup> The subsequent fall was in part due to the life of the appliances being longer than expected, leading to a slower rise in the purchase of replacement appliances and an accentuation of the saturation effects by the early 1960s. Table 3.1 shows the industry's increasing importance to the growth of the British economy as a whole, with its share of total manufacturing net output doubling to 9.0% between 1935 and 1968. Thus by 1968 the electrical manufacturing industry's gross output had risen to some £2.7b and it employed 753,000 workers in over 4,000 establishments.<sup>34</sup> GEC in 1968 was responsible for approximately one third of total output and employment.

This impressive performance, however, needs to be qualified. As Table 3.1 also shows, despite the nominal fourfold growth in output between 1935 and 1948, the rapid expansion of the industry, measured by real net output, came from the early 1950s onwards. Pre-war real output and productivity levels were not matched until the mid-1950s and as a result early post-war growth came from increasing the numbers

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<sup>33</sup> T.A.B. Corley, Domestic Electrical Appliances, (1966), p.53 and Anon, 'Long term forecasts of demand for cars, selected consumer durables and energy', National Institute Economic Review, No.40, 1967.

<sup>34</sup> United Kingdom Census of Production, 1968, Summary Report, Table 1

employed.<sup>35</sup> This poor early post-war performance is important to understanding subsequent decisions within the industry. Employment fell in the early 1950s and real net output per person employed rose markedly to 8.6% per annum between 1951 and 1954. However, this impressive productivity growth was not sustained and fell back to, the still very respectable, 4.6% per annum between 1958 and 1963. Finally productivity growth was again to increase in the 1960s, to an annual rate of 5.1% p.a. between 1963 and 1968.

The industry appears to have faced initial difficulties in the aftermath of the Second World War but by the early 1950s was responding rapidly to a new environment, achieving high, if fluctuating, productivity growth throughout the 1950s and 1960s.

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<sup>35</sup> Real net output per person employed suggests that the 1940s was a period of negative productivity growth. However, the price index used is wholesale prices for all manufacturing industries (see table 3.1 below). Given rapidly falling relative prices for domestic appliances we therefore have a potential for a classic index number problem and so some care should be given to statements on real productivity growth.

Table 3.1  
Growth of the Electrical Engineering Industry 1935-1968<sup>36</sup>

Year	Net Output	Real Net Output	Real Net Output per Person Employed		Employment 000's	Percentage of Total Manufacturing Net Output
		£m	1954=100 <sup>37</sup>	£		
1935	69.4	55	800.4	106	301.1	4.3
1948	277.8	83	645.7	85	555.8	5.2
1951	368.0	85	602.6	80	614.3	5.0
1954	434.9	100	757.9	100	573.8	7.1
1958	615.2	127	849.2	112	652.6	7.8
1963	956.4	184	1043.0	138	767.4	8.8
1968	1,375.3	227	1308.2	173	753.7	9.0

<sup>36</sup> Source: The figures correspond to Order IX 'Electrical Engineering' of the 1968 United Kingdom Census and are derived from the United Kingdom Census of Production, Summary Report, 1951, 1958, 1963 & 1968, table 1 and United Kingdom Annual Abstract of Statistics, 1954, table 138.

<sup>37</sup> 1954 wholesale output prices for total manufacturing indices derived from B.R. Mitchell, British Historical Statistics, (Cambridge 1988), tables C-F. Electrical engineering wholesale prices were rising less rapidly than those for manufacturing generally from 1963-68 suggesting that at least for the 1960s productivity growth is underestimated. See Annual Abstract of Statistics, No.107, 1970, table 388.

- Electrical Engineering and International Trade

Patterns of international trade highlight both the strengths and weaknesses within the British electrical engineering industry throughout this period. A large discrepancy developed between both the rates of growth and product composition of imports and exports that was indicative of not only the relative strength of the electrical manufacturing industry immediately after the war, with respect to international competitors, but also the industry's relative decline by the late 1960s.

- Imports

Although a positive balance of trade remained throughout the period the rate of growth of imports far exceeded those of exports. In 1966 the United Kingdom imported £150m worth of goods in the electrical machinery, apparatus and appliances sector compared with a figure of £2.3m in 1947, representing an increase of 6,422% against an increase in imports generally of only 332%.<sup>38</sup> The essential explanation for such a large increase in imports was that tight restrictions were placed upon imports immediately after 1945 and therefore the 1947 figure was artificially low. Limitations upon domestic demand of consumer durables continued throughout the 1950s and 1960s, when credit restrictions were used first to boost then to reduce demand. Decomposing the component elements sheds further light on this growth in imports. In 1968 the market share of imports was; generator sets and switchgear (0%), electric wires and cables (2%), motors and control gear (16%), telegraph and telephone

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<sup>38</sup> Board of Trade, op.cit., 1950 and 1968, tables 1&3.

equipment (5%) and domestic appliances (14%).<sup>39</sup> The explanation for the continuing low levels of imports within the heavier end of the industry lies in the fact that purchasers of heavy equipment were almost exclusively nationalised industries who continued to buy from domestic manufacturers. The growth of demand was the result of long term planning by monopsonist commissioning authorities.

In the case of electricity generation, while undergoing significant year to year fluctuations, demand was based upon GDP growth rate estimates of 3.0% per annum and well established estimates of electricity consumption growth of just below 7% per annum.<sup>40</sup> The Area Boards, the Scottish Boards and the Central Electricity Authority, CEA, (after 1958 the Central Electricity Generating Board, CEGB) were the authorities responsible for commissioning adequate levels of equipment, based upon these estimates, to satisfy the simultaneous maximum demand with a 17% margin.

The same was also true of orders from the Ministry of Defence, where political objectives and commitments linked to the cold war, were the result of long-term planning. Thus, for the manufacturers, aggregate demand was considered to be largely inelastic and price competition could only lead to lower profits rather than an aggregate increase in domestic demand.<sup>41</sup> In contrast to government orders demand for consumer durables was highly elastic. In consumer durables, demand was instead constrained by government concern over macro-economic conditions. Despite the

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<sup>39</sup> NEDC, Electrical Engineering EDC, table 1.02 and NEDC, Electronics EDC, tables 2.01 & 2.02.

<sup>40</sup> NEDC, Electrical Engineering EDC, p. 16.

<sup>41</sup> See G.B. Richardson, The Future of the Heavy Electrical Plant Industry, (1969), p.20 for the companies' views.

growth of consumer durable sales noted above, the emergence of a market for consumer durables was restrained through the period.

- Exports

The electrical engineering industry was also of growing importance for the British economy due to its earnings of foreign currency. Electrical machinery, apparatus and appliances was the third largest single category of exports from the United Kingdom by value in 1966, with exports of over £346m per annum, exceeded only by those of non-electrical machinery and transport equipment.<sup>42</sup> The industry's exports overtook those of declining industries such as cotton yarns and manufactures and woollen and worsted yarns and manufactures, as well as more modern industries such as iron and steel. While total United Kingdom exports rose 442% by value between 1947 and 1966, those of the electrical machinery, apparatus and appliances division rose by 700%.<sup>43</sup> In 1955 British exports accounted for over 20% of world trade in both capital goods and transport equipment.<sup>44</sup>

The main demand for British electrical manufactures was in capital goods: in 1948 the most important exports were electric wires and cables (£23m), telegraph and telephone equipment (£12m), generator sets (£7.7m) and switchgear (£6.8m), whereas in consumer goods the main exports were radio sets (£3.6m), refrigerators (£1.7m) and

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<sup>42</sup> Figures on exports derived from Board of Trade, Report on Overseas Trade, Vol.XIX No.1 1968, table 2. Note that chemicals exports as a class exceeded those of electrical machinery but no single chemical division exceeded those of electrical machinery, appliances and apparatus.

<sup>43</sup> Figures on exports derived from Board of Trade Report on Overseas Trade, Vol.1 No.1 1950 and Vol.XIX No.1 1968, table 1&2.

<sup>44</sup> A. Maizels, Industrial Growth and World Trade, (Cambridge 1963), Tables A72 & A74

vacuum cleaners (£1.7m).<sup>45</sup> By 1968 this bias towards capital goods exports remained, with exports of generator sets and switchgear (£40.9m), motors and control gear (£60.1m), electric wires and cables (£39.1m), telegraph and telephone equipment (£35m), and all domestic appliances combined (£32.0m).<sup>46</sup>

In the late 1940s the sterling overhang and dollar shortages saw government attempts to utilise exports of electrical appliances to boost overseas earnings.<sup>47</sup> Demand for goods was high, particularly in Europe, where competitors still had to recover from the effects of war. Yet Ministry of Supply figures suggested that exports of domestic appliances by mid 1947 had only reached 16-18% of production.<sup>48</sup> Frustration with the failure to export led the Board of Trade to argue for either an outright ban on all production of electric fires for the domestic market or a restriction of production to exports and those required in new homes.<sup>49</sup>

Manufacturers' export targets were increased from 50% to 80% in 1947. Some notable successes followed from these targets. British exports of domestic washing machines, amounting to £3.9m, succeeded in capturing 49% of the world export

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<sup>45</sup> BEAMA, Catalogue, 1949-50, pp.239-40.

<sup>46</sup> National Economic Development Council, Industrial Report by the Electrical Engineering EDC on the Economic Assessment to 1972, (1970), table 1.02 and National Economic Development Council, Industrial Report by the Electronics EDC on the Economic Assessment to 1972, (1970), table 2.01. Note the difference between total figures for electrical exports and the specific elements documented is accounted for by electronic exports, mainly computers.

<sup>47</sup> See J. Tomlinson, Public Policy and the Economy since 1900, (Oxford 1990), pp.207-12 for a general discussion of British post-war trade issues.

<sup>48</sup> PRO BT 64/2925, Domestic Appliances and Gas Appliances: Diversion from home to Export, 30th June 1947.

<sup>49</sup> Ibid., 16th May 1947 and 30th June 1947.

market by 1950 and in electric cookers and heating appliances (including irons) exports, amounting to £3.1m, captured 46% of the world market.<sup>50</sup>

However, despite the clear opportunities for British electrical exports in the late 1940s, manufacturers' initial response to export promotion, in the domestic appliance sector, was to lay off workers and close plant. In 1948 Morphy Richards threatened to close its plant in the Blyth development area producing fires, toasters and vacuum cleaners, while EMI laid off almost 200 workers at its Rhondda plant, in February of the same year, stating that it would close it entirely due to restrictions imposed upon domestic sales of irons and fires.<sup>51</sup> A similar response occurred in the 1956 reduction of domestic demand: firms failed, with the exception of vacuum cleaners, to increase exports to compensate.<sup>52</sup> This failure was in direct contrast to France where, as Milward points out, exports grew in response to falling domestic sales.<sup>53</sup>

By the early 1960s only between 10-20% of domestic consumer goods were exported, whereas firms were much more dependent upon export orders for heavy capital goods with, for example, AEI's traction division exporting more than 70% of total production in 1964.<sup>54</sup>

The general failure of manufacturers to export consumer goods thus appears in stark contrast to the successes achieved within the capital goods sector of the industry. However, in examining in more detail the markets for British electrical exports it

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<sup>50</sup> Maizels, op.cit., table 12.11

<sup>51</sup> PRO BT 64/2925, op.cit., 20th February 1948. Note the Board of Trade believed EMI's argument was simply an excuse to relocate production back to its main Hayes plant.

<sup>52</sup> A. Milward, The European Rescue of the Nation State, (1992), pp.420-24.

<sup>53</sup> Ibid., p.422.

<sup>54</sup> Economist Intelligence Unit (EIU), Prospect, Winter 1960, p.6 and AEI, Annual Report and Accounts, 1964, p.20.

becomes clear not only how it was that manufacturers generally failed to export in the consumer durable sector but also that the export success in capital goods was far less obvious than initial figures suggest.

- Supply and slower growing markets

The export success of British heavy electrical engineering disappears when examined against the growth in world markets. Tyszynski estimates that before the Second World War British exports accounted for 22% of world trade in electrical goods rising to 34% by 1950.<sup>55</sup> British Government estimates in 1957 confirm this growth, suggesting that the British share of the world turbine, generator, motor and transformer markets rose from 29% in 1937 to 37% in 1949.<sup>56</sup> This success, however, was not to last.

The re-establishment of West German firms in export markets was very rapid. In 1949 West German exports of electrical machinery amounted to only £7.1m, or 5% of the British total, but by 1951 this had grown to £56.3m, 30% of the British figure.<sup>57</sup> Between 1950 and 1955 West German exports of machinery increased 355% and in transport machinery this increase was still more rapid at 500% by value at constant 1955 prices.<sup>58</sup> The markets to which Germany exported were mainly within Western Europe and, initially, it was US and other European firms that were the main losers to

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<sup>55</sup> H. Tyszynski, 'World Trade in Manufactured Commodities 1899-1950', Manchester School of Economic and Social Studies, No.3, 1951, tables IV-V.

<sup>56</sup> Monopolies and Restrictive Practices Commission, Report on the Supply and Export of Electrical and Allied Machinery and Plant, (1957), Appendix 14, table 4.

<sup>57</sup> BEAMA, The Electrical Industry Exports Bulletin, February 1953, p.23.

<sup>58</sup> Maizels, op. cit., pp.490-493.

German competition.<sup>59</sup> As Table 3.2 shows, Britain's share of world trade in turbines, generators, motors and transformers, at 35%, remained above its 1948 level until 1950, whereas the US saw its share fall from 40% to 35%. Among European economies, the market share of Sweden, Belgium & Luxembourg remained static, while Italy's actually fell. However from 1950 onwards Britain's share of world trade also began to decline; by 1953 it had fallen below its pre-war level, to 28%.<sup>60</sup> This decline continued with the Economic Development Council estimating Britain's share of world trade in electrical engineering falling from 19.5% to 13.5% between 1963 and 1968.<sup>61</sup> The fall in the 1960s occurred at the same time as the market shares accounted for by West Germany and the United States remained almost constant and those of Japan and Italy nearly doubled. On top of this, the international market for heavy plant was growing at approximately 7% per annum.<sup>62</sup>

Table 3.2  
Percentage of Exports of Steam and Water Turbines, Generators, Generating Sets,  
Motors and Transformers from Eight Principal Manufacturing Countries of the  
World<sup>63</sup>

Year Percentage from;	1938	1948	1949	1950	1951	1952
U.K	32	33	37	35	28	26
USA	14	40	35	31	31	31
Germany	28	1	1	5	10	17
France	3	4	5	6	8	6
Sweden	8	4	4	4	4	5
Switzerland	9	8	9	11	10	8
Belgium/ Luxembourg	3	6	6	6	5	4
Italy	3	4	3	2	4	3

<sup>59</sup> Ministry of Supply, Report on Exports of Heavy Electrical Plant, Part One, (1954), p.iii.

<sup>60</sup> Monopolies and Restrictive Practices Commission, op.cit., table 4.

<sup>61</sup> NEDC, Electrical Engineering EDC, table 2.03.

<sup>62</sup> Ibid., p.7 and p.17.

<sup>63</sup> Monopolies and Restrictive Practices Commission, op.cit., Appendix 14, table 4.

The Board of Trade estimated that between one quarter and a third of the loss of Britain's share of world trade derived from the geographical distribution and commodity structure of exports. Milward maintains that this is likely to be an underestimate as a geographical orientation of trade with western Europe would have gone some way towards addressing the productivity difficulties British manufacturing faced.<sup>64</sup>

The geographical location of Britain's trade in electrical manufactures certainly goes some way to explaining the industry's relatively poor export performance. Britain retained a strong positive balance of trade among Commonwealth countries and the Sterling area in electrical manufactures, with around half of all exports going to these areas. The largest export markets for British goods were the Commonwealth countries, such as Australia, Canada and India and South Africa. In 1963, for example, of the £175m exports of electrical and allied machinery the largest markets were Australia (£29m), South Africa (£25m), India and Canada (£20m).<sup>65</sup>

Western Europe also provided a major export area, taking some 30% of electrical machinery, apparatus and appliances in 1965 and 1966, of which half went to the EFTA countries and half to the rest of Western Europe.<sup>66</sup> These figures represent an increase in the proportion of exports to Western Europe in comparison to the 1950s, with both the Board of Trade estimates and Trade Association figures suggesting that

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<sup>64</sup> Milward, *op.cit.*, pp.423-4.

<sup>65</sup> BEAMA, *Annual Report*, 1963-4, p.9.

<sup>66</sup> Board of Trade, *op.cit.*, 1968, tables 1 & 13.

around 20% of exports went to Western Europe in the years 1957 and 1958. The balance of exports to EFTA and non-EFTA countries remained relatively unchanged throughout.<sup>67</sup> A positive balance of trade existed with Western Europe as a whole although, importantly, the European Community itself was showing a negative trade balance in this sector by 1966. The third major export area of crucial importance in a study of the industry was the United States. The United States was the single largest market for electrical goods, yet only 6% of exports of electrical machinery, apparatus and appliances were destined for the US. As a result of the lack of penetration into the US market by British manufacturers a large negative trade balance existed by the late 1960s with the US in this sector.<sup>68</sup>

This pattern of exports was, with the exception of the United States market, markedly different from that of West German exporters. Over 72% of West German exports of electrical goods went to Western Europe, of which almost 64% went to the European Community and EFTA countries. Outside Europe important export markets were in Asia (9.4%), USA (4.8%) and the rest of America (7.9%).<sup>69</sup> West German imports of electrical goods further highlight these differences. While West Germany's imports of electrical goods amounted to only 9.3% of exports, these originated overwhelmingly from Europe (77.3%, including 9.4% from Britain) and the United States (18.4).<sup>70</sup>

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<sup>67</sup> BEAMA, Annual Report, 1958-9, p.26 and Board of Trade, op.cit., Vol X, No.1, 1959, table 11.

<sup>68</sup> Board of Trade, op. cit., 1950, tables 10 & 11, 1959, tables 11 & 12 and 1968, table 13.

<sup>69</sup> BEAMA, Bulletin, Vol.9, No.48, July 1963.

<sup>70</sup> Ibid.

Western European and American markets were of growing importance for the electrical manufacturing sector by the late 1950s. That a growing proportion of exports were destined for these markets and that a negative balance of trade existed with the most developed parts of Western Europe and the United States suggests that internationally the industry was increasingly becoming dependent upon major competitors' domestic markets for sales and that the British electrical industry specifically was struggling to maintain a competitive position in these key markets in the face of stiff competition.

The main manufacturers' association, the British Electrical and Allied Manufacturers Association (BEAMA), in attempting to promote exports and to boost the knowledge about British suppliers, published a series of detailed catalogues covering the full range and specifications of products from its members, along with details of all the members' overseas agents and sales organisations. These impressively large volumes (complete with a foreword from the President of the Board of Trade) were then distributed internationally to named individuals responsible for purchasing policy who were nominated by the exporting companies. Copies were also sent to British government overseas trade officials and foreign government officials. These volumes and their distribution further highlight the orientation which British firms had in the early post-war period. For example some 9,087 1949 BEAMA *Catalogues* were distributed abroad, of which 1,244 went to Australia, 1,015 to Canada, 855 to India and 767 to South Africa. However only 87 went to the United States, which was only

just more than the 70 that went to Kenya. Similarly of the 1,812 that went to Europe only 7 went to Germany and the same to Rumania!<sup>71</sup>

That British electrical manufacturers had such little contact with major markets in western Europe is still further highlighted by the fact that, while GEC in the 1949 catalogue lists its complete overseas sales agents and organisations including the Falkland Islands and Grenada, it fails to list any sales agents in Germany.<sup>72</sup>

A more detailed look at the three firms in the study shows that all were highly reliant upon export orders, particularly in the capital goods and heavy plant areas of production, and that all had an orientation on Commonwealth markets. In the case of AEI, around 25% of output was destined for foreign markets, including 55% of the output of one of its largest divisions, the Turbine-Generator Division, going to South Africa, Hong Kong, British Ghana, Canada, Australia, Spain, Mexico and New Zealand.<sup>73</sup>

English Electric's exports, as a percentage of total output, increased from 20% in 1939 to 50% in 1952 but by 1958 this had fallen back to 33%.<sup>74</sup> The main exports for English Electric were electric traction equipment for use in railways, mining and other heavy industrial purposes. Key markets after 1945 were South Africa for rectifier equipment, Australia for diesel electric locomotives and India and New Zealand for electric locomotives.<sup>75</sup> English Electric also found export markets for high technology

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<sup>71</sup> BEAMA, Publicity Committee Minutes Jan-Dec 1949, 30 November 1949, minute 598.

<sup>72</sup> BEAMA, Catalogue 1949-50, pp.818-20.

<sup>73</sup> J. Latham, Take-over. The facts and the Myths of the GEC/AEI Battle, (1969), p.26 and AEI, Annual Report and Accounts, 1961, p.22.

<sup>74</sup> English Electric, Annual Report and Accounts, 1953, p.6 and 1955, p.8.

<sup>75</sup> English Electric, Electricity in Transport, (1951), pp.134-157.

electronic goods and importantly it was these that found access into more developed markets, with, for example, the Marconi Instruments subsidiary selling over half its navigation equipment to North America and Europe.<sup>76</sup>

In the case of GEC, as Table 3.3 highlights, the reliance upon overseas markets was still more important. Heather has stated that overseas sales (from subsidiary plants located abroad) and exports from Britain accounted for 42% of turnover in 1953, up from 25% in 1938.<sup>77</sup> This continued to rise and accounted for as much as 49.9% of all GEC sales in 1957. GEC was responsible for around 10% of all British exports in the electrical machinery category. Again, similarly to the other firms, some 70% of exports went to Commonwealth nations, in particular, with South Africa, India and Australia accounting for 35% of total overseas sales in 1953. Of the European economies only Portugal, Eire, Holland and Sweden were significant export markets for GEC in the early 1950s, but all these combined accounted for less than 9% of overseas sales. By 1965, however, a slight shift in the direction of exports had taken place, with 40% now going to India, Pakistan, Australia, New Zealand and Japan.<sup>78</sup> Rapid fluctuations in the direction of exports could take place in the short term. The main reason for this lies in the fact that British electrical exports were concentrated in the heavy plant and machinery end of the industry. As a result individual contracts such as Japan's nuclear power plant contract with GEC in 1965, or the purchasing of military aircraft by the

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<sup>76</sup> English Electric, Annual Report, 1961, p.13.

<sup>77</sup> T.W. Heather, The GEC, its History, (1953), p.53.

<sup>78</sup> Ibid., p.63 and GEC, Annual Report, 1965, p.4.

Indian government with English Electric engines in 1955, could significantly alter the short term trends in exports for individual companies.<sup>79</sup>

Table 3.3  
GEC Sales and the Influence of Overseas Markets<sup>80</sup>

Year	Total Sales £m	Exports £m	Overseas Production £m	Exports and Overseas Production as % of Total Sales
1938				25
1953				42
1954	75.3	18.6	16.86	47.1
1955	79.3	17.83	18.91	46.3
1956	89.3	19.34	22.09	46.4
1957	98.4	24.49	24.58	49.9
1958	104.4	22.99	26.96	47.8
1959	108.1	23.77	27.73	47.6
1960	116.9	23.62	28.59	44.7
1961	118.6	18.4	31.5	42.1
1962	135.2	16.1	30.4	34.4
1963	146.5	22.1	31.3	37.3
1964	158.1	24.6	32.1	35.9
1965	170.1	28.1	36.8	38.2

<sup>79</sup> These factors also create some difficulties in comparing company data with official government data as they will often be recorded over different time periods. Company reports record orders received at the time of signing of contracts and payments received in terms of gross revenue which can be over a number of years but Census of Production and Export /Import data record production as it occurs. Hence contracts taking many years to complete will be recorded in a way that makes direct comparisons problematic.

<sup>80</sup> Sources: GEC, Annual Reports, 1965, 1960, 1958 and Heather, op.cit., p.52 for 1938 and 1953 figures on overseas trade. Figures refer to the financial year ending 31st March. Gross profit figures refer to profits derived from trading and investments. Overseas sales for 1963 calculated by interpolation.

The reliance of British firms upon the Commonwealth countries (and their lack, with notable exceptions, of an orientation towards the USA and what emerged as the Common Market) can in part be explained by the fact that in the late 1940s there was little or no competition in many markets. As late as 1953 it was still the case that 'the principal factor in overseas competition in heavy plant is no longer price but delivery, i.e. it is still a seller's market in capital goods.'<sup>81</sup> Although it was also recognised that 'in other goods, especially domestic electrical equipment, it is now very much a buyer's market and here price is the determining factor'.<sup>82</sup> A concentration upon the heavy plant sector ensured that, as Figure 3.1 highlights, real gross profits for the three companies were rising throughout the late 1940s and early 1950s. Not until West German, and other European, competition, had re-emerged did the orientation upon slower-growing markets begin to have an impact on the companies' profitability. GEC's real gross profits peaked in 1952 while those of AEI and English Electric peaked in 1955 and 1956 respectively.<sup>83</sup>

The failure to develop trade with western Europe is a key element in understanding how the British electrical engineering industry failed fully to develop export markets. Why did it occur?

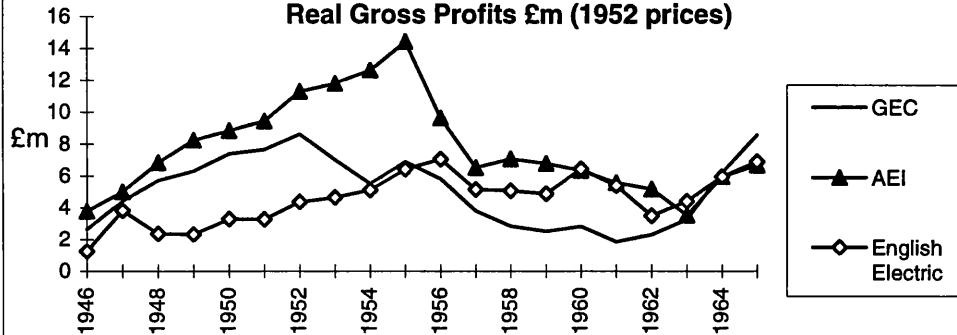
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<sup>81</sup> BEAMA, The Electrical Industry Export Bulletin, February 1953, p.22.

<sup>82</sup> Ibid., p.22.

<sup>83</sup> This result, with the exception of English Electric, is not dependent upon the index used. See Appendix Four.

**Figure 3.1**  
**Real Gross Profits £m (1952 prices)**



Sources: Annual Reports 1955-65 and B.R. Mitchell and H.G. Jones, Second Abstract of British Historical Statistics, (Cambridge 1971), Tables 4a-c for retail price index.

- Imperfect Competition and Business/Government Conflict

The growing importance of the electrical industry for the British economy and the growing difficulty the industry was facing in developed markets were two factors that led to the government's active participation, through the Industrial Reorganisation Corporation, in the merger of GEC/AEI with English Electric in 1968. However, the IRC's role needs to be understood in the context of the failure of earlier government attempts to gain the industry's support for changes that would have improved its export performance.

Milward maintains that the failure of British exports lies in entrepreneurial failure. Thus it was 'the failure by British exporters to do battle... British industrialists, offered the opportunities arising from occupation, did not take them.'<sup>84</sup> However, to blame such a lack of promotion of goods in important markets such as Germany and the US on simple entrepreneurial failure would be too simplistic; after all British firms did, perhaps not terribly successfully, export to these countries. Government investigations into exports and the loss of Britain's proportion of world trade in

<sup>84</sup> Milward, *op.cit.*, pp. 403-4.

electrical manufactures revealed two important findings: First, that the loss of export markets derived from an institutional failure and not simply entrepreneurial failure, and, second, that government and industry were moving further and further apart from agreement as the investigations progressed.

Well before 1968, the British government was attempting to address the industry's failure to realise its export potential. As early as 1949 the Ministry of Supply's Lemon Committee's *Report into the Standardisation of Engineering Products* pointed to a lack of standardisation among producers, leading to products failing to 'reflect the real differences in cost of production'. Engineering manufacturers all too often built products to customised specification levels in the belief that standardised bulk produced goods would lead to lower quality.<sup>85</sup> As a result prices were too high. Again in 1954 the Ministry of Supply *Report on Exports of Heavy Electrical Plant* specifically pin-pointed to high prices as a serious problem facing electrical exports. In Europe, where competition from West Germany was strongest, UK prices were estimated to be at least 20% greater than competitors' and elsewhere prices quoted by Dutch, Italian and German producers were lower by as much as 40%.<sup>86</sup> Even in markets where British firms benefited from tariff protection, such as New Zealand, with its 20% tariff, the report noted that 'British manufacturers are barely able to compete on price'.<sup>87</sup>

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<sup>85</sup> Ministry of Supply, Report of the Committee for the Standardisation of Engineering Products, (1949), pp.6-15.

<sup>86</sup> Ministry of Supply, Report on Exports of Heavy Electrical Plant, Part One, (1954), pp.1-2 and p.46.

<sup>87</sup> Ibid., p.54.

The report also highlighted a number of other non-price factors which had damaged the reputation of British manufacturers in export markets. The shortage of workers and component parts including forgings, due to the rearmament programme following the outbreak of the Korean war, along with the CEA's priority over delivery (giving them guaranteed commissioning of plant within three years of ordering), were all pinpointed as causing delays in deliveries to international customers. Thus, in the Indian market, while British firms quoted a fifteen month delivery date for 22 Kilovolt isolators, German firms quoted six months and for large steam turbo-alternators the corresponding delivery dates were 27-42 months and 20-23 months respectively.<sup>88</sup>

The urgency of addressing these problems was made apparent by the close studies of individual markets. British companies supplied 80-90% of supplies to South Africa, but the ending of discrimination favouring Britain by the South African government would, it was expected, see stiffer competition. In Canada, where 85-90% of the large steam turbo-generators market were supplied by British firms, shorter delivery dates had allowed Japanese competitors to enter the market and the Italian and Germans were expected soon. Finally, in Australia, US and European firms had been winning orders away from British competitors since 1951.<sup>89</sup>

It would be wrong to suggest that manufacturers were unaware of the competition emerging within export markets. As early as 1949, despite the industry operating in a 'seller's market', in which shortages of electrical products was the norm, the electrical manufacturers were beginning to recognise the problem. However, for

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<sup>88</sup> Ministry of Supply, Report on Exports of Heavy Electrical Plant, Part Two, (1954), Appendix C1.

<sup>89</sup> Ministry of Supply, Report on Exports, Part One, pp.12, 14 and 46.

manufacturers the key issues affecting international competition were those of protectionism and non-price advantages which competitors had achieved. BEAMA, pointed out that 'Except for British Colonies there are no overseas markets where we do not face straight away a hostile tariff ...from 5-50% and in the USA the average for a wide range of products is 40%'. BEAMA also pointed to the use of import licences in over 50 countries which were 'often' cancelled before delivery and so hindered exporters.<sup>90</sup> In 1953 further domestic supply problems were put forward as causes of loss of international orders. 'The present tightness in supply of labour and the shortages, notably in draughtsmen, moulders, skilled erectors and fitters... must be overcome if exports are to be increased and competitive delivery periods quoted.<sup>91</sup> Here the industry highlighted further non-price factors such as the British government's 'failure' in ensuring an adequate supply of skilled labour and particularly the problem of uncompetitive delivery dates as factors in reduced competitiveness.

BEAMA was also aware that it was the re-emergence of West Germany as an exporter that was responsible as 'the chief factor' for Britain's fall in proportion of world trade. In particular BEAMA singled out West German producer's use of extended credits, finance and long-term loans, in order to finance projects, as damaging to British exporters' interests. Thus competitors were winning contracts through a range of non-price advantages.<sup>92</sup>

The industry not only refused to accept the Ministry's argument that product prices were consistently too high but actively argued against the introduction of price

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<sup>90</sup> BEAMA, Publicity Committee Minutes Jan-Dec 1949, speech by H.S. Bosworth 19th October 1949.

<sup>91</sup> BEAMA, Exports Bulletin, February 1953, p.22.

<sup>92</sup> BEAMA, Annual Report, 1953-4, p.32.

competition. On behalf of the manufacturers', BEAMA readily acknowledged that 'it is broadly true that the majority of heavy electrical plant is sold on the basis designed to eliminate price competition', while simultaneously refuting the view that 'price arrangement is synonymous with high costs and profits.'<sup>93</sup> Under these circumstances, it is not surprising that the industry maintained that 'the set-up of the industry is no disadvantage to securing export orders' and instead argued that government investigations should confine themselves to non-price factors.<sup>94</sup>

In recognising the growth of non-price factors eroding British firms' market share, BEAMA's response appears as a classic case of crass conservatism and entrepreneurial failure. The industry accepted a continued erosion of its export markets rather than look for alternative approaches. Manufacturers' only rational response to new types of international competition and government imposed restrictions, which were outside their control, could only have been through deriving economies from new methods of manufacturing and marketing.

The Lemon report had pointed to the advantages of standardisation. In production, the use of bulk production techniques could have gone some way to dealing with shortages of skilled workers; in marketing, the abandonment of competition based upon custom specification could lead to price reductions.<sup>95</sup> Certainly, poor productivity levels in the late 1940s suggests there was a great need to move away from skill-intensive production techniques. Other alternatives lay in rationalisation and merger leading to specialisation between manufacturing plants. By

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<sup>93</sup> BEAMA, Agreed Prices in the Heavy Electrical Plant Industry, (1956), pp3-4.

<sup>94</sup> BEAMA, Annual Report, 1953-4, p.2.

<sup>95</sup> Ministry of Supply, Report on Standardisation, p.7.

the end of the 1950s British firms were significantly smaller than leading European competitors. *Fortune's* 1958 listing of the 100 largest non US firms documents a large gap between the largest European manufacturers, the Dutch firm Philips and the West German firm Siemens, with annual sales of over \$800m, and the other major European manufacturers, all with sales ranging from \$280m to \$462m.<sup>96</sup> Perhaps still more interestingly the 1965 listing shows that the only non US firms with over half the annual sales of either Philips (\$1.9b) or Siemens (\$1.6b) were the Japanese firm Hitachi (\$1.2b), West German firm, AEG (\$0.95b) and the Japanese Tokyo Shibaura Electric (\$0.84b).<sup>97</sup>

It is important to recognise that these figures do not suggest that large size would have necessarily led to increases in efficiency, but that British firms were failing to maintain their relative position against competitors and that staying relatively small in the electrical engineering industry was unlikely to be a successful strategy for firms. From the late 1950s onwards, at least, British firms were smaller than leading European competitors.

There is, however, more to firms' failure than entrepreneurial failure. The central reason why the electrical manufacturers failed to export to the growing markets, in Europe and the United States, lies not with entrepreneurial failure but with the co-operative agreements reached by the companies themselves, which created a

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<sup>96</sup> *Fortune*, August 1958, pp.116-7. 1958 annual sales were; AEG \$462m (W. German), English Electric \$428m, AEI \$419m (W. German), Brown Boveri \$350m (Swiss), BICC \$310m (British) and GEC \$280m.

<sup>97</sup> *Fortune*, August 1965 pp.170-71. 1965 annual sales for subsequent non US electrical equipment companies, were; Matsushita \$779m (Japan), AEI \$662m, Brown Boveri \$660m, Bosch \$650m (W. German), English Electric \$636m, BICC \$604m, Mitsubishi \$560m (Japan), Cié Générale d'Electricité \$508m (French) and GEC \$476m

rigid institutional framework unconducive to change. As Milward notes, but then fails to explore, industrialists (European and American included) acted like a 'threatened cartel' faced with the re-establishment of markets during reconstruction.<sup>98</sup> Pricing policy between the oligopolistic companies was carefully co-ordinated to ensure that tendering did not become cut-throat. All the major manufacturers, including subsidiaries of US companies operating outside of the United States, were involved in highly formalised co-operative agreements aimed at limiting both price and non-price competition.

The cartel agreements helped to ensure that competition was restricted to non-price factors; delivery, quality, reliability, finance and credit facilities. Importantly, the cartels did not stop competition but instead created an accepted framework within which it could take place. It was therefore the factors affecting competitiveness within this framework that BEAMA addressed when discussing improving export performance and not questions which would alter the competitive framework of the industry internationally.

This is in direct contrast to the oil industry, where it was suggested that regulation was beneficial to investment and innovation. There domestic refining could emerge, as could vertical integration towards the retailing of products within a structured environment. To understand fully why the adoption of new methods of production, standardisation and lower prices or merger and specialisation would have de-stabilised agreements in electrical engineering it is necessary to look in more detail at the origins and operation of the rings themselves.

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<sup>98</sup> Milward, op.cit., p.404.

- Successful Regulation before 1945

The cartelization of the industry had developed rapidly in response to the world slump of 1929-31, with the signing of the International Notification and Compensation Agreement, INCA, in 1934. INCA was administered by the International Electrical Association, IEA. Essentially the aim of INCA was to ensure co-operation between companies in maintaining prices, allocating market shares and sharing patents. As a result, the two US firms (General Electric and Westinghouse) did not face European competition within the US market and, in return, the US companies avoided competing directly with European firms in their domestic markets. In geographical markets not covered by the IEA, the BEAMA and other trade associations (such as the Lamp Manufacturers' Association or the British Radio Valve Manufacturers' Association) maintained cartel agreements. Thus a series of multinational and national agreements covered all markets in which these firms operated.

The rationale behind such agreements was put forward in 1927 by BEAMA, in a comparison between Britain and the combinations and trusts operating within Europe. BEAMA argued that the close linking of manufacturing and finance, in Germany and across Europe, had created powerful industrial combinations involving manufacturers and banks. Such a 'powerful organisation' promoted long-term decision-making, as opposed to the short-term view allegedly predominant in Britain, caused by a divorce of finance from industry. As a result British support for free trade could no longer be simply applied:

'The time has certainly past when industry merely to preserve in all their pristine purity the doctrines of free trade should allow itself to be forced out of existence. The survival of the fittest may be natural law but interpretation of the law may take different forms. In the least civilised form it is the bitter struggle of individuals in a chaos of destruction with perhaps the emergence of one victorious type. At its highest it is co-operation of individuals to ensure the highest common level of advancement without strife and without destruction.'

The strength of these views and the subsequent support for cartel agreements was so widespread within the British electrical manufacturing industry that it was noted that no British manufacturer had ever refused an invitation to join the IEA.<sup>100</sup> GEC was still a member in 1977.<sup>101</sup> It is the combination of British firms trading within a cartelized framework and in geographical areas which were not the most significant that provides the key to understanding the institutional failure of the industry in the post-war period.

- Successful Regulation after 1945

After 1945 the rings were rapidly re-established and operated by the trade associations. Although technically separate from the trade associations, the Trade Groups which negotiated and policed the agreements were intimately linked to the trade associations. For an example of this close relationship we should look at the BEAMA, whose membership consisted of over 360 companies operating in the British

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<sup>99</sup> BEAMA, Combines and Trusts in the Electrical Industry. The Position of Europe in 1927. (1927), pp.6-7.

<sup>100</sup> Monopoly and Restrictive Trade Practices Commission, Report on the Supply and Exports of Electrical and Allied Machinery and Plant, No.42, (1957), p.30.

<sup>101</sup> K.R. Mirow and H. Maurer, Webs of Power, (Boston USA 1982), p.254.

electrical manufacturing sector, covering some 80% of all capital employed in the industry.<sup>102</sup>

BEAMA's president and past presidents included all the chairmen of the leading electrical manufacturers in Britain, namely GEC, English Electric and British Thomson-Houston (BTH) and Metropolitan-Vickers (Metrovick), which together formed AEI.<sup>103</sup> BEAMA provided all the secretarial and administrative staff, along with accommodation for the physical operation of the rings. Of BEAMA's annual income of £200,000 in 1953 some £59,600 derived from earnings by BEAMA in servicing 37 of the rings, covering alternators, electric motors and transformers.<sup>104</sup> The links between BEAMA and the rings went still further than this. The rings operated through BEAMA were co-ordinated through the Groups' Joint Administration Board, a committee established in 1933. The membership of the GJAB was appointed and made up of the Chairmen of BTH, GEC, English Electric, Metrovick and later the chairman of the fifth major British electrical plant manufacturer, C.A. Parsons. In 1944 the routine work of GJAB was delegated to a Groups' Joint Administration Committee, staffed again by members from the same companies.<sup>105</sup> Thus the electrical manufacturers were involved in an incestuous relationship in which competition was virtually removed. Such a strategy appeared to be highly successful and the companies concerned saw their real gross profits rising rapidly in the late 1940s.

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<sup>102</sup> BEAMA, Publicity Committee Minutes, 19 October 1949.

<sup>103</sup> Metropolitan-Vickers is sometimes referred to as Metro-Vick but here Metrovick will be used.

<sup>104</sup> Total expenditure for the Trade Groups covering alternators, electric motors and transformers in 1953 was £91,687 of which 65%, £59,565, was charged by BEAMA for secretarial and accommodation costs. Monopolies and Restrictive Trade Practices Commission, *op.cit.*, pp.16 & 20.

<sup>105</sup> *Ibid.*, p.22.

The co-operation between firms was so highly organised and of such importance that it required the activities of the company chairmen to ensure that the restrictive agreements continued to operate. Two conclusions can be drawn from this relationship. The prices quoted by the Trade Groups were of such authority that purchasers, in particular international purchasers, believed the prices to be official BEAMA prices and therefore the close link to BEAMA provided authority to the Trade Groups in the eyes of third parties.<sup>106</sup> Such authority was crucial to the effective operation of the rings in order to prevent manufacturers breaking the agreements. Second, the involvement of the company chairmen indicates not only the importance of the co-operation to the companies themselves, but also that the companies maintained a deep distrust of one another and only contact between the executives at the very highest levels of the companies could maintain co-operation. Indeed the need to maintain daily contact and close supervision of each competitor's activities led to AEI, GEC and English Electric maintaining their Head Offices within one hundred yards of each other in the Kingsway, London. When AEI moved to Grosvenor Place (still in Central London and only five stops on the tube network), there were complaints about the distance from GEC and English Electric!<sup>107</sup> Thus while competition was virtually eliminated, employers firmly believed and feared the possibility that competition could easily return and that the 'chaos of destruction' that would follow could only be damaging for all concerned.

These fears also explain the highly formalised nature of the agreements themselves. The agreements covered all aspects of competition and created an

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<sup>106</sup> *Ibid.*, p.24.

<sup>107</sup> Jones and Marriott, *op.cit.*, p.171.

organisational forum to ensure they were adhered to. The 1948 Lamp Agreement was typical of these agreements. It was signed between British Thomson-Houston, Crompton Parkinson, Cryselco, Edison-Swan Electric Co., General Electric Co., Metropolitan-Vickers, MV Philips, Siemens Electrical Lamps and Supplies and the Stella Lamp Co. on the 26th June 1950, but retrospectively covered the period from 1st July 1948 until 30th June 1955 and continued the 1941 agreement.<sup>108</sup> Throughout its operation it was expressly stated that it should be kept a strict secret from all third parties.<sup>109</sup> The Lamp Agreement designated distinct areas within the Commonwealth in which it would operate, namely: 1. Great Britain, 2. Australia, 3. New Zealand, 4. India, Pakistan and Burma, 5. South Africa, and 6. Remaining territories which consisted of Ceylon, Singapore, Malaya, Borneo and the British West Indies.<sup>110</sup>

The document carefully defined all lighting products covered by the agreement and set out a framework within which the agreement would operate. A committee appointed from representatives of the companies would be established at the annual meeting of all the companies concerned. Thus the 'Executive Committee consisting of 5 members [would be made up of] one representative from BTH, Edison-Swan or Metrovick, one from Crompton Parkinson, one from GEC, one from Philips and one from Siemens'.<sup>111</sup> The participants were also given voting rights, based upon permitted quantity of sales, ranging from GEC 59,369,635 and Philips 37,784,988 down to Stella's 1,496,469.<sup>112</sup>

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<sup>108</sup> GEC, 1948 Lamp Agreement, Article 1, p.1 and article 12 p.32.

<sup>109</sup> Ibid., p43.

<sup>110</sup> Ibid., p.8 and 48.

<sup>111</sup> Ibid., p.21.

<sup>112</sup> Ibid., Part II, Article 10 (A) 3, p.53.

The agreement set out detailed conditions to be accepted by participating companies with regard to market shares, (see Table 3.4) and prices in each territory, which were enforceable through the use of fines. Hence Article 6 of the agreement stated that ‘Any company which sells above its Local Participating Percentage (LPP) shall pay 30% of its net profit per unit up to 7.5% of sales above LPP. Any sales over the 7.5% will require a payment of 52.5% of net profit per unit.’<sup>113</sup>

Importantly the agreement also ensured that the agreement could be extended to other ‘reputable manufacturers’ and that signatories would agree to adjustments being made to their ‘participating percentages’.<sup>114</sup> If an opportunity became available to purchase a manufacturer not covered by the agreement then all participants to the lamp agreement would be notified and the purchase would take place ‘on account of all the Parties’.<sup>115</sup>

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<sup>113</sup> Ibid., p.9.

<sup>114</sup> Ibid., Article 12, p.27.

<sup>115</sup> Ibid., Article 30, p.30 and p.43.

Table 3.4  
Local Participating Percentages of 1948 Lamp Agreement<sup>116</sup>

Co. and Voting Rights	Britain	Australia	New Zealand	India, Pakistan & Burma	South Africa	Remaining Territories
<b>Philips 37,784,988</b>	9.09246	48.57497	33.74575	35.62008	36.89245	20.84013
<b>BTH/Ediswan 28,700,110/ 18,297,483</b>	77.56517	18.16496	19.10960	11.55292	16.17640	13.79285
<b>GEC 59,369,635</b>		12.13994	19.47455	27.94631	19.56835	36.97112
<b>Metrovick 7,717,391</b>		2.81754	2.74643	8.22438	5.10276	5.49247
<b>Siemens 20,007,110</b>		1.92529	1.87670	1.80421	1.85329	1.99483
<b>Stella 1,496,469</b>	0.92426					
<b>C.P. 30,049,991</b>	12.41811	16.37730	23.04697	14.85210	20.40675	20.90860
<b>Total</b>	100.00	100.00	100.00	100.00	100.00	100.00

<sup>116</sup> Ibid., Annex B, pp.52-3.

The operation of cartel agreements involved companies in a number of administrative tasks, which together provided a mechanism for the IEA's regulation of international markets. Under the Tendering and Contracting Agreement, covering electrical plant, companies had to ensure the co-ordinating body was notified as soon as an enquiry or sale was made: this would then be passed on to the other parties.<sup>117</sup> When any tendering process was complete, the successful firm would then compensate those unsuccessful for their costs incurred in preparing the tender. Thus the cost of the tendering process was passed on to the purchaser. Firms could also claim the right to a sale if they had tendered successfully to the client in the past.<sup>118</sup> Under such circumstances, competitors would increase their tender price in order to lose the contract. However, such co-operation would require a quid-pro-quo, whereby in other markets competitors would pull out of direct 'competition' in return, in order to ensure that such protection could not be used to gain advantage by individual firms.

Most importantly, the agreements covered the setting of minimum prices for equivalent goods. For heavy plant, prices were based upon technical specifications so that identical specification, despite differing designs, would ensure identical prices.<sup>119</sup> The minimum prices, or Contract Prices, were adjusted through the notification of firms via the trade association newsletter, such as the *BEAMA Bulletin*, which was exclusively sent to members of the trade associations. This dissemination of details of the contract price not only provides still further evidence of the intimate link between

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<sup>117</sup> It is this agreement that has been suggested to have been so damaging to developing countries, as it encouraged predatory pricing. It is also said to have still been in operation in the 1980s. See Mirow and Maurer, *op.cit.*, p.249.

<sup>118</sup> Monopolies and Restrictive Trade Practices Commission, *op.cit.*, p.26.

<sup>119</sup> Monopolies and Restrictive Trade Practices Commission, *Annual Report* (1956), pp.25-27.

the trade associations and trade groups but it also highlights how firms not formal parties to the rings could be made aware of the prices operating, with the aim of gaining informal co-operation. Finally, the agreements set out supplementary clauses to ensure common handling charges, conditions of sale and resale, all of which were designed to reinforce the minimum price clause.

In other areas such as cathode ray tubes and products distributed through wholesalers, firms maintained dual prices for initial sales, of products used in the assembly of final goods such as televisions, and 'significantly' higher prices for replacement devices.<sup>120</sup> Other practices, including lists of approved wholesalers, distributors and engineers, were adopted to restrict the sale of goods to those abiding by the manufacturers' conditions on prices. The practice was so formalised that the companies printed their retailers' minimum sale prices on their publications, detailing discounts and purchase tax.<sup>121</sup> These formalised mechanisms for co-operation between manufacturers proved highly effective in limiting competition and boosting prices in the post-war period. Most famously, this occurred in the manufacture of lamps. Lamps proved an ideal product for price-fixing cartels due to their high price inelasticity, since their use was dependent upon the cost and access to electricity rather than the price of the product itself. As GEC's lamp manufacturing company, Osram, itself admitted, prices 'have always been relatively high and certainly they have not fallen commensurably with factory costs of production.' Nevertheless the manufacturers maintained that this was justified since the 'resulting high margin of gross profit has of course not been retained wholly by the makers but has been shared with distributors

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<sup>120</sup> *Ibid.*, p.23.

<sup>121</sup> GEC, Osram Electric Lamp Catalogue, 1948.

who have high discounts and rebates.<sup>122</sup> In comparison to the US market, the lamp manufacturers in Britain maintained a significantly higher profit level. The ratio of realised ex-factory price (including 38% discount) to manufacturers' costs was 237% in Britain compared to only 73% in the US. When measured as a ratio of retail price to manufacturers' costs, the difference was 433% in Britain and 211% in the US.<sup>123</sup> In terms of gross profit, it was recognised that 'whereas the US trade made a living out of distribution and a gross profit of 6.6c per lamp the British counterpart absorbed a difference of 14.4c or over twice as much as in the US.' Some of this discrepancy between British and US manufacturers' profit rates was due to the parallel distribution system of wholesalers which British manufacturers maintained, compared to the US system of sales exclusively through wholesalers. Nevertheless, it was admitted that 'Viewing the situation only in the light of the facts affecting the supply of the retail user, it cannot be denied that in comparison with the USA the British lamp producers are either making excessive profits or are grossly wasteful in their methods of distribution or both.'<sup>124</sup>

The other central difference between the two countries lay in the US government's opposition to cartels and trusts. In the United States, General Electric suffered from a prosecution under the anti-trust laws which ran from 1941 until 1953. The effect of the case is said to have 'wreaked havoc' upon its' international business leaving the General Electric 'empire in a shambles'.<sup>125</sup> Although more recent studies

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<sup>122</sup> GEC, Osram-GEC Lamp Price and Distribution Policy, by J.Y. Fletcher, 12 May 1945.

<sup>123</sup> Ibid., p.5.

<sup>124</sup> Ibid., p.5.

<sup>125</sup> M. Wilkins, The Maturing of Multinational Enterprise: American Business Abroad 1914-70, (Harvard 1974), pp.294-5.

of post-war anti-trust policy has tended to suggest that it was pursued with less vigour than previously suggested, from the recession of 1949 through the Korean War and into the mid 1950s, despite the passing of the Celler-Kefauver Anti-Merger Act, amending the 1914 Clayton Act, anti-trust enforcement was generally 'quiescent'.<sup>126</sup> Much of the evidence cited here also suggests that the US companies continued to participate, either informally or actively, in these agreements. In 1949, despite the withdrawal of General Electric and Westinghouse from the INCA agreement in 1947, the United States government believed the restrictions still to be in operation.<sup>127</sup> Indeed as late as June 1955 the agreement between GEC and the General Electric Co., limiting exports of lamps to the US was still in operation.<sup>128</sup>

- Regulation under Threat

In electrical engineering it appears that the rings helped to ensure the continuation of what Lazonick has described as a 'competitive equilibrium'. Unlike in oil, where a balance between supply and demand was difficult to maintain, the sharing of information led firms in electrical engineering to become subject to similar cost and revenue constraints. The result was that, at a time when profit levels were high in a seller's market, individual firms were unwilling to abandon these agreements for a

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<sup>126</sup> T. Fryer, Regulating Big Business, Antitrust in Great Britain and America, 1880-1990, (Cambridge 1992), p.300.

<sup>127</sup> US Government, NRA RG 469/392, UK Subject Files, Box 40, Possible barriers to Improvement of UK Balance of Payments Position Erected by Private Agreements, 6th September 1949.p.5 (I am grateful to Jim Tomlinson and Nic Tiratsoo for this reference).

<sup>128</sup> GEC, Electric Lamp Manufacturers Association enquiry into agreements relating to the Electric Lamp Business in Great Britain to which General Electric is a party, (undated).

more competitive business strategy.<sup>129</sup> Unfortunately for the firms involved, the failure of business to respond to calls for increased export promotion provided more evidence pushing government to examine the anti-competitive nature of cartel agreements.

British government investigations into cartels and their impact originally stemmed from wartime discussions between the allies over the establishment of a post-war trade and international payments regime.<sup>130</sup> The Board of Trade carried out a study on the extent of British participation in international cartels in 1943 and, in 1944, a further study on the extent of domestic cartels.<sup>131</sup> These investigations highlighted the degree to which cartels and wider restrictive practices were used to regulate international trade and domestic competition. In electrical engineering 77.6% of sales were estimated to be covered by restrictive agreements.<sup>132</sup>

Investigations by the US government in 1949 further highlighted cartels as a barrier to improvements in the UK balance of payments position. The investigation pointed to 'market arrangements [that] were in effect among producers of important commodities which would prevent UK exporters from entering new markets or reducing prices in such markets.'<sup>133</sup> It was the industry's failure to respond to government calls for greater exports that inevitably led the Board of Trade into

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<sup>129</sup> W. Lazonick, Business Organisation and the Myth of the Market Economy, (Cambridge, Mass 1991), p.75.

<sup>130</sup> See Tomlinson, op.cit., pp.172-202.

<sup>131</sup> See D.C. Elliott and J.D. Gribbin, 'The abolition of cartels and structural change in the United Kingdom', Welfare Aspects of Industrial Markets, eds. A.P. Jacquemin and H.W. de Jong, (Leiden Netherlands 1977).

<sup>132</sup> Ibid., table 4, p.353.

<sup>133</sup> US Government, op.cit., Box 40, September 1949.

questioning the wider institutional structure of the industry through the investigations of the Monopolies and Restrictive Trade Practices Commission.<sup>134</sup>

The Ministry of Supply's 1950 Lemon Committee and 1954 *Report on Exports of Heavy Plant*, combined with the Board of Trade's Monopolies Commission reports on the *Supply of Electric Lamps* (1951), *Supply of Insulated Wires and Cables* (1951), *Supply and Exports of Electrical and Allied Machinery and Plant* (1957) and *Supply of Electronic Valves and Cathode Ray Tubes* (1957), forced the manufacturers and their trade associations into taking on board a view in which, rings, quotas and oligopolistic profiteering were frowned upon. The change exemplified in the BEAMA records highlights this change of attitude.

BEAMA's response to criticism of its members and the industry was, in the late 1940s, one of preventing any open debate taking place. The accepted view was that all decision-making and discussion of the industry should take place behind closed doors, in order to limit any proposals. So when the industry was castigated for 'almost a complete lack of competition', following the publication of the Anglo-American Council on Productivity report on the supply of electricity, the response from the Director of BEAMA was that 'the best policy would be to ignore them'.<sup>135</sup> In 1951, when monopoly investigations into the electrical industry were beginning, the Chairman of BEAMA, G.L. Wates, claimed that 'if the Monopolies Commission come a little closer to the BEAMA than they have hitherto done' (in other words were less

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<sup>134</sup> See J.D. Gribbin, 'The Post-War Revival of Competition as industrial Policy', Government Economic Service Working Paper No.19, (1978) and H. Mercer, Constructing a Competitive Order, (Cambridge 1995) for discussion of the general development of antitrust policy.

<sup>135</sup> BEAMA, Publicity Committee Minutes, 7th November 1950, Minute 775.

critical) then the investigation itself would be 'a wonderful opportunity to educate the Commission and through them the whole country as to the reasonableness of our well established customs.'<sup>136</sup> The fact that BEAMA, and the industry generally, were well aware of the difficulties arising both within export markets and in domestic competition policy suggests that they were complacent with regard to responding to the challenges presented in the late 1940s.

By the late 1950s the response of BEAMA had changed significantly. That the formal character of the domestic rings and cartels was seriously under threat had become obvious and, equally importantly, the rings were no longer acting as a guarantee of high profits. Now BEAMA sought to respond to these changes through adopting less formalised approaches to inter-company co-operation, while maintaining its long-held philosophy favouring rings. BEAMA's role would be 'to work out the proper and permissible ways in which electrical manufacturers should co-operate in their mutual interest and the interest of the country'. Further, it proposed a series of strategies that would not conflict with the 1956 Restrictive Trade Practices Act. The Act outlawed the collective enforcement of restrictive trade practices considered to be against the public interest, as interpreted by the Restrictive Practices Court. Collective agreements on resale prices, discounting and distribution, including stop lists and agreements on specifications and tendering, were all covered by the act and were widespread in the electrical manufacturing industry.<sup>137</sup>

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<sup>136</sup> BEAMA, Newsheet, 10th May 1951.

<sup>137</sup> See B.S. Yamey (ed.), Resale Price Maintenance, (1966) for details of the effect of the Restrictive Trade Practices Act.

In particular, firms could, through BEAMA, interchange price lists, information relating to discount structures and also information relating to standardisation or research and development, as long as technical information was not related to any specific tender enquiry.<sup>138</sup> The move to outlaw restrictive practices was an international one and BEAMA was, as with the 1956 Act in Britain, forced to carry out a similar exercise with respect to clauses 85-90 of the Treaty of Rome, which covered restrictive trade practices in the Common Market.<sup>139</sup>

By the mid-1960s, BEAMA had reluctantly recognised the need to accept the abandonment of formal cartel agreements within Britain. Even in the case of informal agreements such as restrictions upon resale prices, BEAMA was reluctantly accepting the changed commercial circumstances. In 1964 the Resale Prices Act extended the prohibition on collective agreements covering resale price maintenance to include individual agreements. Thus in 1964 the Domestic Appliances Division of BEAMA announced its intention to register resale price agreements but 'only when members of the other Divisions of BEAMA who are affected by the (Resale Prices) Act have decided on their own course of action.'<sup>140</sup> The acceptance of such changes was not, however, the same as welcoming them. The electrical manufacturers railed against the measures aimed at cutting prices and preventing collusion. The Chairman of English Electric, Lord Nelson, complained that 'cutting prices does not create more demand for heavy plant, it only moves work from one manufacturer to another and lowers the margins of the business'. Further, he reaffirmed his belief in co-operation stating that

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<sup>138</sup> BEAMA, BEAMA and the future, 28 September 1959, pp.5-7.

<sup>139</sup> BEAMA, The European Common Market and Restrictive Trade Practices, (1962).

<sup>140</sup> BEAMA Bulletin, Vol.10 No.166, 18 August 1964, p.153.

‘surely the supplier and the user must be in partnership so that each can prosper through the other.’<sup>141</sup> Importantly the abandonment of formalised cartel agreements did not lead to an abandonment of the commitment on co-operation. Rather the complacency of the 1940s gave way to the pragmatism of the late 1950s and by the early 1960s the manufacturers were in the process of developing new methods of co-operation which would allow the industry to retain a mutually agreed framework in which competition could be regulated.

The role of the cartel agreements in the British export failure is now clear. The agreements created a rigid and restricting institutional framework which hindered electrical manufacturers’ operations. A competitive equilibrium was established which the British firms were unwilling to challenge. As mentioned above, the late 1940s represented a sellers’ market in the extreme. British exporters, with little exaggeration, were capable of selling virtually any electrical goods they could churn out of their plants in any market around the world, with the exception of the United States. But due to their adherence to the international cartel agreements they systematically opted out of key markets so that, when the cartels were broken and they began to orientate on Western European markets, they faced stiff international competition. The result was that British manufacturers lost the opportunity to develop first mover advantages during post-war re-construction.

Such a conclusion, however, raises two key questions. First, why should the major British firms within the industry have relied upon these agreements for so long, when it was well understood that international competitors, particularly German but

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<sup>141</sup> English Electric, Annual Report, 29 March 1962, pp.7-8.

other European firms as well, were gaining more from them? And second, why was there no single firm capable of gaining competitive advantage through a strategy of abandoning collusion and competing in the key markets of Western Europe and the United States? Answering these questions will, in turn resolve the first of our main questions, namely did the ending of formal cartels have a detrimental effect on the companies concerned by simply highlighting the lack of international competitiveness? It will be recalled that our general interest lies with the role of information under conditions of uncertainty. We are therefore concerned with the issue of whether or not the sharing of information, through cartels, was a defensive strategy for uncompetitive firms or did it play an important role in the creation of organisational capabilities for innovative firms.

- Information Sharing

Electrical manufacturers' defence of price agreements rested upon the view, argued by Lord Nelson, that cutting prices did not create more demand. Outside of consumer durables, demand for electrical engineering products was viewed as being inelastic with respect to price. Given a limited number of orders producers could rapidly face the difficulty of competition leading to falling margins and bankruptcy. This problem was compounded by the fact that the industry was also one in which high levels of research and development expenditure were required. If R+D expenditure

was to be safeguarded, then the manufacturers believed it was necessary to restrict price competition.<sup>142</sup>

An intimate relationship certainly existed between R+D, patenting and technology sharing and the regulation of price competition. The sharing of patents had always been a significant part of the interwar ring agreements. Patent pools acted both to extend the knowledge of invention and innovation available to firms and to further the knowledge of each firm about the capabilities of competitors. Thus patent pools, as with other aspects of the rings, had an inherent restrictive component to them. While these agreements in the interwar years may not have led to the growth of patenting, as such, it appears that firms within the electrical industry increasingly specialised in their R+D activity.<sup>143</sup> Such specialisation allowed firms to gain monopolies over specific areas of technology and as a result the patent pools created a mechanism for firms to co-operate in the sharing of technologies.<sup>144</sup> The crucial aspect in the operation of these patent pools was that each firm was involved in carrying out research and as a result a free rider problem did not arise.

After 1945 extensive research and development programmes continued within the electrical industry. By 1957 BEAMA estimated that, excluding radio and telecommunications, company research amounted to £6m per annum on laboratory work with a further £12m per annum on developmental work. R+D programmes have

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<sup>142</sup> This view was put forward for BEAMA by G.B. Richardson, op.cit., p.19 and is also accepted by writers who otherwise favour price competition. See Jones and Marriott, op.cit., p.318.

<sup>143</sup> J. Cantwell & P. Barrera, The Influence of International Cartels in Large Firms, (Unpublished paper 1994), p.11.

<sup>144</sup> D.E.H. Edgerton & S.M. Horrocks, 'British Industrial Research before 1945', in Economic History Review, Vol.XLVII, No.2, 1994, pp.227-8.

been shown to have been highly concentrated in a small number of large projects. Studies of R+D within OECD nations revealed that over two thirds of all R+D was performed in the 100 largest projects in the late 1960s.<sup>145</sup> In Britain it was also revealed that over 60% of industrial R+D was carried out by firms employing over 10,000 employees.<sup>146</sup> A further illustration of the importance of research for large firms comes from the evidence that large firms increased their proportion of United States patents, awarded for UK-located research in the electrical industry, from 21% between 1920-24 to 53% between 1935-39 and rose still further to 56% between 1940-59.<sup>147</sup> Of the companies under study, only GEC held a significant proportion of US patents awarded to British companies in the electrical industry. Between 1920-39 GEC was responsible for over 20% of all patents in electrical technologies awarded to large UK firms.<sup>148</sup> It should be noted that AEI's and English Electric's technology sharing agreements with the US companies General Electric and Westinghouse respectively would have resulted in a lower propensity to patent in the US.

This growing importance of R+D is also brought out by examining the history of the three companies under study. GEC had established the Hirst Research Centre as a research laboratory in Wembley in 1922. By 1939 the company employed 550 in research, including graduates and non-graduates. The Second World War saw this

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<sup>145</sup> C. Freeman, 'Size of firm, R+D and innovation', Department of Trade and Industry, International Conference on Monopolies, Mergers and Restrictive Practices, ed. J.B. Heath, (Cambridge 1969), Japanese R+D provided the only exception in this study.

<sup>146</sup> Ibid., pp.147-8.

<sup>147</sup> J. Cantwell & P. Barrera, 'The rise of corporate R+D and the technological performance of the largest European firms from the interwar years onwards', University of Reading, Discussion Papers in Economics, No. 271, (Reading 1993), Table 6, p.38.

<sup>148</sup> Shares of UK patents awarded to large firms were RCA 11.24%, GEC 8.25%, EMI 3.67% and all large firms 40.61%. Ibid., Table 11, p.43.

increase to 1,700, although this was subsequently reduced to approximately 1,000 by 1948.<sup>149</sup> From 1948, research activity again increased, such that GEC's research laboratory had a budget of some £2m and a staff of over 2,000 by 1951.<sup>150</sup> By 1965 GEC had further expanded its defence electronics orientated research, through the establishment of Applied Electronics Laboratory and the purchase from the government of the Stanmore Research laboratory. The Stanmore laboratory had originally been set up and run by GEC in 1949 as a centre for research for into radar and guided missiles.<sup>151</sup> Including the Stanmore laboratory, by 1956 research spending was running at approximately £3m per annum, with around 3,000 people employed, including 650 graduates.<sup>152</sup>

In the case of AEI, the company established a research laboratory at Aldermaston in 1946, which was concerned primarily with fundamental research. Developmental research work was carried out in laboratories at its plants at Manchester, Rugby, Harlow and Woolwich. In total the research budget by 1949 was over £1m.<sup>153</sup> Chandler has claimed that only GEC had 'established research facilities' before the war, yet BTH had established its' laboratory in 1924 and Metrovick's research and development laboratory was formed in 1917, five years before GEC.<sup>154</sup> The two subsidiaries employed a combined total of 293 staff in their research

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<sup>149</sup> O.W. Humpreys, 'The Organisation and Planning of Research and Development in the GEC Ltd.', R.S. Edwards & H. Townsend, op.cit., p.328.

<sup>150</sup> GEC, Chemistry & Industry, 1951, pp.518-9.

<sup>151</sup> GEC, Annual Report, 1949, p.2.

<sup>152</sup> Humphries, op.cit., p.329.

<sup>153</sup> AEI, Annual Report and Accounts, 1949, p.9.

<sup>154</sup> See Chandler, op.cit., p.354 and A. Fleming, B.G. Churcher & J.L. Davies, 'The research laboratories of Associated Electrical Industries Ltd.', Proceedings of the Royal Society of London, 210A, 1951, p.151 and p.168.

laboratories in 1930, growing between 1935-6 to over 360 and to 940 by 1951.<sup>155</sup> If AEI's Aldermaston laboratory is included this figure rises still further to 1020.<sup>156</sup>

Research expenditure within English Electric was also extensive. The company's innovative use of micro integrated circuits 'changed the centre of gravity' of the computer industry when it was the first company to market a third generation computer.<sup>157</sup> This lead was however lost, due to both Britain's inability to produce the necessary quantity of integrated circuits and the American company IBM's entry into the market.<sup>158</sup> The company claimed to spend around £6.25m per annum, employing about 6,000 scientists, designers, engineers, draughtsmen and craftsmen in research and development by 1953.<sup>159</sup> Such an amount would be well in excess of both AEI and GEC put together and so cannot be relied upon as a comparable figure for the company's research expenditure.<sup>160</sup>

Lazonick maintains that oligopolistic organisations may avoid uncertainty and the need for innovative, high cost and high risk, strategies by creating market conditions which favour adaptive strategies.<sup>161</sup> The use of patent pools can be said to have acted to encourage this development. However, the disruption of World War Two undermined this regulation, leading to increases in uncertainty, with regard to the nature of competitor firm's productive and R+D capabilities. As a result, at the

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<sup>155</sup> See D.E.H. Edgerton, 'Science and Technology in British Business History', Business History, No.4, 1987, appendix 1, p.100.

<sup>156</sup> Fleming, Churcher & Davies, op.cit., p.146.

<sup>157</sup> Economist, 17 November 1965, p.978.

<sup>158</sup> See Hendry, op.cit., for a detailed account.

<sup>159</sup> English Electric, Report and Accounts, 1953, p.14.

<sup>160</sup> English Electric is not a company referred to in one recent study on industrial research. See Edgerton & Horrocks, op.cit.

<sup>161</sup> Lazonick, op.cit., p.206.

end of the war US and British firms were eager to discover the extent of German and to a lesser extent Japanese firms' development.

In general the investigations into German manufacturing processes at the end of the war are considered in terms of government's attempts to extract either reparations or specific military technology, particularly rocket technology.<sup>162</sup> In reality the investigations were much wider than this. Teams of technical experts toured German electrical plants to investigate the full extent of German manufacturing capabilities. These teams were controlled under three different groups, the Combined Intelligence Objectives Sub-Committee (CIOS), the British Intelligence Sub-Committee (BIOS) and the Field Intelligence Agency Technical, US Group (FIAT). They consisted of technicians from the leading companies and government experts. BEAMA itself organised a number of the teams, including the one responsible for the examination of German switchgear production.<sup>163</sup> An indication of the extent of these investigations into electrical engineering comes from the 1948 list of reports showing that, for the electrical manufacturing industry alone, 430 separate reports were prepared, covering 25 different subject areas. These included 27 on cables and cable making machinery, 71 on electric meters, measuring, testing and recording apparatus

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<sup>162</sup> See A. Cairncross, The Price of War. British Policy on German Reparations 1948-49, (Oxford 1986) and M. Harrison and N. Simonov, 'Invention, Imitation and Soviet Rocketry after 1945', (Unpublished paper 1996), presented to the Warwick Economic History Research Workshop.

<sup>163</sup> British Intelligence Objectives Sub-Committee Final Report (hereafter BIOS), No.1429, Item 31. Modern German Switchgear Production.

and 13 into alternators, generators and rotary connectors (see Appendix Five for full listing).<sup>164</sup>

The basis for all the investigations was similar; ‘to determine whether or not there have been any major design developments in design or production by the Germans’.<sup>165</sup> The reports highlighted a number of common themes, in particular that the German electrical industry had suffered severe shortages of materials, which had resulted in ‘careful consideration from the point of view of economical manufacture and use of materials’.<sup>166</sup> Although reliability problems had occurred as a result, important lessons had been learnt which could prove valuable in the future. With respect to transformer operation, in particular, it was noted that ‘reduced reliability must be attributed in part to the German conception of design involving extreme economy in materials... it is evident that the designers have learnt a lot from experience’.<sup>167</sup>

On the lamp and lighting industry it was observed that, while ‘it is the conclusion of this report that, in general, lighting practice in Germany has been equal to, if not better than, that in the UK and not so advanced as that in the USA.’, in the quality end of household lighting German manufacture and design were ‘much more advanced than in the US and in the UK.’<sup>168</sup> Still more importantly, in areas such as research and development into gas turbines, it was noted that the head of the

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<sup>164</sup> Reports of BIOS, the Combined Intelligence Objectives Sub-Committee (hereafter CIOS), and the Field Intelligence Agency Technical, US Group (hereafter FIAT), Classified List, No.18, 1948 (see Appendix Five for full listing).

<sup>165</sup> BIOS, Final Report, No.274, October 1945, p.2.

<sup>166</sup> BIOS, Final Report, No.1429, p.6.

<sup>167</sup> BIOS, Final Report, Visit to German Electric Power Station, Item 33, No.98, June 1945, p.8.

<sup>168</sup> FIAT, Final Report, No. 274, October 1945, pp.3-6.

Aerodynamic Institute at Göttingen, Dr. Encke, as the chief consultant on axial compressors for the whole of the aerodynamic industry, 'has done a large amount of valuable basic work'. This was considered so important that the report stated 'It is considered essential that his records should be investigated in detail by a competent aerodynamicist.'<sup>169</sup>

Thus the reports focus upon technological advances made outside the patent pools. They proved not only the value of technology sharing in avoiding being left behind by competitors, but also that it was only a matter of time before the advances made by the electrical industry in Germany were again put into practice. The fact that British firms were aware, even before 1949, of the likely competitive advantages which the German manufacturers would have provides the explanation of why British firms wished to see the re-creation of the rings. British firms were well aware of their technological deficiencies with respect to German producers. The major British companies opted for an adaptive co-operative strategy based upon the sharing of technology as a defensive device. These strategies continued the long traditions established within the industry and replaced the patent pools that existed within the cartels. Now companies swapped patents and technological expertise free of royalty charges and licensing payments.

Thus the agreement between AEI and the International General Electric Co. Inc signed in 1951, reaffirming the 1931 agreement and extending its operation until 1955, granted AEI 'a non-exclusive license to manufacture, have manufactured and sell'

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<sup>169</sup> CIOS, Research and Development on Gas Turbines at Junkers Motoren Werke, Item No.5, p.9.

'without limitations' 'all (GE) products...except lamps'.<sup>170</sup> Less far reaching, but more typical, was the gaining by AEI of GEC's work on vacuum pumps in exchange for AEI's work on space simulators.<sup>171</sup> Again a further agreement in operation from 1st January 1956, four years after the resolution of the anti-trust case against General Electric in the US, was made between US General Electric Co. and AEI, extending the existing agreement on turbo-starters until 1965.<sup>172</sup> Importantly, Wilkins notes that these agreements could also be used by firms, such as Westinghouse, to prevent licensees from exporting into the American market.<sup>173</sup>

The GEC archive documents a number of these agreements between British firms and between British and international firms dating from 1956. However, the records are not sufficiently complete to tell us how new or how widespread these agreements were. One Electric Lamp Manufacturers' Association enquiry into agreements relating to the Electric Lamp Business in Great Britain, to which the GEC was a party, documented 53 agreements between GEC and other individual companies, relating to sales and patent exchanges.<sup>174</sup> It certainly appears to be the case that patent-sharing agreements proved important from the mid-1950s onwards and acted as an

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<sup>170</sup> GEC, Box 1951, Amended Agreement between International General Electric Co. Inc, AEI, BTH, Metrovick, Edison Swan and Ferguson Pailin, 26th May 1951.

<sup>171</sup> GEC, Box 1963, 19 September 1963.

<sup>172</sup> GEC, Box 1954-58, 1st January 1956. Note the International General electric Co. became a division of General Electric in 1952.

<sup>173</sup> Wilkins, *op.cit.*, p541, footnote 29. Not until 1970 was challenged by the US Justice Department.

<sup>174</sup> GEC, Electric Lamp Manufacturers Association enquiry, (undated but probably in response to the 1949 announcement of the monopolies commission investigation into the supply of electric lamps). Of the 53 eight had been signed between 1945 and 1948.

alternative method for inter-firm co-operation which lay outside the restrictions of monopoly policy.<sup>175</sup>

The explanation behind electrical manufacturers' interest in the restriction of price competition therefore derives from two concerns: increases in uncertainty due to the breakdown of the patent pools during the war, and an early realisation among producers of their weak position with respect to technical advance. The cartels reflected a lack of competitiveness among British manufacturers, but this leads us to our second question: why was there no single British firm capable of gaining competitive advantage through a strategy of abandoning collusion and competing in the key markets of Western Europe and the United States? If the cartels were simply restrictive in their aim, it might also be asked: why then did the American companies, which did have a competitive advantage, also allow the rings to be re-established? In examining the ownership structure of the industry it is not only possible to answer these questions but also to achieve a complete explanation for the development of the post-war rings.

- Ownership and Control

The conclusion arrived at above implies that the motivation of firms, in the creation of market conditions favouring adaptive strategies, derives from a lack of competitiveness. However the key to explaining the failure of any single firm to break from the rings, and adopt an innovative strategy, in fact derives from the influence of

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<sup>175</sup> It is unlikely that technology sharing agreements ever completely replaced agreements on price since even as late as 1974 it was revealed that cable manufacturers had secretly combined together to operate a parallel pricing arrangement for sales to the Post Office. See Cowling et.al., op.cit., p206.

American ownership on the British firm AEI, and to a lesser extent English Electric, rather than a lack of competitiveness.<sup>176</sup> Associated Electrical Industries was the largest of the electrical manufacturing companies operating in Britain in the 1930s. AEI was formed in 1928 as a holding company for British Thomson-Houston and Metropolitan-Vickers and their subsidiaries. Both BTH and Metrovick themselves were two of the largest firms operating within the industry in the interwar period and from 1928 General Electric of America owned both companies via the ownership of up to 54% of AEI's shares.<sup>177</sup> As a result, General Electric (USA) directly controlled the decision making process of the company through appointed directors such as Howard Levis, the first Chairman of AEI, William Lusk, his successor and Managing Director of BTH until 1944, as well as Lusk's successor Harry Sporborg.<sup>178</sup> This relationship was so close that AEI's Head Office was also the London office of General Electric's subsidiary company dealing with all international agreements, the International General Electric Co.<sup>179</sup> AEI thus became the mechanism through which General Electric (USA) gained a substantial level of control over the British electrical industry.

General Electric (USA) progressively reduced its shareholding in AEI to 40% by 1940.<sup>180</sup> This shareholding was still further reduced, largely due to US anti-trust investigations, to 34% in 1946 and finally with the sale of the rest taking place in 1953.

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<sup>176</sup> See L.S. Reich, 'General Electric and the World Cartelization of Electric Lamps', International Cartels in Business History, eds. A. Kudo and T. Hara, (Tokyo 1992) for the extent of General Electric share ownership of international competitors.

<sup>177</sup> Jones and Marriott, op.cit., p.108.

<sup>178</sup> Ibid., pp.66-7.

<sup>179</sup> Ibid., p.157.

<sup>180</sup> Ibid., p.160.

As a result AEI became a British-owned manufacturer by 1953.<sup>181</sup> Despite the reduction of its shareholding, co-operation continued with General Electric, allowing AEI free use of the former's patents and technology in the 1951 agreement. The influence of General Electric was not however restricted to AEI. General Electric also owned the largest single block of preference shares in GEC in the 1930s, although the lack of voting rights ensured that Hugo Hirst was able to prevent General Electric's attempted merger of the British companies in 1929.<sup>182</sup>

Further American influence within the British electrical engineering industry came from Westinghouse's influence upon English Electric. Westinghouse maintained financial influence within English Electric and supplied managerial expertise by appointing George Nelson, a Westinghouse-trained engineer, as Chairman.<sup>183</sup> Nelson remained in the position until his death in 1962.<sup>184</sup> Westinghouse (similarly to General Electric) also provided technical knowledge to English Electric through patent and licensing agreements.

The American influence proved crucially important to the creation of the rings in the 1930s and their re-creation in the post-war years, since it was AEI who had been the prime mover behind the original rings in the 1930s.<sup>185</sup> This ownership structure is of significance not simply for understanding the origins of the rings themselves but also for understanding the difficulties faced by any firm who broke the conditions the rings imposed.

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<sup>181</sup> Ibid., p.162.

<sup>182</sup> Williams, Williams and Thomas, op.cit., p.134.

<sup>183</sup> Chandler, op.cit., p.353.

<sup>184</sup> Jones & Marriott, op.cit., p.175.

<sup>185</sup> Ibid., pp.166-70.

Any firm that broke away from the rings in the late 1940s would have faced two types of threat. While the possibility of benefiting from gaining market share in important international markets would undoubtedly appeal to firms, the dangers were great. The first was posed by General Electric, USA. As a manufacturer with a significant size advantage it was capable of introducing predatory price competition. The company in 1948 employed some 216,000 people in almost 170 plants and had gross sales of \$1.87b.<sup>186</sup> Therefore in the US market there would have been significant problems facing a new entrant. General Electric's exports only accounted for 6% of sales in this period and therefore a competitive firm may have had greater success in Western Europe, particularly as the European competitors were still years away from regaining their previous strength.<sup>187</sup> On balance these issues could be said to appear to favour a first mover in breaking from the conditions imposed by the rings.

Any firm breaking from the cartel agreements would also have faced stiff competition through the concerted and co-ordinated action of those companies which adhered to the ring agreements in domestic and Empire markets. An explicit element of the rings was that firms would co-ordinate both competition in international markets and legal action against patent infringements against any firm breaking the agreements. As the managerial influence of American firms over British firms makes clear, this was certainly no idle threat. Again on balance this would almost certainly have worked against any competitive firm and possibly have wiped out any advantage achieved in other markets. The rings therefore provided not simply an institutional framework

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<sup>186</sup> General Electric (USA), Annual Report, 1957 and Yearbook, 1949, p.9.

<sup>187</sup> General Electric (USA), Yearbook, 1949, p.4. Interestingly, General Electric was actually encouraging the British company AEI to enter the US market at this time in its attempt to stave off anti-trust investigations. See Jones and Marriott, op.cit., p.172.

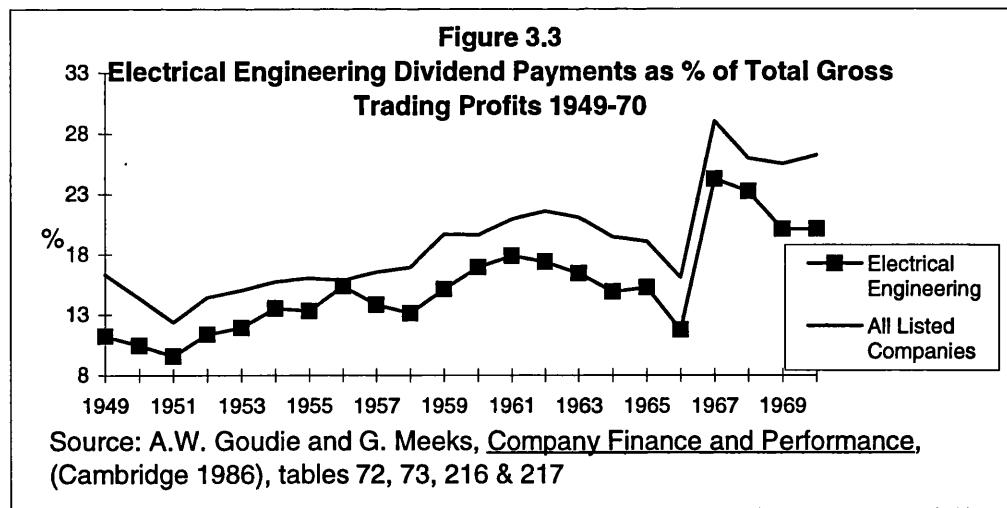
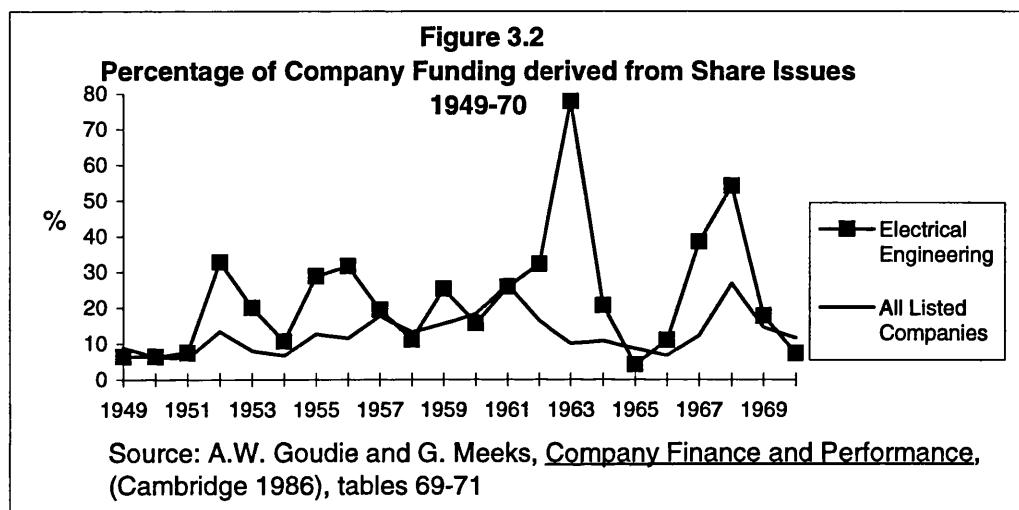
which restricted company activity but, even more importantly, the companies foresaw in the rings an institutional framework which restricted their competitors' activity.

When AEI became a British-owned company, in 1953, it could be argued that the above constraint no longer applied, or at least not so strongly, as the direct American influence was removed. However, a number of points need to be made with respect to the 1950s. First, AEI's adherence to rings was not simply a business strategy foisted upon it by a multinational parent company: the support for rings was internally generated, as it was for other British manufacturers. The origins of the support for rings lay in the firm's attempts to reduce competitive pressures in the 1930s and there was widespread acceptance of the view that only co-operation between firms could ensure intense competition did not return.

Second, for either a single firm or all the British firms to have adopted a more competitive approach would have required an investment strategy aimed at least at widening R+D expertise and almost certainly at reducing production costs. Yet, as Figure 3.2 highlights, the industry was already considerably more reliant upon capital markets for funding than the rest of British industry generally. It is possible that the industry was already near the limits of its ability to raise finance from capital markets and a competitive strategy based upon high levels of investment would have required new sources of finance, from either higher levels of retained earnings or long term bank loans.

Higher levels of retained earnings were however ruled out. As can be seen from Figure 3.3 the return to investors was already less than impressive, in relation to all stock market quoted companies, leaving the dangers posed by take-overs, from

investors disposing of poorly performing stock, ever present. These concerns were reinforced by the legacy of American ownership that made firms acutely conscious of the dangers of take-overs, posed by large concentrations of shares being held by other groups. AEI had particular difficulty in 1953, when the last disposal of shares owned by General Electric took place, of ensuring that they were not purchased by a rival group.<sup>188</sup>



<sup>188</sup> Jones and Marriott, op.cit., p.161.

Greater investment would therefore have been highly reliant upon long-term bank lending. Unfortunately the ability of the British financial system, particularly the banking sector, to provide long term loans and its link to relative decline is a hotly contested issue well beyond the scope of this study.<sup>189</sup> What can be accepted is that an issue of financing industrial reorganisation would have emerged for any firm attempting to create a first mover advantage. However, on balance, though important, this alone would probably not have proved decisive in deterring an alternative competitive approach from emerging.

Finally, and arguably most importantly, the timing for any new approach was crucial. The early 1950s, as documented above, saw the return of international competitors, in particular European competitors, into foreign markets and as a result the support for rings by all firms, to reduce competitive pressures, can be said to have been strengthened not weakened. As the 1950s wore on, the Kennedy round of GATT negotiations and growing economic independence of Commonwealth countries saw the preferential tariff discrimination favouring Britain removed. The prospect of more open competition would have still further increased the pressure on British firms to maintain the institutional framework which protected these markets from international competitors.

As a result it can be concluded that the late 1940s acted as a window of opportunity that was lost for electrical manufacturers to break out of the institutional

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<sup>189</sup> For a discussion of these issues see W.P. Kennedy, Industrial Structure, Capital Markets and the Origins of British Economic Decline, (Cambridge 1987), M. Collins, Banks and Industrial Finance in Britain 1800-1939, (1991) and J.F. Wilson, British Business History 1720-1984, (Manchester 1995), pp.180-194.

framework which the industry had constructed for itself. Having lost such an opportunity, firms within the electrical industry became still more reliant upon protected markets in particular through state procurement projects. The reliance of the British electrical manufacturing industry upon government orders was also reinforced by Britain's unsuccessful attempt to enter the Common Market. Although tariffs were generally falling, the failure to be part of the Common Market could not have helped the price disadvantage that the government studies suggested British firms were suffering.

The entrepreneurial failure is understandable, not simply as Jones and Marriott or Milward would have it as 'the failures of men', but as a complex problem with its roots in the pre-war ownership structure of the industry, which was itself linked to the creation of successful, innovative US firms operating within a multi-national framework.<sup>190</sup> Cartels in this view were not the result of defensive strategy of uncompetitive firms but were primarily the strategy of the competitive firms which dominated the international industry. The British firms were the junior partners within this regulatory system and although they were well aware that the rings were not, in the long run, to their benefit, they were faced with significant difficulties in breaking out of this system. The removal of the rings, therefore, simply highlighted the long term weakness of British firms within the international market and as a result the firms were increasingly forced to rely upon smaller more secure markets, namely British government defence and nationalised industry contracts.

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<sup>190</sup> Jones and Marriott, op.cit., p.319.

- Measuring Success or Failure?

The pessimistic conclusion drawn above suggests that the rings were wholly deleterious to the development of the British electrical engineering industry. Certainly, the evidence of a weakening of the British share of world trade, British firms' loss of world ranking in terms of sales among non-US firms and the creation within the firms themselves of a particularly strong anti-competitive culture all back up such a conclusion. This would also suggest that the answer to the resolution of the chapter's second main question, (Did government orders, civil and military, provide a secure backdrop for company investment in areas such as research and development and if so could the companies utilise this security in orders to improve their competitive position in more hostile competitive markets?), will also be in the negative.

However, it has also been documented that the industry was one of the manufacturing success stories for the British economy; its share of total domestic output and employment more than doubled between 1935 and 1968. Elsewhere, writers such as Chandler maintain that the industry was highly successful. In the post-war period 'the leading firms in Britain's heavy-electrical-equipment industry developed the organisational capabilities to compete and expand in international markets over the long run'.<sup>191</sup>

It could simply be that the focus of investigation leads to two different conclusions. The British electrical engineering industry suffered from a relative decline with respect to international comparisons but within the domestic economy no such decline took place, and in fact the reverse occurred: the industry thrived and became

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<sup>191</sup> Chandler, op.cit., p.354.

one of the more dynamic sectors within the domestic economy. Alternatively, it could also be that our general interest in the role of market information and its control is of relevance here. It will be recalled that the relevance of the chapter's second question derives from our concern that the restriction of information may be necessary for the creation of competitive firms. In other words the re-establishment of the rings, and British firms' support of them, was not wholly deleterious to the British companies themselves.

- Costs and Benefits

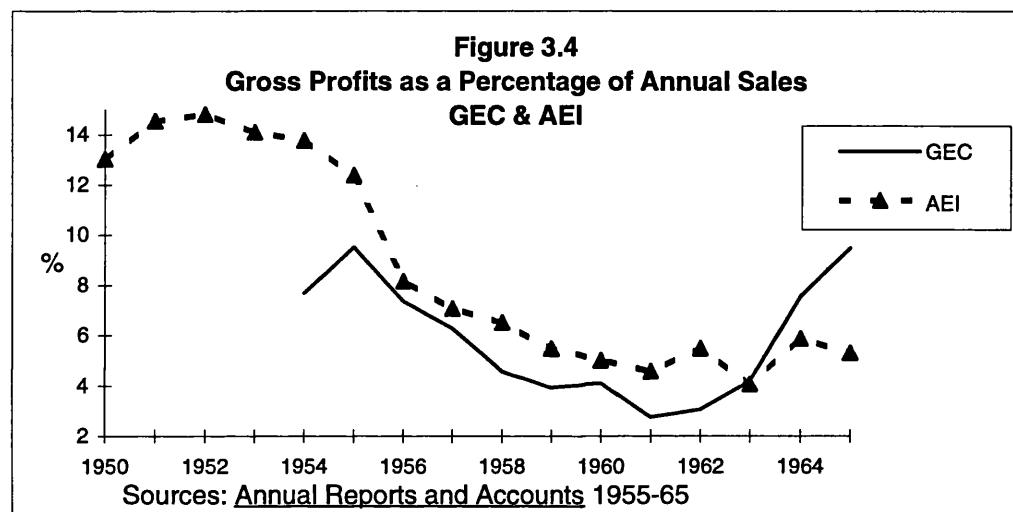
The failure to redefine the competitive framework in the late 1940s, would be expected to have had an impact on the companies themselves. It will be recalled that the view was presented, in Chapter One, that it is the governance of the market that requires firms to develop organisational capabilities. We would expect therefore that a failure to alter market governance mechanisms would have an impact on the subsequent development of the firms themselves. Of course this process was not deterministic, nor in a singular direction, but nevertheless it should be possible to find further evidence backing our earlier conclusions.

All three firms saw a rapid rise in their respective stock market valuations between 1945 and 1965 from £6.5m to £51.7m in the case of AEI, from £5m to £45m in the case of English Electric and from £11.6m to £65.6m for GEC.<sup>192</sup> All three

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<sup>192</sup> AEI's valuation of includes £48m of issued stock consisting of £43m ordinary shares and £5m preference shares. English Electric's valuation includes £40m issued consisting of £37m ordinary shares and £3m preference shares. GEC's valuation includes £61m of issued stock consisting of £55m ordinary shares and £6m preference shares. Stock Exchange Official Year-Book, (1945), pp. 787, 1110 and 1155, (1965), pp.1771, 2240 & 2330.

companies were also typical of the industry in using share issues to raise capital, with GEC issuing stock in 1944, 1952, 1961 and 1964, while English Electric carried out seven share issues and AEI carried out eight within the same period.<sup>193</sup> This apparently impressive growth was, however, against a background of falling profitability. Figure 3.4 highlights most starkly the falling gross profits to sales ratio which caused difficulties for both GEC and AEI in the 1950s.<sup>194</sup>



Falling profit margins resulted in the companies facing severe managerial difficulties in creating and sustaining competitive organisations throughout the 1950s. These problems were at their most obvious in the cases of AEI and GEC, and it is in comparing these two companies' experiences that the advantages gained from protected markets can also be found.

<sup>193</sup> *Ibid.*, 1965, p.2330.

<sup>194</sup> Sales data for English Electric is not available over the whole period. However data for the period 1955-59 shows the ratio of sales to gross profits falling from 4.95% to 3.77%. English Electric, *Annual Reports and Accounts*, 1959.

The abandonment of the proposed rationalisation of the electrical manufacturing industry attempted by General Electric (USA) in 1929 left the two main subsidiaries of AEI, BTH and Metrovick, as entirely separate companies, competing and hostile to one another.<sup>195</sup> This hostility was to ensure that expansion and rationalisation after 1945 was to continue to pose enormous problems. The animosity between the rival firms was such that, despite BTH working under contract from 1935 onwards with Frank Whittle, the inventor of the jet engine, Metrovick simultaneously and independently was also developing a jet propulsion system.<sup>196</sup>

With the exception of manufacturing plants in India and Australia, AEI's production was totally within Britain after the war and, despite the opening of further plants overseas, such as in South Africa in 1955, over 90% of production still took place within Britain by the end of the 1950s.<sup>197</sup> The main plants were situated in Manchester, Rugby and Woolwich. The company's post-war expansion included the expenditure of £16m on buildings and plant between 1946-53.<sup>198</sup> From 1953 this expenditure increased rapidly and amounted to approximately £10m per annum until 1959.<sup>199</sup> As a result the number of main manufacturing plants had increased to over 40 by 1958 from 17 in 1945.

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<sup>195</sup> Chandler, op.cit., pp.351-3.

<sup>196</sup> J. Jewkes, D. Sawers & R. Stillerman, The Sources of Invention, (2nd. ed. 1969), p.263 and Marriott & Jones, op.cit., pp.155-6.

<sup>197</sup> AEI, Annual Report and Accounts, 1955, p.5.

<sup>198</sup> AEI, ibid., 1953, p.5. Jones and Marriott give a figure of £16m between 1945-9 but do not state where the figure is derived from, p.159.

<sup>199</sup> Latham, op.cit., p.18.

From the early 1950s, AEI began a series of changes and reorganisations whose aim was to resolve the difficulties posed by the ownership structure of AEI. Not only did the company have to ensure that General Electric's share disposal did not lead to the company being taken over, but the directors' aim of avoiding paying tax had created an anomaly over the Metrovick ownership arrangements, whereby until 1951 AEI directly owned the physical capital of Metrovick.<sup>200</sup> In the process of resolving ownership issues, AEI also centralised financial control of the subsidiary companies under its own authority. Once the ownership issues had been unravelled AEI set about resolving the conflict between directly competing and hostile subsidiaries.

Prior to the 1950s AEI's management recognised the rationale for maintaining two separate companies lay with the high profits derived from the price fixing arrangements. Price fixing ensured high profit margins and AEI management believed two separate companies gained greater market shares within the cartels than one larger firm.<sup>201</sup> As the company secretary stated 'the [1956] Restrictive Trade Practices Act has done away, or will do away, with price arrangements and the old arguments in favour of duplication of manufacturing and operating companies are no longer valid.<sup>202</sup>

While it can be readily accepted that the removal of formalised cartels and price fixing arrangements removed some of the arguments against rationalisation, the need for rationalisation derived primarily from other causes. In 1964 AEI's Chairman

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<sup>200</sup> Essentially Metrovick was a company with a turnover of £30m per annum but whose nominal capital was £10,000. M.G. Walker, 'Development and organisation of AEI Ltd', Business Enterprise: Its growth and organisation, ed. R.S. Edwards and H. Townsend, (1958), p.309 for BTH ownership problems and Jones and Marriott op.cit., p.161 for disposal of General Electric shares in AEI.

<sup>201</sup> Marriott and Jones, op.cit., p. 159.

<sup>202</sup> GEC, talk by George Walker to Staff College course 6th September 1958, p.15.

admitted that a lack of specialist knowledge had led to a severe strain being placed upon the design and manufacturing departments, due to the CEGB's demands for high capacity turbo-alternators of 500MW.<sup>203</sup> This was after a period from 1959 to 1963 when the company had seen a reduction in demand for its products. In other words it was the reduction in orders, itself due to an orientation on restricted markets, which prevented the continuation of the dual companies. Individually neither BTH nor Metrovick were capable of developing the capabilities necessary to produce the new, large capacity plant.

In 1954 the subsidiary companies had been organised under five product groups: BTH Group, Metrovick Group, Hotpoint Group, Overseas Group and Siemens Edison Swan Group. In 1960, with the reduction in demand in both government and civilian markets, it had become obvious that 'Something had gone terribly wrong' and AEI was forced into a further series of alterations. The return on capital had been reduced by almost two thirds in five years and the company's debt had increased by £30m.<sup>204</sup> As a result the Aldermaston research laboratory was closed and research concentrated in Manchester and Rugby. In 1962 the workforce was reduced by 2,000 and in 1963 AEI decided that the Group's original trading names (including British Thomson-Houston and Metropolitan Vickers) should be finally discarded and renamed as AEI groups.<sup>205</sup> Thus Siemens Edison Swan Ltd became AEI (Woolwich) Ltd, the group with the largest turnover producing cabling and associated products, and the

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<sup>203</sup> AEI, Annual Report and Accounts, 1964 p.18 and Hannah, op.cit., p.260.

<sup>204</sup> Latham, op.cit., p.19.

<sup>205</sup> Stock Exchange Official Yearbook, 1965, p.1770.

Hotpoint Group became AEI Appliances Ltd. Finally in 1963 BTH became AEI (Rugby) Ltd and Metrovick became AEI (Manchester) Ltd.<sup>206</sup>

The company also sought to reduce the scope of its production into core areas. AEI's valve interests were sold to English Electric, as was its last remaining interest in television production, Multi-Broadcast (Rentals) Ltd. A joint venture with Thorn Electrical Industries Ltd was also formed, to take-over and rationalise the two companies' lighting interests.<sup>207</sup> Despite these changes AEI continued to face managerial problems in defining and rationalising its major plants throughout the 1960s.

AEI's experience of the 1950s was echoed at GEC, yet by the early 1960s GEC had begun to resolve the lack of integration between subsidiaries and still more importantly, following Arnold Weinstock's entry into the firm in 1961, developed a marketing and sales organisation that was essential for the company's return to profitability.

In 1945 GEC had twelve factories operating in Britain, including its main plants at Witton, producing heavy electrical plant such as A.C. generators and A.C. and D.C. motors, and Erith, producing turbo-alternators. Smaller plants at sites such as Wembley, producing electric filament lamps, were responsible for the production of mass-produced products. In all the company had investments in 33 manufacturing and marketing companies, owning all the shares in eighteen of these.<sup>208</sup> The wholly-owned

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<sup>206</sup> AEI, Annual Report and Accounts, 1963, p.5.

<sup>207</sup> Ibid., 1963 p.5 and 1964, p.5.

<sup>208</sup> GEC, Annual Report, 1946, p.10.

subsidiaries included marketing and manufacturing companies in Argentina, Australia, China, India, South Africa and New Zealand, as well as manufacturing capabilities in Britain, in neon and fluorescent lighting, passenger and goods lifts, X-ray and cathode ray tubes, as well as scientific equipment.<sup>209</sup> By 1955 GEC had expanded, owning nineteen manufacturing companies (for the most part in Britain) and sixteen trading companies (mainly operating internationally). This expansion continued throughout the period, with GEC, by 1960, increasing the number of wholly-owned manufacturing subsidiaries to 24, along with 31 trading companies.<sup>210</sup> If associated companies are also added the figures would be higher still.<sup>211</sup> This increase occurred despite the disposal of a number of shareholdings and subsidiaries, including the wholly-owned Electric Development and Securities Trust Ltd. in 1948 and the 50% shareholding of Pirelli-General Cable Works Ltd. in 1962. The Electric Development and Security Trust had itself also been a holding company, owning eleven regional electricity supply companies, including West Cumbrian Power Co. and South East Yorkshire Light & Power Co.

The rapid expansion after the Second World War made re-organisations inevitable and by 1965 a series of re-structuring programmes had taken place. These were designed to change the company from a large mass of disparate subsidiaries into a company with a hierarchical divisional structure, while retaining GEC's holding company ownership pattern. The restructuring took a number of forms and was carried out in a number of stages between 1960-62, following reports from the consultants

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<sup>209</sup> Stock Exchange Official Year-Book, 1945, p.1152.

<sup>210</sup> Ibid., 1955, p.2257, and 1960, p.2362.

<sup>211</sup> An associated company was one in which GEC owned up to 50% of the company but did not own a controlling interest.

Urwick Orr & Partners. The manufacturing companies were reorganised into five product groups. Each product group was to be autonomous and have its own Managing Director who would in turn be responsible to the Chairman and Vice Chairman of the GEC holding company.<sup>212</sup> The move towards holding groups was to decentralise and to rationalise the manufacturing processes. For example, GEC Engineering was formed in 1961 to take over the management of the heavy plant engineering at the Witton and Erith works. Similarly GEC Home Products, again formed in 1961, took over both GEC Domestic Equipment and Allied & Radio, the television subsidiary that had led to Arnold Weinstock joining GEC. Under GEC Home Products, the Coventry radio works was placed under the Radio & Allied management and the Sutton refrigerator and cooker manufacturing was integrated. Some new ventures were also started including the joint venture with Mullard to integrate semi-conductor production.<sup>213</sup> The result of this re-organisation was that many of the previously separately-named and separately-run competing subsidiaries disappeared into GEC product groups, with, for example, Steel Conduit Co. Ltd becoming part of GEC Lighting Equipment Ltd, which in turn was part of the Osram (GEC) Ltd product group.

The second part of the restructuring process was to integrate the manufacturing processes of the product groups with the distribution and sales processes of the branch networks. The extensive network of homes sales branches was disbanded, with trading activities transferred to the product groups and the branch premises disposed of. These new integrated groups were now re-defined as GEC divisions. Thus by 1965 GEC had

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<sup>212</sup> GEC, Annual Report, 1959-60, p.6.

<sup>213</sup> Ibid., 1962, p.5-21.

integrated product and marketing divisions in Electronics, Engineering, Consumer Products, Telecommunications and Research.<sup>214</sup>

Although the integration of product and marketing functions proved highly successful for GEC in the 1960s the re-organisation itself was a painful process. Figure 3.4 highlights the low point for gross profits as a percentage of sales occurring in these years of restructuring, before recovery by the mid-1960s. The years 1961-2, in particular, were clearly a difficult two years for the company, as it distributed all but £0.2m of its post-tax profit in dividends and in 1961 it sought an extra share issue in order to reduce its liabilities and bank overdraft of £13.24m.<sup>215</sup> This financial weakness also led English Electric to attempt, unsuccessfully, a merger with GEC in 1960.<sup>216</sup> Thus, both AEI and GEC suffered from severe managerial difficulties during the 1950s.<sup>217</sup> However, GEC was able to respond during the early 1960s and solve the key weakness suffered by all firms operating within the industry by integrating the production, marketing and sales functions of the firm.

It is also clear that GEC's success in re-organising the company was intimately linked to the continuation of protected markets. In Chapter One it was highlighted, using Input-Output tables, that government purchasing grew in importance for a wide number of industries. In the case of the electrical engineering industry an underestimate of government final product and nationalised industries intermediate product

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<sup>214</sup> Ibid., 1965, pp.16-18 and Stock Exchange Official Year-Book, 1965, p.2330.

<sup>215</sup> GEC, Annual Report, 1965.

<sup>216</sup> Jones and Marriott, op.cit., pp.190-4.

<sup>217</sup> For more on the problems leading to the merger see Cowling et.al., op.cit., p.192

purchases grew from 8.4% to 24.8% of total domestic output.<sup>218</sup> Over the same period the importance of exports of electrical engineering goods hardly changed rising only from 17.5% to 20.2% of total output. These results are reinforced by a further Input-Output study of the electrical engineering industry which suggested that by 1975, including the nationalised sectors of the motor and aerospace industries, government purchases accounted for around 40% of domestic sales.<sup>219</sup>

Government supported markets acted as a safety net that the firms themselves were also able to utilise to develop organisational capabilities. The safety net promoted R+D and allowed firms to develop technology-sharing agreements as a mechanism for regulating competitive pressures. In particular, high levels of military support ensured that the British firms were able to continue to develop their capabilities in the field of research. The importance of defence spending for the development of research capabilities can be gauged from the fact that 59% of all R+D was financed by defence spending in 1955-6, falling to 49% by 1958-9 and 39% by 1961-2.<sup>220</sup> Of this between one-half and two-thirds was carried out by private industry. The electrical engineering and electronics industry was, after the aircraft industry, the main beneficiary of this

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<sup>218</sup> Recall that expenditure leading to increases in domestic capital formation is excluded. Data covers electrical engineering category for 1948, derived from I.G. Stewart, Input-Output Table for the United Kingdom, The Times Review of Industry, December 1958, pp.vii-ix, and electrical machinery, insulated wires and cables, radio and telecommunications and other electrical goods in 1963, derived from Input-Output Tables for the United Kingdom 1963 (1970), Summary table 1. See Appendix One, tables 1 & 2 for calculation.

<sup>219</sup> V.H. Woodward, 'A disaggregated simulation model of the UK electrical engineering industry', Input, Output and Marketing, ed. S.J. Gielnik and W.F. Gossling, (1980).

<sup>220</sup> Economist Intelligence Unit, The Economic Effects of Disarmament, (1963), p.26, D.C. Paige, op.cit., p.30 and M. Kidron, Western Capitalism Since the War, (Middlesex 1970), p.51.

spending. It received £64.5m, or 21.7% of the total military spending on R+D in 1958, employing some 12,400 qualified scientists and engineers.<sup>221</sup>

Protected markets also proved valuable for research and development into more civilian orientated areas, such as atomic power. All the major companies established atomic power groups. AEI set up the AEI-John Thompson Nuclear Energy Co., English Electric combined with Taylor Woodrow and Babcock and Wilcox to form Atomic Power Construction Co. Ltd. and GEC set up its own company under the control of the Engineering Division.

While the existence of protected domestic markets was beneficial to the continuation of large scale R+D it was still more important that the end product of that R+D found a ready made market in protected defence procurement contracts. In 1961 conservative estimates suggest that over 22% of output from the electronics sector was for military use while in the radio communications sub-sector this was over 35%.<sup>222</sup> All the firms in this study were highly reliant upon defence sales. AEI's Electronics Group and English Electric's Marconi Instruments Ltd, were both 'dominated' by defence sales.<sup>223</sup> Within GEC the telecommunications and electronics divisions were the largest contributors to company sales, accounting for 27% of group turnover in 1965 (see Table 3.5). The electronics division also included both the Applied Electronics and Stanmore Research Laboratories. Thus a large proportion of the

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<sup>221</sup> EIU, op.cit., table 13, p.29 and C. Freeman, 'Research and Development: A comparison between British and American industry', National Institute Economic Review, No.20, 1962, tables 1&2.

<sup>222</sup> EIU, op.cit., p.65.

<sup>223</sup> AEI, Annual Report and Accounts, 1964, p.18 and English Electric, Chairman's statement Annual Report, 29 March 1962, p.5 and pp.12-13.

companies' resources and a large proportion of turnover came from the military-related projects which it was involved in.

Table 3.5  
GEC The allocation of Resources and Contribution to Turnover by Product  
Divisions.<sup>224</sup>

	Turnover £m		UK Assets £m	
	1964	1965	1964	1965
<b>Telecomm.s &amp; Electronics</b>	39.6	47.3	28.6	34.0
<b>Consumer Products</b>	32.3	38.7	21.9	25.3
<b>Engineering</b>	31.7	23.5	25.7	24.8
<b>Other Home Subsidiaries</b>	26.7	29.6	16.7	17.9
<b>Overseas Subsidiaries</b>	32.1	36.8	21.4	27.7

Protected markets also went some way to encourage the process of standardisation recommended by the Lemon Committee. In 1947 a government order, SR&0.2386, restricted turbo-alternators to sets of 30MW and 60MW capacity, in order to reduce the lead-time in bringing new equipment on stream.<sup>225</sup> Although this order was withdrawn in 1950 larger the first 120MW set was not installed until 1958 and the first, still larger, 200MW set until 1959.<sup>226</sup>

The impact for the industry was initially to provide the opportunities to bulk production techniques and reduce design and development work, as well as to ensure that the CEA acted as a purchaser of large quantities of low technology equipment.

<sup>224</sup> Source GEC, Annual Report, 1965.

<sup>225</sup> Hannah, op.cit., p.25.

<sup>226</sup> Ibid., p114-115 and Cmd 9672, Report of the Committee of Inquiry into the Electricity Supply Industry, 1956, p.112

This was highly satisfactory from the companies' point of view, as this was also the specification of the equipment being sold in the Commonwealth markets and as a result the companies were required to provide little specialist work to finish orders. The fact that manufacturers were able to supply an almost standard product across markets should have allowed them to have gained efficiencies through either experience gained in learning curves or through the creation of economies of scale, yet despite this, as documented above, delivery times remained poor and firms continued to resist the introduction of price competition.

While it can be accepted that protected markets provided the opportunities for the development of organisational capabilities it is also clear that the failure of the British manufacturers lay in an inability to turn these opportunities into sustainable competitive advantages.

Firms proved highly capable of developing new products from R+D projects, for civilian markets, but any lead achieved was rapidly lost once international competitors, particularly those of the U.S, began to compete. British protected markets could encourage R+D and innovation but they were too small to allow for the creation of organisational capabilities through diffusion. When mainframe computers first entered the civilian market British firms were initially able to compete but fell behind once the US firm IBM (with larger mass markets, and still larger government support) began to compete.<sup>227</sup> Similarly within the emerging mini-computer market of the

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<sup>227</sup> Most importantly see Hendry, *op.cit.*, p. 163 for the US government's \$8b expenditure on the SAGE defence programme.

1960s British producers, with their focus upon niche markets, lost out in the face of US competition whose interest lay in mass markets.<sup>228</sup>

New technologies found latent markets which required production facilities capable of satisfying demand and marketing and sales organisations to develop knowledge about new products. It was a failure to develop marketing and sales capabilities that was a key element of the lost opportunity to create a competitive industry. Even at the components level a lack of understanding of the relationship between production, marketing and sales ensured that English Electric's lead in integrated circuit technology was lost due to a lack of capacity.<sup>229</sup>

Protected markets in Britain were in a sense a poisoned chalice. They were large enough to act as a focus for firms' attention but too small to encourage firms to develop adequate sales and marketing techniques. An over-reliance on protected markets can thus be said to have led to a neglect of marketing and sales operations and as a result it was not until the 1960s that GEC began the process of creating integrated production, marketing and sales capabilities.

In general then it appears that the connection between the development of competitive organisations and the existence of secure markets is not clear cut. Certainly R+D was enhanced by security of orders and the industry was also able to develop much of this technology into commercial products. Unfortunately, weaknesses within the firms' marketing and sales organisations made it all too easy for competitors to enter and dominate commercial markets. Although GEC did develop new marketing and sales operations it should be recalled that GEC was the smaller of the three major

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<sup>228</sup> Hamilton, op.cit. p.101.

<sup>229</sup> Economist, 17 November 1965, p.978.

producers. While GEC's marketing and sales organisation was the most advanced, it was still incapable of resisting the advantages held by firms such as IBM.

By the mid 1960s it was becoming obvious that in all product markets there were too many domestic producers and mergers and rationalisation were increasingly seen as the mechanism with which to deal with the problem. The IRC's intervention was sign-posted by the CEBG's decision to purchase only two designs of generator sets and the recognition that three groups bidding for atomic energy contracts was too many.<sup>230</sup>

- Conclusion

The development of the market for the electrical manufacturing industry after 1945 was one in which the visible hand of the manufacturers played the determining role. The option of introducing price competition was available to managers in the industry, but was rejected, this chapter has argued, on the grounds that this represented a high risk strategy and would have brought any firm adopting it into direct conflict with competitors.

A diversification of marketing and sales into the more rapidly growing markets for electrical manufactured products would also have required internal changes, such as investments leading to greater specialisation, the creation of economies of scale involving mergers and rationalisation, improved delivery times and reduced costs. To have followed this road would have necessitated an abandonment of strongly held beliefs in the role of international cartel arrangements in order to win market share.

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<sup>230</sup> Economist, 23 October 1965, p.414.

For such a strategy to have proved successful it is conceivable to argue that the timing of such a shift would have been crucial. The most opportune time for such a strategy would have been prior to the return of the main European producers to world markets, in particular the West German manufacturers. By the early 1950s, at the latest, the window of opportunity available to the British manufacturers was closing. As a result the institutional framework adopted aided the return of the European manufacturers to the world market.

The failure to adopt a new competitive framework was not simply due to entrepreneurial conservatism but must be linked to the ownership structure of the British electrical manufacturing industry. British manufacturers were presented with a major problem; to abandon the international cartel agreements would have meant British firms would have not only to confront West European manufacturers but most importantly the manufacturers in the United States, most notably General Electric and Westinghouse. The major shareholding in AEI held by General Electric, until 1953, also meant that General Electric could have used its ownership of AEI to undermine British firms in their own domestic market. Thus the position of AEI in the British market acted as a guarantee of stability for US firms preventing the only possible competitors in the early post-war period from capitalising upon their own head start.

The refusal of manufacturers to adjust the competitive balance within the industry forced firms<sup>1</sup> to be more reliant upon government through military expenditure, the CEA (and later the CEGB), British Rail and the Post Office. Public expenditure on military and civil projects presented the electrical manufacturing industry with key markets and represented the bread and butter of the industry. These

markets had a number of important attractions in that they were all for large orders, often accounting for over half the total output in heavy plant divisions. In electronics and telecommunications, military orders alone tended to account for over a quarter of orders and in the case of paper insulated mains cabling the National Coal Board was the only domestic purchaser. These markets also provided the opportunity for firms to undertake large scale R+D programmes. However, they were never large enough to allow firms exploit the commercial products emerging from R+D. In particular British firms were unable to develop the sales and marketing organisations or create relationships with customers which were achieved by US firms.<sup>231</sup>

The loss of the post-war window of opportunity resulted in a period of continued internal re-organisation for all the British firms, as they attempted to respond to international competitive pressures. An attempt to achieve a more thorough-going solution to the problems facing the industry came when English Electric proposed a merger with GEC in 1960. GEC's rejection left the industry to continue to rely upon the framework that had demonstrably failed by the late 1950s, and due to changes in competition policy was less effective in any case. As a result the decision in 1967-8 to merge and rationalise represented a further adaptive strategy rather than being the innovative strategy it could have been two decades earlier.

Before making some wider observations emerging from this case study it is necessary to raise the question of whether or not a counter-factual approach is useful.

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<sup>231</sup> Freeman, op.cit., p.31.

One might wonder whether or not the industry should have attempted to compete in areas such as mainframe computer development or atomic power at all. Perhaps the industry should have steered away from the high technology, capital goods sectors. There were a number of factors pushing manufacturers to adopt the approach they did, making such a counter-factual an unrealistic proposition. Immediately after 1945 the demand for consumer and capital goods was high and in both areas British firms were dominant players in export markets. However, it was the capital goods sector that was the key market for producers to be involved in. The international consumer durables market was becoming more competitive by the early 1950s, with competition focusing upon price rather than delivery. It was therefore highly unlikely that the demand for capital goods could be ignored on the basis that price competition in consumer durables would not see a return to a 'chaos of destruction'. Early post-war uncertainty over the viability of full employment would similarly have weakened firms' faith in the long term prospects for the consumer durables sector. Finally, the rearmament programme from the early 1950s, combined with new limitations upon domestic demand for consumer goods in the late 1950s, could only have acted to reinforce pressures on firms to orientate towards government orders. Thus in the critical period of reconstruction there were too many pressures leading towards an acceptance of the status quo and a path-dependent process favouring adaptive strategies.

A second counter-factual is, however, more appealing. British producers could have accepted the re-establishment the post-war cartels, but on the basis of British firms being awarded a greater role in European markets. British producers were also in a strong position in the late 1940s and could have demanded a re-negotiation of the

cartels' conditions. Milward is surely correct to suggest that greater involvement in West European markets could have encouraged productivity growth. A link to more rapidly growing markets could have made firms more responsive to market conditions and promoted the creation of a sustainable competitive advantage (in production, marketing and sales) capable of rivalling West German and other European firms. Under this scenario the real lost opportunity in the early post-war years for the British electrical engineering industry lay not in the introduction of cartels but in the re-introduction of cartels based upon the conditions in existence in the 1930s. This view would raise the question: why was it that the British electrical engineering industry was excluded from West European markets whereas the Anglo-Iranian Oil Co. was successful, not only re-storing its links to the Middle East in 1945 but still more importantly re-establishing its links to Iran in 1954? Government and industry relationships would again be the focus for discussion.

Finally, we now have two studies of industries in which the end of the Second World War brought an intense period of uncertainty and difficulties in forecasting. It is possible at this point therefore to make a very broad preliminary observation. Under both cases the response to uncertainty was to reduce the risks from opportunistic behaviour. Under these conditions the rapid re-introduction of pre-war regulatory conditions found widespread support. However, conditions after 1945 did not return to those of the 1930s and business was forced into a process of reappraisal, interestingly in both cases by sections of government (US anti-trust and nationalisation measures in Iran for oil and monopoly investigations in the case of electrical engineering). In this

reappraisal we again see, across both case studies, an incremental, evolutionary approach adopted, which is highly dependent upon government support (US State department and British cabinet support for oil and government procurement for electrical engineering). Co-operation and risk aversion then appears to be at the centre of the decision making process related to defining competition within each market.

- **Chapter Four**

- **J. Sainsbury 1945-64 : Challenging market governance**

‘A very low price advertised today is bettered within 24 hours by a competitor. This is all very well short term, but in the long term it cannot be in anyone’s interest.’<sup>1</sup>

- **Introduction: Similarities and Differences**

A case study of the service sector might at first glance appear to present an unusual choice alongside two other manufacturing industries. Surely, one might object, the conditions and pressures operating within the service sector cannot easily be equated with manufacturing industry. Do the time scales, historical development and internal dynamic of the sector mean that the generalisations arising from manufacturing are not simply transferable to services? The choice of Sainsbury’s - a food retailer (as opposed to a food manufacturer or wholesaler) - means that comparisons with the Anglo Iranian Oil Co. and the General Electric Co. are stark. Is it possible to compare chalk with cheese?

It is, in fact, the differences that make such a comparison useful and the surprising level of similarity that makes such a case study possible. If we briefly recap on the issues this study has focused upon, it becomes clear that the retail trade fits all the criteria for being included within the study. Our hypothesis is that firms, as governance bodies, act to structure and control the market. We also suggested that

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<sup>1</sup> Chairman of Tesco speaking in 1985. Quoted in J. Senker, ‘Technology and competitive strategy in food retailing’, The Strategic Management of Technological Innovation, ed. R. Loveridge and M. Pitt, (Sussex 1990), p.86.

inter-firm co-operation was an integral part of firms' activity and that this was not just a response to falling markets, as had developed in the interwar slump of the 1930s. Lazonick maintains that British firms' failure lies in the adoption of a low-investment, adaptive strategy, around 1930, which was heavily reliant upon tariff protection and government subsidy. This is said to contrast with United States firms which were able to utilise tariff protection from around 1880 to defend infant industries and to develop a strategy based upon transforming high fixed cost into low unit costs. For Lazonick then 'as they moved into the middle decades of the twentieth century British enterprises and British society were ill prepared to build the organisations and develop the technologies required to make the transition from proprietary to managerial capitalism'.<sup>2</sup>

We are therefore interested in industries which are part of the growing sectors of the British economy in the post-war era, in order to discount the possibility that firms aim to restrict competition simply as a protectionist measure for declining industries. By focusing upon the dynamic areas of the British economy, we should be able to find firms that are successful in developing either innovative or adaptive strategies. We also wish to examine the role played by government activity, information scarcity and trade associations in the development of the market.

The retail trade certainly is an area of the British economy which was of growing importance in the post-war era with the growth of consumer expenditure. Although food spending was the sector of consumer expenditure in which growth was slowest, it was in grocery retailing that dynamic firms emerged. Of the ten largest retailing business in Britain today, six are food retailers. This dynamism is such that it

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<sup>2</sup> W. Lazonick, Business Organisation and the Myth of the Market Economy, (Cambridge 1991), pp.110-111.

is accepted that 'what supermarkets do today, the rest of retailing does tomorrow', and it is even suggested that retailing leads manufacturing industry in developing new strategies.<sup>3</sup> Thus its status as a growth sector of the British economy, with dynamic firms, makes the comparison with manufacturing industries of relevance.

The food industry as a whole is also one that faced significant government intervention, most notably with the introduction of rationing during the Second World War and its prolongation until 1954. Government legislation including the 1956 Restrictive Trade Practices Act and the Resale Prices Act of 1964 also had an important impact upon the trade. Further the food manufacturing, wholesaling and retailing industry developed important trade associations which again played a major role in the subsequent development of the industry. Again therefore the similarity of the development of governance bodies makes the food retailing industry a relevant comparison.

However, emphasising the similarities between the retail trade and manufacturing sector is not to obscure the differences. The case study of Sainsbury's and the grocery retailing trade appears in many respects to be the reverse of the two previous studies and it is from these differences that generalisable conclusions are to be drawn about firms' behaviour.

The differences which are considered to be of importance here are: first, the time scale of changes operating within the retail trade. The continuation of war time rationing and building restrictions lasted longer for the retailing industry than in any of the other industries examined. The industry therefore suffered a more prolonged period of control and the time period under consideration, 1945-65, is longer than the

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<sup>3</sup> C. Gardner & J. Shepherd, Consuming Passions. The Rise of Retail Culture, (1989), p.12 and p.153.

previous case studies, with the emphasis upon the later, rather than earlier years. Similarly the period of decontrol and relaxation of restrictions was to some extent exceptional. Decontrol (combined with the outbreak of price competition, highlighted by the break down of resale price maintenance and the conflict arising from the introduction of retail trading stamps in the grocery trade) created an arguably more intense period of change for the industry than in the previous case studies.

The grocery retailing industry also differed from the oil and electrical engineering industries in that the period after 1945 was one in which atomistic competition predominated. Only the co-operative stores can be said to be a partial exception to this. The introduction of rationing saw the Co-op's register 28% of the population, accounting for as much as 40% of the market for butter but only 23% of the overall market for groceries and provisions.<sup>4</sup> Further, the industry was characterised by firms operating on a local or regional geographical basis. Although national companies did exist, including those owned within the Allied Suppliers group, they were not the primary beneficiaries of the post-war developments within the trade.<sup>5</sup> Finally, despite the fact that foreign competition, particularly from Dutch and US firms, did exist, the industry was not one in which competition within international markets proved to be important.<sup>6</sup> Hence the case study again acts as a counter to the earlier case studies in which competition within international markets was vitally important.

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<sup>4</sup> J. Birchall, Co-op the People's Business, (Manchester 1994), p.137. As these societies had origins and priorities very different to private retailers, the chapter will not be concentrating upon this form of organisation.

<sup>5</sup> See P. Mathias, Retailing Revolution, (1967) for history of Allied Suppliers before 1945.

<sup>6</sup> This became an issue for retailing during the 1980s. See G. Akehurst and N. Alexander, The Internationalisation of Retailing, (1995)

While competition remained within national or regional markets, it did not mean that the industry was blinkered to international changes occurring within retailing. Innovative British retailers closely followed developments in the United States and the United States continually acted as a vision of the future, both for the Sainsbury company and retailing in general.

- Issues and Hypotheses

While grocery retailing in the early post-war period was characterised by small scale atomistic competition, by the 1980s a phenomenal change had taken place. Oligopoly had replaced an atomistic industrial structure. A handful of major companies today dominate the grocery retail trade, with the five largest groups, Sainsbury's, Tesco, Dee (Gateway), Argyll (Safeway) and Asda accounting for some 52% of the market in 1986.<sup>7</sup> The multiples, retailers with ten or more stores, now account for over 75% of the market compared to 20% in 1950.<sup>8</sup>

J Sainsbury plc vies with Tesco for the position of being the single largest food retailer in Britain by turnover and market share.<sup>9</sup> In 1985 Sainsbury's overtook its major rival, with a turnover which topped £3b and accounted for 12.3% of total market share, but was itself again overtaken in 1995.<sup>10</sup> Since Sainsbury's flotation on the stock market in 1973 its turnover has increased from £362m in 1974 to £8,865m

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<sup>7</sup> Institute of Grocery Distribution (hereafter IGD), Food Retailing, (1987), p.xxi and p.94 and Financial Times 12th April 1995, p.22.

<sup>8</sup> T. Lang and H. Raven, Off our Trolleys, Institute of Public Policy Research, (1995), p.37.

<sup>9</sup> J. Sainsbury Ltd. changed its name to J Sainsbury Ltd in 1971 and to J Sainsbury plc in 1982. This chapter will refer to J.Sainsbury or Sainsbury's throughout. See B. Williams, 'Multiple retailing and brand image' in Adding Value, ed. G. Jones and N.J. Morgan, (1995), p.307.

<sup>10</sup> IGD, op.cit, p.94.

in 1994, a five fold increase in real terms, with the number of stores increasing from 198 to 341.<sup>11</sup> This growth of oligopoly has been accompanied by the decline of independent grocers. In 1986 independent grocery retailers, defined as those owning nine or fewer stores, accounted for 16% of grocery sales; in 1950 their share had been estimated to be between 52-56%.<sup>12</sup> This dominance of the market has led for calls for the break-up of groups such as Sainsbury's and Tesco.<sup>13</sup>

The emergence of oligopolistic companies in the grocery retailing sector has been both an extremely rapid and recent event. The two largest companies, Sainsbury's and Tesco, were both regional companies operating multiple stores as late as the 1960s. Indeed Sainsbury's network of stores never stretched beyond 120 miles from London as late as 1967 and even today the major companies maintain a strong regional bias in their organisation.<sup>14</sup>

This chapter does not aim to chart the development of the creation of a market characterised by oligopolistic competition. Rather the aim is to examine the development of the market structure in grocery retailing leading to the changes which took place in the 1960s, which in turn allowed for the subsequent development of an oligopolistic market structure.

The chapter's central hypothesis is that the breakdown of resale price maintenance (RPM) in the grocery retailing industry, occurring earlier than in other industries, did not reflect the emergence of competitive free markets in which prices

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<sup>11</sup> B. Williams, The Best Butter in the World. A History of Sainsbury's, (1994), p.219 and Annual Abstract of Statistics, Vol.131, 1995.

<sup>12</sup> IGD, op.cit., p.94 and J.B. Jeffreys, Retail Trading in Britain 1850-1950, (Cambridge 1954), p.163.

<sup>13</sup> Lang and Raven, op.cit., p.51.

<sup>14</sup> Sainsbury Archive (hereafter JS Archive), 'Self-service at Sainsbury's', JS Journal, July 1967, pp. 12-14.

were determined by the invisible hand of demand and supply equilibrium. Instead, the break down of RPM reflected the fact that a major shift in the balance of influence over the determination of prices, between manufacturers, wholesalers and retailers, had occurred. Hence the breakdown of RPM indicated that the form of the market within the retailing sector had altered. Asymmetric information flows now favoured retailers rather than wholesalers or manufacturers.

With this change came a shift in the balance of power (over issues such as price determination) between manufacturers, wholesalers, distributors and retailers. The chapter examines the degree to which, once RPM was abandoned, multiple retailers were able to regulate the emergence of price competition within the new market environment. Of particular importance was multiple retailers' response to the introduction of retail trading stamps and the conflict that developed in 1963. Further the chapter will suggest that the role of trade associations proved crucial to both the success of the multiples' challenge to RPM and their success in preventing manufacturers' associations and marketing bodies from introducing new forms of minimum pricing. The chapter also suggests that the 1956 Restrictive Trade Practices Act and the Resale Prices Act of 1964 played an important role as a catalyst for change. These acts along with the 1964 Retail Trading Stamps Act also acted to consolidate the advantages gained by the multiples and so helped prevent manufacturers from challenging the new institutional structure of the food industry.

Finally it is suggested that the newly developed strength of the multiple retailing groups ensured that the multiples were determined to extend their influence beyond the simple question of prices and profit margins and into non-price factors, such as quality, packaging and even training, and in so doing further undermine the

influence of the manufacturers. It was from this point onwards that retailers also turned to own-branding. These changes however also required multiple retailers themselves to carry out large-scale capital investment in new outlets to ensure the restructuring of the food market was successful.

- Demand for Food Products

The rising demand for food products around the world after 1945 was not met by British exports. The British economy was the most urbanised economy in the nineteenth and early twentieth century and with such high levels of urbanisation came high levels of dependency on food imports. Between 1948 and 1960 Britain was a net importer in all of the fourteen commodities which accounted for three-quarters of world trade in food, beverages and tobacco.<sup>15</sup>

Changes in patterns of domestic consumer demand acted as a central element in the timing of changes within the grocery retailing sector. Food had been the single largest component of consumer expenditure throughout the twentieth century. Not until the 1980s did housing costs replace food as the single largest component of total consumer expenditure.<sup>16</sup> The decline in the proportion of household income accounted for by expenditure on food has been a long-term change. Expenditure on food accounted for over 58% of all retail sales in 1900 and remained at over 46% until the outbreak of the Second World War.<sup>17</sup> After 1945 food expenditure continued a slow decline, as a proportion of total consumer

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<sup>15</sup> K. Jones, A. Maizels and J. Whitaker, 'The Demand for Food in the Industrial Countries 1948-60', National Institute Economic Review, No.20, (1962), p.46.

<sup>16</sup> S. Pollard, The Development of the British Economy 1914-1990, (4th ed. 1992), p.276 and Gardner and Shephard, op.cit., p.5.

<sup>17</sup> Jeffreys, op.cit., p.453.

expenditure, from 31% in 1948 to 29.5% by 1960. Despite this falling proportion of expenditure being spent on food, real expenditure nevertheless rose 25% between 1949-59.<sup>18</sup> However against the doubling, by volume, of consumer durables sales over the same period, the food retailing sector showed slower growth. This picture of a falling share of consumer expenditure being spent on food accelerated in the 1960s, so that by 1969 food items accounted for 22% of total consumer expenditure. The real rise in food sales also slowed to 11% between 1959-69, as did the real increase in total consumer expenditure at 28%.<sup>19</sup>

- Limitations on domestic demand

Consumer expenditure on food was influenced both by the existence of retail price maintenance (RPM) until 1958 and the post-war effects of rationing and price-controls. It was the interwar years that saw the widespread emergence of manufacturer-inspired RPM on branded packaged grocery goods. RPM ensured that branded goods were retailed at fixed prices by all retailers, irrespective of regional cost variations or size of purchases by retailers. RPM was monitored by associations of retailers and manufacturers and enforcement was predominantly through the use, by manufacturers, of stop-lists. Manufacturers refused to supply products to retailers who were involved in discounting, or wholesalers who were failing to enforce RPM among their retailer customers. RPM was also legally enforceable through contracts between retailers, suppliers and manufacturers, with the courts being used by manufacturers to

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<sup>18</sup> M. Hall, 'The Consumer Sector', The British Economy in the 1950s, ed. G.D.N. Worswick and P.H. Ady, (Oxford 1962), p.431.

<sup>19</sup> Figures at constant 1963 prices, Annual Abstract of Statistics, No.107, 1970, table 311

prevent retailers discounting, where supplies could not be prevented.<sup>20</sup> By 1930 resale price maintenance was 'well entrenched in the distribution of various classes of consumer goods', accounting for between 27-35% of all consumer goods sold in Britain.<sup>21</sup> By 1956 one study suggested that RPM covered up to 44% of consumer goods.<sup>22</sup> Kuipers suggested RPM, defined as goods in which RPM was legally enforceable, affected between 18.6-21.2% of goods within the grocery trade in 1950.<sup>23</sup> If recommended prices were informally followed and cases of price-cutting dealt with through the stopping of supplies, even if not legally enforceable, RPM could be estimated to cover as much as 66% of grocery goods sold in 1956.<sup>24</sup>

The timing of the breakdown of RPM in grocery retailing in 1958 coincides with the sharp changes taking place within consumer expenditure, away from food items. It may well be that RPM, in artificially holding prices high in the 1950s, contributed to the more rapid rise in the growth of food sales in the 1950s, compared with the 1960s. The second factor helping to maintain the proportion of food expenditure as a proportion of total consumer expenditure lies with the continuation of post-war rationing, price controls and shortages of consumer durables.<sup>25</sup> The limitation of food subsidies to £465m from 1948 and reductions in the 1950s led to real increases in food costs for consumers.<sup>26</sup> As will be highlighted below the

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<sup>20</sup> See Resale Price Maintenance, ed. B.S. Yamey, (1966) and J.F. Pickering, Resale Price Maintenance in Practice, (1966) for detailed discussion on the development of RPM.

<sup>21</sup> Yamey, Ibid., p.253.

<sup>22</sup> Pickering, op.cit., p48.

<sup>23</sup> J.D. Kuipers, Resale Price Maintenance in Britain, (Washington 1950), quoted in B.S. Yamey, op.cit., p.254.

<sup>24</sup> Pickering, op.cit., p. 49.

<sup>25</sup> A. Cairncross, Years of Recovery British Economic Policy 1945-51, (1985), pp.334-5.

<sup>26</sup> A. Cairncross, 'Reconversion 1945-51', The British Economy Since 1945, (eds.) N.F.R. Crafts and N. Woodward, (1991) p.47.

Ministries responsible for food policy were prepared to see price increases before, during and after rationing in order to safeguard the continuation of production and distribution. The ending of rationing in 1954 and the outbreak of price competition from the early 1960s again coincides with the slowing down in the increase in real expenditure on food. Thus the slower growth in real expenditure on food items in the 1960s understates the real growth in volume terms of food sales. This slower growth in demand, by value, for food was one element in the intensification of the competitive pressures within the retailing sector and forced retailers to search for new methods for achieving a competitive advantage.

- Supply and the emergence of multiple retailing

On the supply side of grocery retailing a similar intensification of competitive pressures was also emerging. This is most clearly seen in relation to changes in concentration levels between differing forms of retailing. The grocery retailing trade in 1945 was considered to be highly atomistic. The continued existence of a mass of independent grocery retailers and the interwar growth of local or regional multiples highlights the relative ease of entry into the grocery trade, with relatively low entry costs. The fact that credit from wholesalers was available, while shop owners were paid in cash, meant that little, if any, working capital was required. This ease of entry has been taken by Metcalf as proof, even as late as 1966, of the highly competitive and atomistic nature of the industry, in which small scale retailers could enter where local or regional monopolies emerged.<sup>27</sup> Metcalf has calculated that by 1966 concentration within grocery retailing was low, with the multiple chains owning between 24.2% of

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<sup>27</sup> D. Metcalf, 'Concentration in the British Retail Grocery Trade', Economics of Retailing, ed. K.A. Tucker and B.S. Yamey, (Middlesex 1973), p.155.

all establishments in London and the South East and 6.8% in the South West. The low levels of concentration nationally meant that retailers were 'likely to be at a disadvantage in bargaining with food manufacturers where they buy in the national market'. However in regions such as London and the South East, where concentration was greater, or where retailers purchased from manufacturers in regional markets, the possibility of gaining lower prices was higher.<sup>28</sup>

The number of stores owned is only one, unreliable, measure of concentration. As can be seen from Table 4.1, measured by the number of stores, the multiples appear to be facing a declining level of concentration, while the independent sector experiences a renaissance between 1961 and 1971. Further the 1960s saw a reduction in the total number of stores of 28%. This decline took place throughout the 1960s, but significantly employment within the industry was not substantially altered. Between 1961 and 1971 employment within the grocery trade declined from 551,601 to 542,676. While the trade saw a rapid reduction in the total number of stores, those that remained, or were newly opened, were larger and employed larger numbers of people.

If turnover is used as a measure of concentration a more consistent and reliable picture emerges. From Table 4.2 it is clear that a general trend of increasing concentration within the multiple retailing sector exists. By the early 1970s the multiple groups had overtaken the independent sector and the Co-operative Societies as the major form of organisation within the trade.

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<sup>28</sup> Ibid., p.155.

Table 4.1  
Total Number and Percentage of Grocers and Provision Stores by Form of Organisation

Organisational Form	Year and Percentage					
	1950	%	1961	%	1971	%
<b>Multiples with 10 or more stores</b>	15,247	10.61	16,522	11.26	10,973	10.42
<b>Co-ops</b>	11,153	7.76	13,919	9.48	7,745	7.36
<b>Independents with less than 10 stores</b>	117,292	81.63	116,336	79.26	86,565	82.22
<b>Total</b>	143,692	100	146,777	100	105,283	100

Table 4.2  
Concentration within the Grocery Provision Trade by Turnover at Current Prices.

	1950		1961		1966		1971	
	£'000	%	£'000	%	£'000	%	£'000	%
<b>Multiples with 10 or more stores</b>	243,992	19.95	632,393	26.90	1,056,318	36.33	1,841,889	44.31
<b>Co-ops</b>	284,080	23.23	488,089	20.76	485,503	16.70	549,943	13.23
<b>Independents with less than 10 stores</b>	694,646	56.81	1,230,229	52.33	1,365,834	46.97	1,764,655	42.46
<b>Total</b>	1,222,717	100	2,350,711	100	2,907,655	100	4,156,487	100

Sources: Totals from Census of Distribution 1961 table 1 and 1971 table 1A. Figures for 1950 from 1961 Census Table 3. Figures for 1961 and 1971 from 1971 Census Table 3. The Census for 1971 was used for the 1961 data as opposed to the 1961 census.

In Tables 4.3 and 4.4 the same exercise is carried out for the Greater London region, the largest and most concentrated region. The results generally follow the national pattern. However, there are some significant differences in the comparison of concentration between the national and Greater London data. Greater London saw the multiples develop a level of concentration, measured by turnover, by 1950 that was not reached nationally until the late 1960s (see Tables 4.2 & 4.4). Further the level of concentration, by turnover, accounted for by the multiples in Greater London showed only a small growth throughout the 1960s (see Table 4.4). This suggests that, in the single most important geographical region, the region which led the trends nationally, the rates of change in market share were beginning to stagnate between differing organisational forms of retailers. The Co-ops had clearly suffered a loss of market share to both the multiples and the independent sectors in the two decades between 1950 and 1971. However, still more importantly, the independents in the 1960s halted their long term decline and even improved their relative position against the multiples for half of the decade.

The explanation behind the halting of the multiples' rise lies in the growth of voluntary chains and cash-and-carry retailing among independent retailers. Voluntary chains were combinations of independent stores primarily aimed at achieving the economies of purchasing derived from multiple retailing. Cash-and-carry retailing aimed at achieving lower wholesale prices through the passing of transport costs from manufacturers to independent retailers.<sup>29</sup> Their introduction from 1954 onwards undermined the economies achieved through the centralisation of functions available to the multiples, including purchasing, packaging and distribution. The multiple form

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<sup>29</sup> See A. Fiber, The Independent Retailer, (1964), pp 68-70.

of organisation in Greater London clearly lost its ability to provide a competitive advantage against the independent retailers by the early 1960s. If this was not to be repeated throughout the rest of the country, the multiples would require new strategies to further undermine the viability of the independent form of organisation.

The late 1950s and early 1960s was a period in which strong pressures for change were building up within the grocery retailing sector, amongst multiple retailers. The combined effects of the slow growth of demand and the ability of the independents to limit the supply side competitive advantages of the multiple form of organisation, forced the multiples into challenging the existing market governance mechanisms. However it was the existence of these market mechanisms, namely RPM, that had provided the origin of their own growth.

Table 4.3  
Concentration in Greater London by Number of Grocers and Provision Stores by Form of Organisation

<b>Organisational Form</b>	<b>Year and percentage</b>					
	<b>1950</b>	<b>%</b>	<b>1961</b>	<b>%</b>	<b>1971</b>	<b>%</b>
<b>Multiples with 10 or more stores</b>	2,785	22.30	3,624	31.77	1,913	21.48
<b>Co-ops</b>	637	5.10	746	6.54	494	5.55
<b>Independents with less than 10 stores</b>	9,064	72.59	7,036	61.69	6,497	72.97
<b>Total</b>	12,486	100	11,406	100	8,904	100

Table 4.4  
Concentration within the Grocery Provision Trade in Greater London by Turnover 1950-71

	<b>1950</b>		<b>1961</b>		<b>1966</b>		<b>1971</b>	
	<b>£'000</b>	<b>%</b>	<b>£'000</b>	<b>%</b>	<b>£'000</b>	<b>%</b>	<b>£'000</b>	<b>%</b>
<b>Multiples with 10 or more stores</b>	61,366	37.46	184,102	58.52	247,570	60.05	355,096	62.24
<b>Co-ops</b>	24,747	15.11	34,922	11.10	37,371	9.07	53,807	9.43
<b>Independents with less than 10 stores</b>	77,700	47.43	95,567	30.38	127,314	30.88	161,645	28.33
<b>Total</b>	163,813	100	314,591	100	412,255	100	570,548	100

Sources: Totals from Census of Distribution 1950, Vol. 2, table 10, 1961, Part 7, table 1 and 1971, Part 8, table 2.

- Imperfect competition before 1954

The aim of market governance before 1954 was to restrict change within the retailing sector. Winstanley has suggested that imperfect competition, including collusion between organisations of retailers and manufacturers, over RPM, was a major factor in the slow development of concentration within the retail sector. RPM 'restricted the ability of large retail organisations to capitalise on cost advantages which they may have had by lowering prices to the consumer to increase their market share'.<sup>30</sup>

It certainly appears that the grocery retailing trade between 1939 and 1950 was to a large extent frozen in time.<sup>31</sup> Jeffreys has noted that the industrial structure of retailing during the war and up to 1950 remained static, highlighted by 'the virtual disappearance of bankruptcy among firms engaged in wholesale and retail trading'.<sup>32</sup> This was not simply due to manufacturers' pricing policy. To a great extent this was due to the conscious policy of government in response to the war and post-war restrictions. The Board of Trade, as early as 1938, made clear that they were opposed to any 'canvassing of customers between the outbreak of hostilities and the registering of customers', following the imposition of rationing. Government concern over the outbreak of intense competition on this issue was such that they proposed 'immediate temporary agreement' on prices.<sup>33</sup> These concerns over the effects of war on the industry extended beyond the question of how to deal with the initial outbreak of war.

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<sup>30</sup> M. Winstanley, 'Concentration and competition in the retail sector c.1800-1990', *Business Enterprise in Modern Britain*, ed. M.W. Kirby and M.B. Rose , (1994), p252.

<sup>31</sup> The first census of distribution took place in 1951. All figures for retailing prior to the 1951 census are therefore estimates, with Jeffreys, *op.cit.*, providing the most detailed and widely accepted data.

<sup>32</sup> *Ibid.*, p.103.

<sup>33</sup> JS Archive, SWAR2, Report of meeting between Mr A. Sainsbury and Mr R.J. Sainsbury with Mr Lloyd of the Board of Trade, 16 September 1938.

The potential for disruption caused by bomb damage, food rationing, shortages of workers or post-war building restrictions were great. Both government and the industry were therefore keen to ensure agreement, in advance, that at the 'end of the emergency when controls could be lifted no sector or group would be better or worse off in relation to others than at the beginning'.<sup>34</sup>

An indication of the static nature of the industry comes from examining the increase in the number of branches opened. The number of branches of grocery retail firms, with ten or more branches, increased at a net average (after closures of existing branches) of 49 per annum between 1940 and 1950. For grocery retailing firms with twenty five or more branches, the net increase was 71.<sup>35</sup> These figures were the lowest increases in new stores ever. However this freezing of change during the war and immediate post-war years was largely a continuation of a 1930s trend. The net number of branches opened in the 1930s collapsed and never regained the peak of around 450 per annum from 1926-30 for both retailers of ten or more or twenty five or more branches.

Jeffreys points out that RPM went some way towards 'redressing the balance' for small independent retailers, who were unable to achieve the economies of buying, specialisation of functions such processing and distribution, or access to capital for the development of larger main street sites that was available to the multiples.<sup>36</sup> The advantage for smaller retailers was the fact that RPM set prices below which competitors could not sell branded goods and, in so doing, prevented the larger stores from price cutting.

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<sup>34</sup> Jeffreys, op.cit., p.102.

<sup>35</sup> Ibid., p.138.

<sup>36</sup> Ibid., p.91.

There are no reliable figures for the number of independent grocery retailers prior to the 1950 census of distribution. This is not surprising, due to the fact that the independent sector covers not only market traders but also grocers with nine or fewer stores. Indeed until the interwar years no restrictions were placed upon the conversion of housing into shops.<sup>37</sup> While extra income could be gained through the selling of goods from one's home, for minimal capital outlay, much independent retailing would inevitably consist of small and transient traders. Nevertheless, Jeffreys estimates, as a residual, that the independent sector saw a declining market share through the interwar years, from between 63-69% in 1920 to 52-56% in 1950.<sup>38</sup>

An indication of the size of the independent sector can also be gauged from the 1950 census of distribution, which states that the number of establishments owned by independent grocery retailers was 102,806, against the number owned by multiples, with ten or more stores, as 15,421 and those of the co-operative Societies as 11,108.<sup>39</sup>

The establishment of RPM did not in fact restrict change altogether. Neither did the continued existence of the small retailer prevent the emergence of either regional multiple or national firms. Crucially, RPM reduced competitive pressures, as was necessary for both the independent retailer to survive and the larger multiple retailer to emerge.

Jeffreys estimates that while there were 138 firms with 10 or more branches in 1920, rising to a peak of 167 in 1930 before subsequently falling to 157 in 1939; over the same period the number of firms with 25 or more branches grew from 58 to

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<sup>37</sup> Winstanley, *op.cit.*, p.251.

<sup>38</sup> Jeffreys, *op.cit.*, p.163.

<sup>39</sup> Census of Distribution and Other Services, 1950, Retail Trade Short Report, (1953), Table 5, pp. 14-15, (these figures differ from those in Table 4.1 due to the reclassification of specific firms to other non food retailing categories).

83 and then 89 respectively.<sup>40</sup> The growth of multiple firms in the 1930s was increasingly through amalgamation and merger with smaller multiples, rather than through expansion in new stores. The 1920s and 1930s saw mergers among large-scale firms with national sales distribution such that by 1950 three grocery retailing groups each controlled over 600 branches. These three largest groups had taken over some 40 firms between 1920 and 1950.<sup>41</sup> The largest of these national retailing companies was Allied Suppliers group which by 1939 included the national grocery retail chains Home and Colonial Stores (798 stores), Lipton's (449 stores), the Maypole Dairy Co. (977 stores), along with the Meadow & Pearks Dairy Co. (762 branches). All together Allied Suppliers owned over 3,600 branches.<sup>42</sup>

At the same time as national grocery retailers were emerging the industry also saw the rise of multiple retailers, concentrated within specific parts of the country. Thus, by the end of the Second World War, a grocery retail trade had developed, with a small number of large truly national firms and a larger number of regional multiples above a mass of independent small grocers.

The advantage, for retailers, of RPM was to reduce the amount of information they required regarding competitors. Retailers' profits derived from the mark-up on goods sold, yet under RPM this was pre-defined by manufacturers. As a result price competition was removed, retailers did not require information on competitors' prices, and firms were encouraged to compete on non-price factors, in particular service. The two main areas of non price competition lay in the use of credit and free delivery. The provision of credit or accounts for customers was widely practised by both

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<sup>40</sup> Jeffreys, op.cit., p.137.

<sup>41</sup> Ibid., p.140.

<sup>42</sup> See Mathias, op.cit., p.358.

independent and multiple retailers. Here the smaller independent retailers, although less able to survive defaulters, may well have had an advantage against the larger multiple stores in dealing with a smaller clientele in which a significant level of personal contact remained important for assessing risk. Within the food sector, excluding co-operative societies, some £54m was owed by customers in credit in 1957. After the breakdown of RPM, credit was restricted with the result that by 1961, despite a rise in sales of 17%, credit outstanding had been reduced to £45m, a fall of 17%.<sup>43</sup>

The second area of non-price competition was in the free delivery of goods. No official data exists on the extent of free delivery but one survey by the National Association of Multiple Grocers carried out in 1959 showed that only ten out of forty six multiple retailers did not deliver orders below £1 in value.<sup>44</sup> The fact that this survey was carried out after the collapse of RPM in the grocery trade and the emergence of limited price competition, along with the knowledge that at least some multiple firms (including Sainsbury's) had abandoned delivery by this time, suggests that the extent of free delivery was probably still greater in the interwar period than when the survey was carried out.

Winstanley has suggested that, while RPM diluted competition, it was not the only factor preventing the growth of a price-competitive large-scale retailing industry in the interwar years. Even in sectors such as grocery retailing, in which the multiples had most success, intense localism and tight family control exhibited by the multiple firms ensured that the retailing industry would remain atomistic and small scale. Competition was mainly between regional multiples and local independent retailers

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<sup>43</sup> Quoted in W.G. McClelland, Costs and Competition in Retailing, (1966), p.241.

<sup>44</sup> Ibid., p.244.

rather than between multiple retailers themselves. Thus, for Winstanley, non-price competition reflected the extent to which market imperfections existed in retailing and 'independent shops survived because market conditions allowed them to'.<sup>45</sup> Winstanley is clearly correct to point to the importance of family influence within firms, although, it is debatable whether the intense affinity for local or regional business strategies was anything but a pragmatic response to the conditions facing retailers in the 1930s.<sup>46</sup> Transport costs and technological difficulties associated with keeping food fresh in transit would have presented significant geographical limitations upon the growth of retailers.

Winstanley, however, clearly seems to miss the point that the reduction of price competition did not simply have a retarding affect on innovative firms; rather RPM proved crucial for the development of the multiple firms as well. Market governance mechanisms, like RPM, did not completely stop change, rather they were essential for change to take place. The price fixing of goods ensured that firms who made investments in company organisation, in order to lower costs, could succeed in doing so with a level of security. Hence groups such as the Tesco chain, which stocked branded, dry packaged groceries and maintained RPM, could emerge as a regional multiple in this period. The first Tesco store did not open until 1931. Its opening marked the establishment of Tesco in grocery retailing as a firm which broke RPM, but in order to continue Tesco realised they would need to abide by RPM, with the result that by 1934 Tesco, now with forty stores, had accepted RPM.<sup>47</sup> This reduction

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<sup>45</sup> Winstanley, op.cit., p.255.

<sup>46</sup> See M.B. Rose, 'The family Firm in British Business 1780-1914', op.cit., ed. Kirby and Rose, pp. 61-87.

<sup>47</sup> D. Powell, Counter Revolution, (1991), pp. 33-41.

in competitive pressures also enabled multiple retailers to take advantage of, and promote, the emergence of the institutional investment market in urban property.<sup>48</sup>

The prevention of intense price competition provided the multiple firm with a relatively secure business environment in which investment could be made in company activity linked to head office functions, such as accounting procedures, purchasing and distribution, as well as increasing the number of outlets. The creation of organisational capabilities by multiple firms was underwritten by their acquiescence to RPM and it was not until the multiples had fully developed their internal organisational capabilities that RPM could be successfully challenged.<sup>49</sup> The history of Sainsbury's highlights the way in which RPM not only aided the internal organisational development of multiple retailers but was essential to the multiples' emergence.

- J. Sainsbury and the emergence of a multiple

Sainsbury's origins stretch back to the nineteenth century. Its strength as a multiple retailer lies in the company's regional orientation upon London and the home counties.<sup>50</sup> The Sainsbury family, which dominated the running of the firm, and the paternalistic attitudes within the firm, were also important considerations in the development of the company. The company maintained a highly centralised structure

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<sup>48</sup> P. Scott, 'The Property Market and the Growth of Multiple Retailing, 1919-39', Business History, Vol.36, No.3, (1994), pp.3-8 and Mathias, op.cit., p.396 for case of Allied Suppliers in 1960s.

<sup>49</sup> This has also been suggested to be the basis for the challenge of Japanese supermarkets to price maintenance at the same time. See M. Tatsuki, 'The Rise of the Mass Market and Modern Retailers in Japan', Business History, Vol.37, No.2, (1995), p.83.

<sup>50</sup> I have drawn much of the information on this early period of Sainsbury's development from Williams, Best Butter, which has been published by Sainsbury's to commemorate its 125th Anniversary.

with a strong emphasis upon uniformity across the stores creating an in-house style. The ability to create and sustain this centralised organisation was also intimately linked to the spread of RPM.

The company's very existence as a multiple derives from the degree to which competition was regulated between firms. Sainsbury's, until the inter-war years, was a member of a Pact with other grocers whose co-ordinated buying aimed to gain greater wholesale discounts. The Pact's policy of not opening shops close to one another and offering shops for sale firstly to other pact members similarly aimed to ensure that competition for customers was also regulated. The main effect of the Pact was in its wholesaling function. It provided the Pact's members with the ability to resist attempts at price fixing by wholesalers. The Pact's attempt to reduce competition between members is felt by Williams to have been largely ineffective. Nevertheless the adoption of the Pact and its advantages, perceived or otherwise, encouraged the Sainsbury's family to make investments in new stores. By 1920 Sainsbury's had opened 129 stores.<sup>51</sup> Sainsbury's growth throughout this period was based upon piecemeal expansion into new sites rather than expansion through amalgamation adopted by the national firms such as Allied Suppliers.

That the existence of RPM, and the consequent emergence of competition through service rather than price, did not hinder the growth of multiples like Sainsbury's can be gauged from the fact that, despite the break up of the Pact in the inter-war years, the company continued to expand and had 255 shops by 1939. This growth was, again unusually, through opening of new sites, although the company did,

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<sup>51</sup> *Ibid.*, pp. 74-75. Note that the number of stores stated in the text of the book do not correspond to the figures given in the table on p.219 which state the number of stores as 124 in 1920 and 249 in 1940.

in 1936, take over the multiple retailer Thoroughgoods, whose stores were sited within the Midlands area and which had also been a member of the Pact.<sup>52</sup>

RPM provided Sainsbury's with a safe environment to make investments in areas which enhanced its ability to compete in service such as the supply of credit and use of delivery. The development of credit, although increasing companies' risk from bad debt, nevertheless encouraged customers to frequent one company. Thus the use of credit was an important marketing method for reinforcing customer loyalty, whose importance was such that by 1939 Sainsbury's Head Office maintained a list of some 250,000 names and addresses.<sup>53</sup> Sainsbury's also maintained a fleet of 45 vans, as well as using bicycles and horses and carts for home delivery service in 1928. That competition by service rather than price would subsequently become a problem for large multiples can also be seen from the fact that the scale of providing this service led Sainsbury's to charge customers for delivery if the value of the purchase was below £1 from 1934 and to abandon home delivery completely in 1955, four years prior to the National Association of Multiple Grocers' survey.

It was not only in areas of retailing that RPM ensured Sainsbury's could make investments and reap the advantages gained, in the knowledge that intense price competition would not follow. Sainsbury's was not strictly speaking a grocery retailer of dry packaged goods but in fact a provision merchant. The company bought wholesale fresh produce, processed and packaged it into own-brand goods and retailed these through its stores. Thus, unlike Tesco and other multiples, Sainsbury's originated as a company which manufactured and stocked a high proportion of its own-brand products. Furthermore, this resulted in the company <sup>only</sup> dealing with ~~six~~ suppliers

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<sup>52</sup> JS Journal, March 1966, p.7.

<sup>53</sup> Williams, op.cit., pp.87-88.

that supported RPM in 1937.<sup>54</sup> The fact that the company emphasised quality in its own-brand produce helped to ensure that it could successfully compete on price and quality with the branded goods under conditions of RPM. The establishment of RPM therefore not only removed the risk that Sainsbury's would be involved in intense price competition at a time when it was involved in relatively large scale investment in production, but it also allowed for the output of its manufacturing investment to be sold in competition with goods which were sold at artificially maintained prices. Essentially, Sainsbury's success was based on the fact that in both manufacturing and retailing it could act as a classic free rider.

The benefits of RPM were also felt in the distribution of goods to stores. At the end of World War One, Sainsbury's moved the distribution of goods away from rail and onto road, using contractors for deliveries outside London and an in-house delivery department for London shops. Sainsbury's rapidly increased its motor transport until it internalised all deliveries to stores, using some 40 vans and 80 horses and maintained these two forms of delivery until 1937 when horse drawn deliveries were finally abandoned for 4-ton vans.<sup>55</sup>

Crucially for Sainsbury's development of a uniform house-style was investment in training. Despite the depression of the 1930s RPM provided the safe competitive environment under which training could still continue to be carried out. Sainsbury's always promoted itself as a retailer of high quality own-brand food, with an emphasis on consistent quality and uniform price across its stores. As a result, the training of staff in the production, packaging and selling of its produce was given a high priority by the company from the beginning. Just as pricing, purchasing and

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<sup>54</sup> Ibid., p.86.

<sup>55</sup> W.C. Gurr, 'Delivered to your Door', JS Journal, January 1950, pp. 2-6.

deliveries were centralised, so the delivery of service was to be uniform through the centralisation of training. Training was strongly hierarchical, with employees taken on as juniors in stores or apprentices for craft employment. Staff were graded at the age of 21, with red (qualified status) and black (ordinary) coloured uniform buttons, in order to distinguish rank within the stores. These were abandoned in 1945 when a proficiency grading system was introduced.<sup>56</sup>

It is clear that investment in production, distribution, retailing and training within the company was largely assured by the establishment of RPM and other market imperfections within the retail trade. In general the regional multiples were able to enhance their service to customers through investment, which was to create significant advantages over rival firms adopting alternative organisational forms. The multiples operating within a regional context created sufficient organisational capabilities, such that in the post-war period these capabilities could be utilised to reshape the market for the grocery trade.

- The Multiples under threat

The limitation of price competition followed by rationing played a determining role in the formation of organisational capabilities for multiple retailers before 1954. Firms such as Tesco, selling branded dry packaged groceries, could develop against the safety net of RPM and a firm such as J. Sainsbury, selling provisions, could also develop using free rider advantages. Before 1954 price maintenance also defended the position of the independent sector against the competitive advantages available to multiple retailers. However, between the ending

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<sup>56</sup> JS Archive, WAR 2, February 1945.

of rationing in 1954 and the breaking of RPM in 1958 the independents were also to discover that they too could achieve similar organisational capabilities to those of the multiples. The origins of the multiples' competitive advantage, in RPM, was now becoming the origins of their relative failure, and as a result, by the early 1960s the success of the multiple form of retailing organisation began to falter. The multiple chains were forced into challenging the structure of the food retailing market if they were to maintain their competitiveness but they were also to discover that the removal of rationing and the ending of RPM was no longer enough to re-establish their competitive advantage against a competitive independent sector.

- Post-war restrictions

Before any alteration to the retailing market could take place, however, the multiples were first faced with finding solutions to a series of difficulties linked to post-war restrictions (slow growth in demand, labour shortages, continued government purchasing of foodstuffs and building restrictions) and to changes in retailing itself (self-service and supermarket retailing).

The slow growth in the demand had two important effects for retailers. The food retailing industry was fortunate in that it was not as affected by the extreme fluctuations in demand, caused by the consumer credit restrictions from the mid-1950s onwards, making the food retailing industry more stable than other areas of retailing.<sup>57</sup> Food retailers were, however, unfortunate to be trading within a slower growing retailing sector. If food retailers were to capitalise on the growing demand for consumer goods, they were faced with making two types of change aimed at increasing

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<sup>57</sup> For the impact on the car industry see J. Foreman-Peck, S. Bowden and A. McKinlay, The British Motor Industry, (Manchester 1995), p. 197-204.

their turnover. One mechanism was a movement away from provisions. Retailers increasingly sought to have more products pre-packaged as restrictions upon packaging were removed. The second mechanism for increasing turnover was through expanding their product lines not simply in food products but also into non-food items as well. In response to these changes in demand, the multiples abandoned their traditional narrow range of standardised products and both expanded their packaged food product lines and moved into non-food items. The larger multiples also responded to greater and more varied demand by introducing own-brand products, with the result that around 6-7% of sales derived from own-brand products by the mid 1960s.<sup>58</sup>

War and reconstruction also presented the retail sector with a series of supply problems which were not resolved until the late 1950s. During the war, retailers faced severe staffing shortages and after 1945 the continuation of rationing and building restrictions further hindered development. Government priorities during the war were for maximising the output of manufactured products and as a result service sectors, such as food retailing, suffered from a continual loss of staff. The increase in the employment of women workers represented a change that was to remain permanent. By 1955 women workers made up 60% of those employed within the industry.<sup>59</sup>

Similarly after the war government priorities for reducing the dollar drain meant that industries which imported goods for domestic use would face significant difficulties. The Ministry of Food, Ministry of Agriculture, Board of Trade, Ministry of Supply and the Treasury were all involved in the decisions over the degree to which, and the rate at which, if at all, imports could be deregulated after the war. British food

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<sup>58</sup> Pickering, op.cit., p.137.

<sup>59</sup> J.B. Jeffreys & D. Knee, Retailing in Europe, (1962), p.21.

consumption was, as we have seen, largely met by imports in the post-war era. Although able to reduce imports from 70% of total supplies from 1948-52 to 62% by 1958-60 Britain was still the largest single importer of foodstuffs among the major industrial nations.<sup>60</sup> The Government, through the Board of Trade and the Ministry of Supply, was directly responsible for the centralised purchasing of foodstuffs on the world market. Because government departments had been responsible for the purchasing of foodstuffs for such a length of time, difficulties were created in any moves to remove government controls. In 1950 consideration was in fact given to extending, rather than reducing, governments' powers to buy, sell and manufacture in competition to the private sector by the Board of Trade and the Ministry of Supply.<sup>61</sup> Treasury officials were also concerned that the inexperience of private buyers within world markets could lead to a failure to buy the correct quantity at the best price, leading to excess currency outflows.<sup>62</sup> As a result, while government centralised buying was gradually removed, quantitative restrictions were placed on imports, and maintained until the late 1950s. Even as late as 1958 some 10% of imported foodstuffs continued to face some form of import restriction.<sup>63</sup>

The success of the British government's post-war economic policy was also dependent upon the growth of exports with the result that any industry which required capital goods for the expansion of domestic demand would again be faced with further supply difficulties. The existence of building restrictions, are alleged to have reduced

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<sup>60</sup> Jones, Maizels and Whitaker, *op.cit.*, p48 (excluding wheat and wheat-flour).

<sup>61</sup> PRO BT 64/736, Memorandum by the Minister of Health on the Economic Planning and Full Employment Bill, GP(50)230, 18th October 1950.

<sup>62</sup> PRO T 230/196, Government Bulk Purchases and Controls, Official Committee Papers, 23rd August 1950.

<sup>63</sup> Speech of Minister of Agriculture, Fisheries and Food to the London Provision Exchange, *JS Journal*, No.48, March 1958, p.2.

the ability of firms to move towards self-service layouts until the mid 1950s.<sup>64</sup> Financial limits were placed on all building work carried out without a licence from the Ministry of Works. These restrictions were extremely tight, allowing only £100 of work to be carried out in any twelve-month period for ordinary buildings. Only commercial buildings with a floor space of over 10,000 sq.ft. could exceed this, being limited to an expenditure of £1,000.<sup>65</sup>

Self-service had become established within the United States before the war and it was direct comparisons with the United States that led the British multiples to adopt this form of organisation. Self-service stores first made their appearance within the Co-op stores in Britain, while the multiple stores continued to rely upon their emphasis on service. As late as 1960 the Co-ops operated almost 50% of all self-service stores and it was not until 1963 that all the multiples combined operated more self-service stores than the Co-ops.<sup>66</sup>

The experience of self-service in the United States - with more rapid rates of stock turnover leading to lower levels of breakages, spoilage or theft per unit of stock and suggested increases in average purchases of up to 40% - made its introduction into Britain only a matter of time.<sup>67</sup> These advantages, combined with the continuation of staff shortages and rising wage costs after the war, meant that the multiples were slowly forced to adapt their methods of retailing. The conservatism amongst the multiples on self-service, however, cannot simply be adequately explained due to supply factors such as building restrictions. Special building licences were introduced

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<sup>64</sup> Williams, op.cit. p.130.

<sup>65</sup> Food Manufacturers' Federation (hereafter FMF), Bulletin, July 1949, p.122.

<sup>66</sup> Economist Intelligence Unit (EIU), Retail Business, No.93, 1965, p.8.

<sup>67</sup> K. Collins, 'The Trend Towards Self-Service', Journal of Retail Trading, Vol. XXI, No.1, February 1945.

by the Ministry of Food in a scheme for the building of new self-service stores and conversion of existing shops to self-service layout in the late 1940s. With a budget of £150,000, individual licenses could cover building work to a maximum of £3,000 and in exceptional cases still larger conversions could be granted. However, due to the 'poor response' amongst retailers, the scheme's deadline for applications was extended by eighteen months until November 1950. Eventually when the scheme did close, it became apparent that the organisation which was most interested was the Co-operative Society, which had been granted 60 of the 92 licenses awarded.<sup>68</sup>

Neither is it apparent why the multiples should have suffered, more than the Co-op stores, from the other external factors put forward in explaining this conservatism, namely local planning authorities' unwillingness to grant permission for changes and the existence of poor sites unsuitable for self-service.<sup>69</sup>

It is however, possible to put forward explanations, based upon the multiples themselves, for this apparent conservatism. The continued existence of RPM and competition through service as opposed to price meant that the multiples were unwilling to lower their levels of service, and possibly risk consumer hostility, by introducing self-service. Certainly the Ministry of Food believed that the multiples were 'apparently watching before committing themselves' to self service.<sup>70</sup> Hence the conclusion drawn earlier that RPM aided the multiples' emergence, where service rather than price was the arena in which competition took place, is strengthened.

When the multiples were interested in self-service, their interest lay in the degree to which self-service could be married with the development of supermarkets,

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<sup>68</sup> PRO MAF 99/1847, letter E. Doling to Miss Wrett-Smith 25th October 1951.

<sup>69</sup> Williams, op.cit., p.130 and Powell, op.cit., p.62.

<sup>70</sup> PRO MAF 99/1847, op.cit.

defined as stores with over 2,000 sq.ft. The development of supermarket retailing again had its origins in the United States in the 1930s, where self-service and cash-and-carry operations were utilised.<sup>71</sup> There, larger stores required greater numbers of staff: United States stores employing more than twice the average number employed in Europe and a third more than in Britain, but, with increasing stock turnover, retailers were able to achieve efficiency gains.<sup>72</sup> Simply transplanting American business practice into Britain was not feasible for British retailers. The building of stores of around 7,000 sq. ft., with large car parks was not possible, due to both the high cost of land and the lower levels of car ownership, until the late 1960s. Similarly, lower levels of ownership of refrigerators meant that British shoppers were forced to shop more frequently than in the United States.<sup>73</sup> Nevertheless, multiple retailers in Britain were much more rapid in their adoption of supermarkets than of simply self-service. By 1964 multiple retailers operated 1,080 supermarkets, 66% of the total opened.<sup>74</sup> Furthermore, the independents and Co-ops were unable to alter this picture. By 1967 the multiple retailers owned 67% of the 2,803 supermarkets operating in Britain.<sup>75</sup>

The large-scale capital investment necessary for the development of newer stores created new barriers to entry for competitors. It was predominately barriers to entry in centralised head office functions that the multiples had relied upon for competitive advantages against the independent sector in the decades prior to 1960.

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<sup>71</sup> D.I. Padberg, Economics of Food Retailing, (New York 1968), p.11. Supermarkets in the United States are defined as stores with an annual turnover of over \$500,000.

<sup>72</sup> Jeffreys & Knee, op.cit., p.29.

<sup>73</sup> JS Archive, TRAN 1, The Effect of Modern Distribution Methods on the Cost and Availability of Consumer Goods, c.1962, provides a discussion of the differences between the US and British experiences.

<sup>74</sup> EIU, op.cit., No.93, 1965, p.9.

<sup>75</sup> Ibid., No.129, 1968, p.6.

From the end of the 1950s new physical barriers to entry based upon investment in retail outlets became the strategy for developing organisational capabilities. It was this change that undermined the Co-operative's market share.<sup>76</sup> Further evidence for this can be seen by examining stock exchange data for all quoted retail distribution companies.

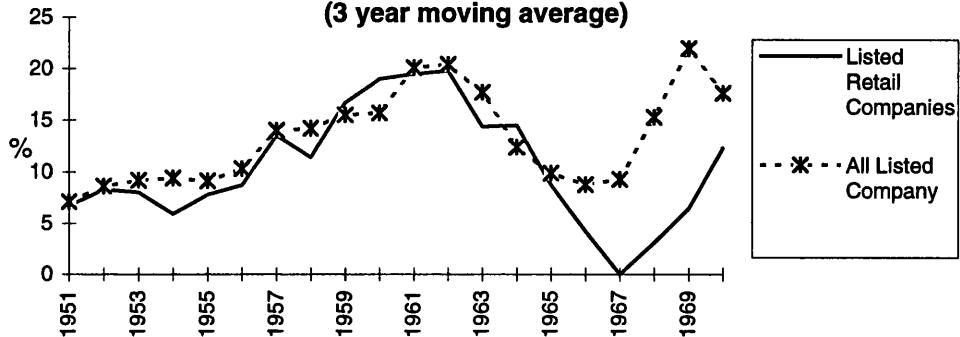
Goudie and Meek's study of stock exchange quoted companies' performance shows that between 1958 and 1963 retailers generally turned to capital markets and share issues in order to raise funds (see Figure 4.1). It should be noted, however, that although share issues accounted for as much as 26% of total annual capital raised, this was in line with stock exchange listed companies generally. After the introduction of the Companies Act in 1965 and corporation tax the attractiveness of share issues for raising finance among retailers temporarily declined.<sup>77</sup> This increased need for capital also halted the rise in company profits distributed to share holders after 1959. Figure 4.2 highlights the rising share of gross profits accounted for by dividend payments prior to 1959. After 1959, despite the boosting of dividend payments following the introduction of corporation tax, a trend increase in retained earnings clearly establishes itself.

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<sup>76</sup> Birchall, *op.cit.*, p.145.

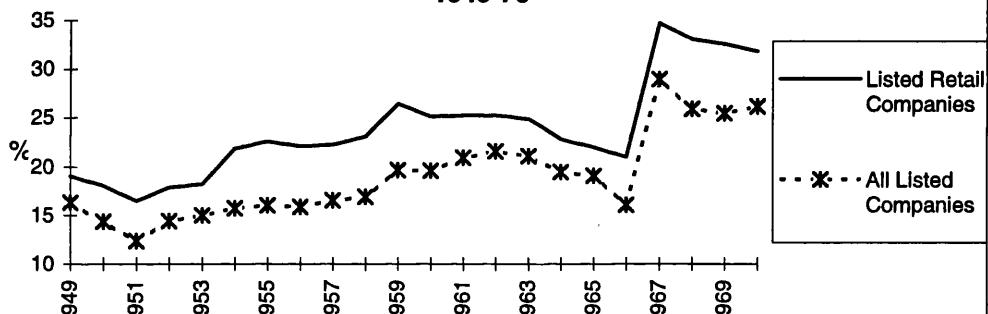
<sup>77</sup> See J.A. Kay and M.A. King, *The British Tax System*, (Oxford 2nd. ed. 1980), p185, for details of tax changes.

**Figure 4.1**  
**Percentage of Funds Derived from Share Issues**  
**(3 year moving average)**



Source: A.W. Goudie & G. Meeks, Company Finance and Performance, (Cambridge 1986), tables 195-6

**Figure 4.2**  
**Retail Trade Dividend Payments as % of Gross Trading Profits**  
**1949-70**



Source: A.W. Goudie & G. Meeks, Company Finance and Performance, (Cambridge 1986), tables 198-9 and 216-7

Meeks' earlier study of merger activity among listed companies between 1964-71 notes that gross investment is positively correlated with acquisition activity. As Meeks points out 'the active acquirer appears then to have invested more heavily than average in new fixed assets too'.<sup>78</sup> Finance capital derived from share issues was important for retailers prior to 1963 for merger and acquisition activity, while retained

<sup>78</sup> G. Meeks, 'Disappointing Marriage: A Study of the gains from merger', Department of Applied Economics Occasional Paper, No.51, (Cambridge 1977), Table 5.c and p.65.

earnings, along with debt finance, became increasingly important for investment in new assets after 1959.

The Goudie and Meeks data refers to all listed retailing companies, yet the timing of change in grocery retailing is probably somewhat earlier than in retailing generally. Not only did RPM break down in grocery retailing prior to retailing generally but the growth of the multiple stores' networks of stores, measured by numbers of stores, also occurred earlier. As Table 4.1 shows, the number of stores operated by the multiples reaches a peak by 1961, whereas the peak for all multiple retailers was not until 1966.<sup>79</sup> Nevertheless the data clearly highlights changes in business strategies within retailing, from growth based upon a combination of merger and acquisition activity along with new fixed capital investment towards an increasing reliance upon new fixed capital investment by the early to mid 1960s. The development of self-service and supermarket retailing can explain this shift as retailers closed smaller stores and invested in new larger stores.

The movement towards self-service and supermarket retailing also had a significant impact on the development of the food industry. Retailers and wholesalers were increasingly influential in the determination of retail prices for food items, compared to producers and manufacturers. Figure 4.3 shows indices for retail food prices, wholesale inputs to the food manufacturing industry and wholesale outputs of the food manufacturing industry.

After the ending of rationing in 1954 and until 1964, food manufacturing input prices remained below their 1954 level, while output prices for the food manufacturing industries and retail food prices increased. This was at a time when agricultural

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<sup>79</sup> Census of Distribution, 1971, Part 1, Table 3, gives the total number of all multiple stores as 66,701 in 1961, 73,852 in 1966 and 66,785 in 1971.

subsidies from central government fell by 77% in real terms.<sup>80</sup> If farmers were to recoup their lost subsidies we would expect wholesale input prices to be rising. That this did not happen suggests that farmers and producers of fresh produce were losing power within the market to determine prices. For farmers profits could only be maintained through efficiency savings.

Influence over prices lay increasingly with processors, wholesalers and retailers. In part this can be explained by a higher value added content in both manufacturer's wholesale output prices and retail prices. As mentioned above, retailers were increasing their range of pre-packaged and processed foods. However, it can also be seen that a widening of the gap between food manufacturing output prices and retail food prices develops between 1954 and 1960. Retail prices grow more rapidly than wholesale output prices suggesting that retailers were of growing importance in determining retail food prices. The collapse of RPM in grocery retailing is clearly detectable here in the stagnation of manufacturing output prices between 1957 and 1961. The manufacturing output prices index, measured at constant 1954 prices (i.e. 1954=100), reaches a peak in 1957 (1957=107.1) which is not equalled until 1961 (1961=107.2), while the retail prices index rises from 1954=100 to 1957=112.7 and 1961=117.2.<sup>81</sup> Census of Distribution data confirms this shift of influence with retailers' gross profit margins as a percentage of turnover rising between 1957 and 1961 from 17.6% to 18.0% for multiple retailers and 14.6% to 15.2% for independent retailers.<sup>82</sup> The gap between manufacturing output prices and food retail prices also increases from the mid 1960s. The parallel movement between manufacturing output

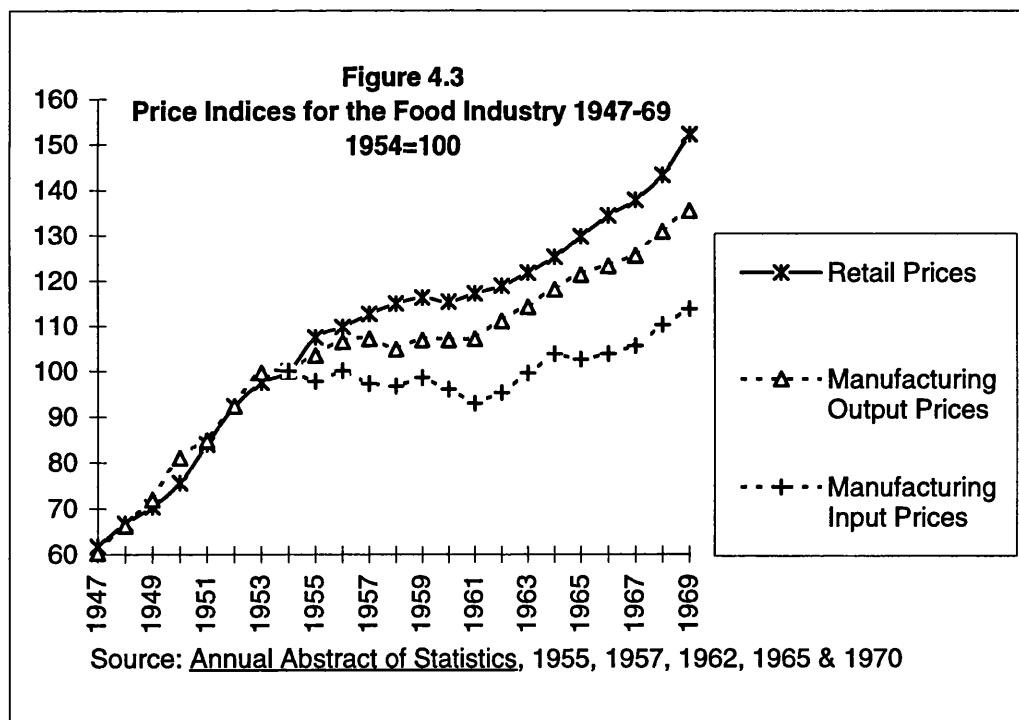
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<sup>80</sup> Calculated at 1958 prices, National Income and Expenditure Tables, table 53, 1966 and table 42, 1961

<sup>81</sup> Annual Abstract of Statistics, Vol.99, (1962), tables 362 & 386.

<sup>82</sup> Census of Distribution, 1966, Vol.1, table 10.

prices and retail prices in the early 1960s may also be evidence that, while collective RPM was prevented after 1956, many firms were able to continue to use individual RPM agreements, even after 1958.<sup>83</sup> This parallel movement also suggests that the multiples themselves were unwilling to enter into intense price competition or to drive down manufacturers' margins after 1958. Census of Distribution data again confirms this with gross profit margins as a percentage of turnover falling back from its 1961 high by 1966, to 17.8% for multiple retailers and 14.8% for independent retailers.<sup>84</sup> The reduction of margins after 1961 was instrumental in the timing of the conflict that emerged over retail trading stamps in 1963 (see below).



<sup>83</sup> In 1959 200 agreements were registered as still operating with the Registrar of Restrictive Trading Agreements. See N. Cuthbert and W. Black, 'Restrictive Practices in the Food Trades', Journal of Industrial Economics Vol. VII, 1958-9, p.35.

<sup>84</sup> Census of Distribution, 1966, Vol.1, table 10.

The development of larger supermarkets as a physical barrier to entry and the demise of price maintenance was not as successful in re-establishing the competitive advantages the multiples had anticipated. Manufacturers had proved capable of limiting the degree to which retailers could determine prices by the early 1960s.

Falling margins also suggests that the efficiency gains of self-service and supermarket retailing based upon economies of throughput were also not as forthcoming as had been assumed. One, disputed, study by Tulley & Hicks suggested that, excluding stockholding, administration and transport costs, larger supermarkets (above 4,500 sq.ft.) incorporated diseconomies of scale and smaller supermarkets (below 2,500 sq.ft) were the most profitable in terms of net profit per square foot.<sup>85</sup> The fact the methodology and interpretation rather than results of this study were disputed highlights the difficulty firms faced in assessing possible efficiency gains available through investment in larger supermarkets in the 1960s.<sup>86</sup>

That supermarket retailing was not an insurmountable physical barrier to competition, for the independent sector, is also indicated from the fact that similar scale advantages were available through the creation of voluntary chains of independent grocers and the use of cash-and-carry wholesaling.

The development of cash-and-carry wholesaling allowed retailers to absorb transport costs. Still more importantly, the emergence of voluntary chains, provided the independents with the ability to undermine the multiples' physical barriers to entry. Voluntary chains, yet again originating in the United States, first appeared in Britain in 1954 and were organisations of independent wholesalers linked to groups of

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<sup>85</sup> R.P.R. Tulley & R. Hicks, 'Economies of Scale in Supermarkets', Journal of Industrial Economics, Vol.XIX, 1970-1.

<sup>86</sup> K.A. Tucker, 'Economies of Scale in Supermarkets: A Note', Journal of Industrial Economics, Vol. XX, 1971-2.

independent grocers. In Britain, with the exception of the Londis Grovisions chain, it was the wholesaler who initiated the link. The chains encouraged both a loyalty between wholesaler and retailer and ensured, through compulsory membership of grocers' associations, that retailers agreed not to compete too vigorously with other members of the chain.<sup>87</sup> The chains also encouraged independent grocers to adopt self-service organisation by providing capital for the conversion of stores. Chains linked to wholesalers such as Spar had over 3,000 members while the retailer initiated group Londis Grovisions were able to achieve a membership of 850 members. The size of these groups allowed them to undermine many of the physical barriers to entry enjoyed by the multiples such as economies of buying.<sup>88</sup> The growth of voluntary chains was extremely rapid. By 1963 voluntary groups, either wholesaler or retailer inspired, were estimated to be responsible for 28.6% of all grocery sales, 57% of sales within the independent sector.<sup>89</sup>

That retailers, including the multiples, were relatively content with the continued existence of RPM into the late 1950s can also be gauged from the unwillingness of multiple firms to introduce other competitive practices into the trade. Advertising was an area which the food retailing sector studiously failed to develop as a method of competition or as a non-physical barrier to entry.

The 1950s has been characterised as the period in which a 'unification of the mass market' began to develop within the food retailing sector, so that firms were able to develop advertising strategies aimed at a homogeneous consumer.<sup>90</sup> While

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<sup>87</sup> C. Fulop, Buying By Voluntary Chains, (1962), p.41 and The Grocer, 30th October 1965, p.76

<sup>88</sup> The Grocer, 30th October 1965, p.76.

<sup>89</sup> Pickering, op.cit., p.136.

<sup>90</sup> L. Sparks, 'Food Retailing in Great Britain', The Rise and Fall of Mass Marketing, ed. R.S. Tedlow and G. Jones, (1993), p.59.

manufacturers used extensive advertising to promote branded products, and defend RPM, the multiples were slow to utilise advertising to promote a corporate image. The available data for total spending on advertising in the retail sector as a whole bears this out. Between 1948 and 1960 retail advertising rose from £22.3m to £69.1, although as a proportion of total advertising spending this in fact declined over the period from 18.5% to 15.2%.<sup>91</sup>

In the food retailing sector this lack of concern amongst multiples for advertising was probably at the most extreme with advertising expenditure lagging far behind the expenditure of manufacturers on branded products. Food retailers publicly took the view that their position within the high street, and their regular contact with customers, negated the need for large-scale advertising.<sup>92</sup> The widespread use of advertising for the food retailing industry therefore did not emerge until the 1970s. Instead advertising within the food industry remained the preserve of firms who used brand recognition in order to maintain RPM. In 1964 food industry advertising amounted to over £54m, with firms such as Lever Brothers and Procter and Gamble prepared to spend 18% of the selling price of their washing powder products, some £9.25m alone, on brand promotion. Similarly, expenditure on coffee and coffee products amounted to over £9.1m.<sup>93</sup>

Food retailers were not completely averse to using advertising; rather retailers consciously refrained from large-scale advertising in order to reduce competitive pressures. When retailers used sales promotion techniques, such as during the introduction of retail trading stamps (see below), it was not aimed at promoting

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<sup>91</sup> EIU, Advertising Expenditure 1960, (1962), Table 12, p.39.

<sup>92</sup> IGD, op.cit., 1987, p.23.

<sup>93</sup> The Grocer, 22nd May 1965, p.48 and 16th October 1965, p.32.

competition, rather it was to be used to restrict and regulate the degree to which price competition would develop within the trade.

While the suggested freezing of the retailing industry's industrial structure between 1938 and 1954 may understate the degree of continuity with the period before 1938, the industry's slow pace of change does, nevertheless, require explanation. The answer, in part, lies with supply factors external to the industry itself. The development and prolongation of rationing and, with it, an acceptance of price controls ensured that little changed before 1954. Other supply factors, such as shortages of capital in the form of financial capital or building materials, for companies with access to financial markets, were not however constraints. The industry itself, in particular the multiples themselves, can be said to have played an important part in maintaining the regulated system whereby price competition was prevented, through an unwillingness to develop self-service stores prior to the emergence of supermarkets. The fact that the multiple stores helped maintain the system of price maintenance can be understood in terms of the benefit gained by firms in an environment where risk was minimised through RPM and the prevention of price cutting.

Despite this cosy set-up, pressures for change were building up within the trade. The multiples faced growing problems associated with the independents' abilities to learn from the American experience of voluntary chains and the need to raise capital for the building of supermarkets. The multiples were also keen not to lose the advantage they held over the independents in their ability to achieve greater discounts from suppliers.<sup>94</sup>

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<sup>94</sup> Differential pricing was illegal within the United States, under the Robinson Patman Act, and has been held to account for the low levels of concentration within the United States retailing industry, see Gardner and Shepherd, *op.cit.*, p.157.

These factors coming together in the space of a few years were such that, when a thaw did arrive, changes within the industry caused firms to adjust extremely rapidly. To understand the structural change that the grocery retail trade underwent, it is necessary to examine the development of these pressures on a company such as Sainsbury's and the impact of the conflict over trading stamps in 1963.

- J. Sainsbury after 1954

Sainsbury's was in a particularly fortunate position regarding the ending of rationing and the need to develop a wider range of products. Its origins as a provision merchant and the existence of RPM aided the creation and extension of its own-brand range of goods.<sup>95</sup> Sainsbury, like other multiple retailers, were rapidly introducing wider product ranges from the mid 1950s onwards. Some 1,000 own-brand products alone were introduced in the 1960s.<sup>96</sup> Thus in the crucial period from 1945 to the early 1960s Sainsbury's became transformed from a provision merchant of own-brand goods to a mainstream grocery retailer selling both dry packaged groceries and own-brand provisions.

As a result of these capabilities, Sainsbury's established itself as the market leader in own-brand products, generating over 50% of turnover from own-brands in the 1960s. In the 1970s retailers own-brand labels sales generally accounted for less than 25% of multiple retailers' turnover and even competitors such as Tesco could only achieve own-brand sales of between 30-40% of turnover.<sup>97</sup> This lead in own-

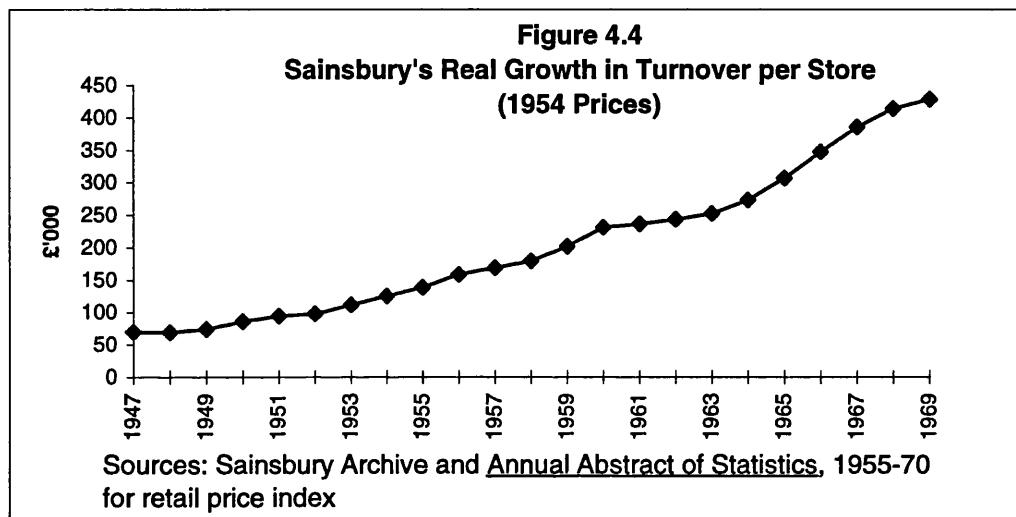
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<sup>95</sup> Jones and Morgan, op.cit., pp 291-307 for a discussion on the link between RPM and the development of own-brand products.

<sup>96</sup> Williams, op.cit., p.145.

<sup>97</sup> Ibid., p.145 and IGD, op.cit., 1987, pp. 20-21.

brand products still continues and is an essential component of Sainsbury's continuing competitive advantage.<sup>98</sup> It was these strengths which helped Sainsbury's establish a consistent trend in rising real turnover per store , see Figure 4.4.



In terms of supply constraints, however, Sainsbury's certainly fared no better than other competitors. The effect of the war on staffing levels was that Sainsbury's initially looked to increasing its employment of juniors and the employment of, first, single women and, later, married women to maintain its business. As the war continued, single women were moved to war industries, so that by the end of the war Sainsbury's staff in the branches overwhelmingly consisted of married women and juniors.<sup>99</sup>

Sainsbury's also significantly lagged behind even competitor multiple chains with respect to the move towards self-service and supermarkets. While both

<sup>98</sup> Jones and Morgan, op.cit., p 291 and see M. Cronshaw, E. Davis & J. Kay, 'On Being Stuck in the Middle or Good Food Costs Less at Sainsbury's', Centre for Business Strategy Working Paper, No.83, (1990).

<sup>99</sup> JS Archive, WAR 2, Bulletin, February 1945 and B. Williams, Ibid., p.111.

Sainsbury's and Tesco opened their first self-service stores in 1950, Tesco had opened or converted four-fifths of its stores by 1955, whereas Sainsbury's change-over was much slower, with only 80 self-service stores operating out of 250 even in 1967.<sup>100</sup> This slowness in moving towards supermarket developments is still more remarkable in the light of the fact that of the company's total turnover of £165.7m in 1969, some £105.8m, 64%, came from 82 supermarkets and a further £22.9m, 13.8%, from 40 other self-service stores.<sup>101</sup> Thus 50% of its stores contributed only 22.3% of turnover.

While Sainsbury's profit figures suggest a diversified retail business strategy, it could also be suggested that Sainsbury's provides an excellent example of Chandler's British family capitalism, deficient in managerial hierarchies.<sup>102</sup> The Sainsbury family were certainly committed to maintaining tight family control over the company. The company had to wait until 1941 before a director was appointed that was not a family member, and, unlike Tesco, the company did not become a listed company on the stock exchange after the war. Sainsbury's lack of access to stock market funds, noted above, may help explain the company's aversion to growth by acquisition. Sainsbury's slowness in developing self-service might also therefore reflect the fact that the company lacked the financial ability to transform its retail outlets. Sainsbury's focus upon family control and evolutionary growth was not however a mistaken business strategy. Figure 4.5 shows that, over the period as a whole, Sainsbury's saw its real gross profits per store increasing. This also suggests that the company would be unlikely to have had difficulty raising long term capital if

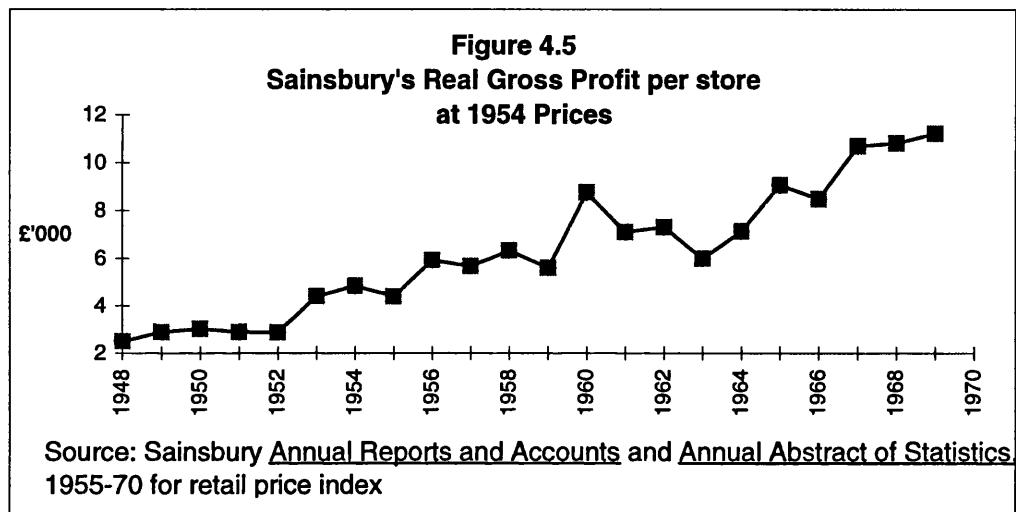
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<sup>100</sup> Powell, op.cit., p.78 and JS Journal, 'Self-Service at Sainsbury's', July 1967, p.12.

<sup>101</sup> J. Sainsbury, Annual Report and Accounts 1969, p.3.

<sup>102</sup> See A.D. Chandler, Scale and Scope, (1990).

required. Interestingly the key sub-period where this conclusion would not hold is in the period from 1960-63, see Figure 4.5. It is precisely these years that saw the intensification of the pressures upon the multiples to adopt price competition.



For J. Sainsbury Ltd. and the Sainsbury family, success in the 1950s lay in a business strategy of creating economies of scale, through the development of centralisation of managerial functions including buying, pricing and capital raising, as well as vertical integration into manufacturing, warehousing and distribution. Other multiples tended to be less centralised or vertically integrated. Tesco, for example, was not as vertically integrated into food manufacturing nor as centralised (allowing, for example, branch managers' control over pricing). In the 1960s the multiples responded flexibly to the growth of their distribution network by moving towards de-centralised manufacturer originating distribution systems.<sup>103</sup> Nevertheless the point remains, the multiple form of organisation, in all of its diversity, with a small, centralised family-based managerial hierarchy proved highly successful.

<sup>103</sup> Jones and Morgan, op.cit.

As suggested above, the multiples were keen to regulate competition within the retail trade. One aspect of this was an acceptance, among firms, on the restriction of advertising expenditure.<sup>104</sup> Sainsbury's was typical of the multiple firms in its restraint of advertising. Although Sainsbury's first used television advertising in 1958, the company paid little attention to media advertising generally. Sainsbury's advertising expenditure in the first nine months of 1963 totalled under £24,000, with Tesco totalling just over £21,000.<sup>105</sup> The multiples avoided large-scale advertising not only because of their view that it was unnecessary to attract custom but also because, until the emergence of price competition they were unwilling to develop new areas of competition.

Firms such as Sainsbury were, however, prepared to lead extensive and sophisticated advertising campaigns to prevent competitors from altering the balance between price and non-price competition, established within the trade after the breakdown of RPM. In the last quarter of 1963, Sainsbury's spent £77,720, three times as much as they had in the whole nine months previously. Tesco similarly was prepared to spend £40,127, twice as much as over the same nine month period. The explanation for these increases does not lie with an emphasis upon seasonal advertising, but instead on the outbreak of a conflict between retailers over the issuing of retail trading stamps and the emergence of price discounting in 1963.

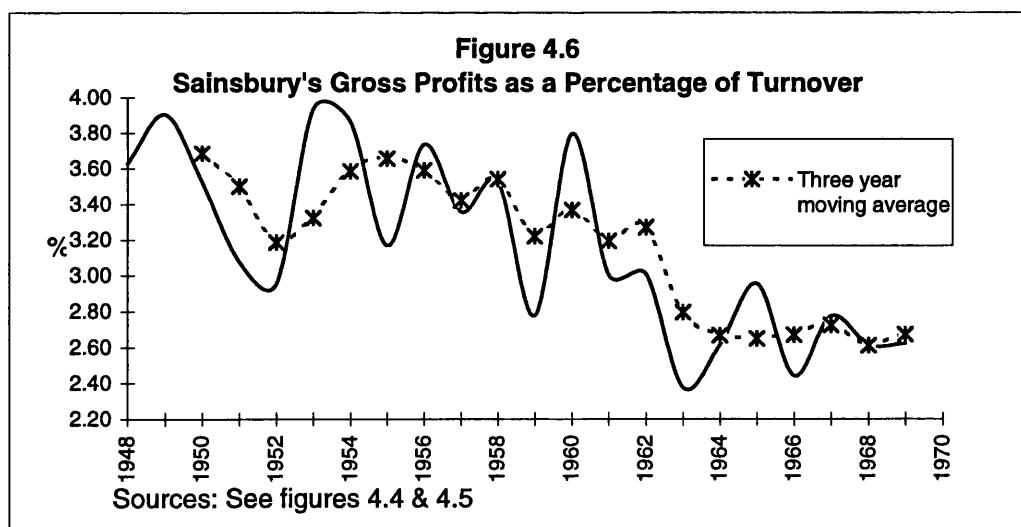
It was the outbreak of price discounting in 1963 that also helps to provide an explanation for Sainsbury's slow movement into self-service and supermarkets.

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<sup>104</sup> See McClelland, op.cit., pp.256-261 on the minimal use of advertising among retailers prior to the mid 1960s.

<sup>105</sup> The Grocer, 4th April 1964, p.32.

Williams emphasises Sainsbury's difficulties in transforming older stores for self-service, due to either unsuitable location or size.<sup>106</sup> However a closer examination of the changes in real gross profit per store also highlights the problems facing Sainsbury's. Real gross profit per store would be expected to increase with the shift first to self-service and later to supermarkets, as turnover increases compensate for any reduction in margins. However as Figure 4.5 highlights growth in real gross profits per store saw a sustained fall between 1960 and 1963. In 1960, approximately 10% of Sainsbury's stores had been converted to self-service with an average sales area of 4,750 sq.ft., suggesting that Sainsbury's was only opening, or converting, stores that were classified as supermarkets.<sup>107</sup> The problem of profitability may have been acute for Sainsbury's from 1960 to 1963 but as Figure 4.6 highlights this was a long term trend within food retailing. The fundamental explanation behind Sainsbury's slow development of self-service and supermarkets was not simply a result of poor sites but a long term fall in gross profit margins.



<sup>106</sup> Williams, *op.cit.*, p.124.

<sup>107</sup> *Ibid.*, pp. 138 & 148.

If the evidence for Sainsbury's falling real gross profits as a percentage of turnover and the earlier evidence of retained earnings by listed retail companies after 1959 are indicative for food retailers generally then the crisis of competitiveness facing multiple retailers in the late 1950s becomes apparent.<sup>108</sup> While RPM was broken competition through service remained, companies were increasing their retained earnings and were also experiencing a real fall in their gross profit margins. The multiples were keen to maintain a secure environment for investment, but investment in new fixed assets and falling real gross profit margins could not be reconciled indefinitely. In 1963 the deadlock was broken and price competition, in the form of discounting, broke out amongst grocery retailers.

- The Outbreak of Price Competition

The multiple retailers favoured the breakdown of RPM as it enabled them to shift the balance over the determination of retail prices in their favour. However, this did not mean that multiple retailers favoured price competition. Despite reductions in dividend payments after 1959 (Figure 4.2), a reduction in the price differential between manufacturing output prices and retail prices after 1960 (Figure 4.3), and a sharp fall in profit margins between 1958 and 1963 (Figure 4.6) the multiples continued to avoid price discounting. Instead the multiples favoured a continuation of controlled competition linked to both service and price. Unfortunately for the multiples such a solution was unsustainable once the independent sector had developed

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<sup>108</sup> Retail Trade Developments in Great Britain 1971-2, (1971), pp 330 & 336, suggests that Sainsbury's profit margin in 1970 was 2.9% against that of Tesco at 5.3%. Profit margins of below 5% seem at odds with the Census material suggesting profit margins of around 16%. It is believed that the difference lies in the methods adopted for calculation and therefore they should not be compared directly.

alternative competitive strategies. As a result, in October 1963, price competition emerged and the transformation of the grocery retailing sector began. The issue which sparked off price competition was retail trading stamps.

Retail trading stamps, as with so much else originated in the United States, were a method of building customer loyalty. Stamps would be given with each purchase and could be collected by customers and exchanged for a wide range of consumer durables at a later date, from the stamp-issuing company. In Britain the largest of the stamp-issuing companies was Green Shield, with over 60% of the market in 1963.<sup>109</sup>

There were two areas of conflict between retailers over the issuing of trading stamps. Stamps raised costs for retailers, who had to purchase them from the stamp-issuing company at a cost of between 2-2.5% of sales, which would then need to be recovered from customers.<sup>110</sup> An increase in retailers' prices could only be overcome if the issuing of stamps resulted in higher turnover counteracting the effects of lower margins. Thus the debate between retailers centred on whether or not increases in aggregate turnover could be generated for the trade, or whether the issuing of stamps would simply redistribute trade. In the latter case, stamps would represent an added cost, eating into profit margins, if their use spread to all retailers.<sup>111</sup> The second area of debate arose over the degree to which stamps offered a discount on a wide range of consumer goods, and in so doing threatened to undermine RPM on branded products

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<sup>109</sup> M. Corina, Pile it High Sell it Cheap, (1972), p.24.

<sup>110</sup> McClelland, op.cit., p.270.

<sup>111</sup> See Daily Mail 6th November 1963 for debate over the merits of trading stamps between Lord Sainsbury for the anti-stamp Distributive trades Alliance and Leslie Carter for the stamp issuing company Associated British Foods.

outside of the grocery trade.<sup>112</sup> Manufacturers were concerned that stamp-issuing retailers were effectively offering discounts, on their products, and that this would in turn lead to pressure, from non-stamp-issuing retailers, to lower wholesale prices in order to maintain retail margins.<sup>113</sup> The issue became one of which area of the trade would be faced with absorbing the cost of trading stamps.

In Britain, trading stamps first appeared in small independent grocers' stores in 1958. In 1961 the National Association of Multiple Grocers organised an unwritten agreement boycotting the use of stamps amongst the larger multiples.<sup>114</sup> The multiples' boycott of stamps held until the middle of 1963, when, in August, the Fine Fare group announced that it would be introducing stamps in November. In October 1963 both Pricerite and Tesco pre-empted Fine Fare and introduced stamps. From late 1963, through to 1965, a veritable war between pro-and anti-stamp supporters raged throughout the trade. Sainsbury's, in particular, was central to the organisation of the anti-stamp campaign.<sup>115</sup>

As early as March 1963, Sainsbury's had anticipated a breakdown of the anti-stamp boycott. As a result the company commissioned the advertising agency Mather & Crowther to develop an anti-stamp campaign. Their report was to provide the basis of the anti-stamp campaign over the next two years. The Mather & Crowther report presented two alternatives; either a consortium of 'virtually all the major retailing groups' should be organised, including grocers, garages, chemists, variety stores etc.,

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<sup>112</sup> The Co-op's use of a dividend payment had also been opposed by manufacturers although it was eventually accepted that the dividend was more analogous to a share dividend on the basis that it was a payment and not a discount on specific goods.

<sup>113</sup> Corina, *op.cit.*, p.27.

<sup>114</sup> Powell, *op.cit.*, pp. 104-111.

<sup>115</sup> This conflict is currently being replayed over the use of Discount Cards which are indeed a more modern form of trading stamps, although the outcome this time appears to favour the card issuing stores.

or a 'specifically Sainsbury's anti-stamp campaign' should be developed. The report recommended that for the 'opportunistic' anti-stamp advertising, aimed at the housewife, to be effective it should be along 'emotional (rather) than on rational lines' and economic arguments, for the 'rational-minded', should be aimed at the 'pub-economist'!<sup>116</sup>

Sainsbury's considered the emergence of trading stamps such a threat that it adopted both options: a collective and an individual approach. Sainsbury's budgeted £80,000 for an initial eight-week campaign against trading stamps, beginning in November 1963. The company had originally been considering spending an initial £120,000 on the campaign.<sup>117</sup> The expenditure on the anti-stamp campaign was clearly far in excess of Sainsbury's usual advertising expenditure, which further emphasises how important the defeat of trading stamps was to the Sainsbury family.

Sainsbury's, through Lord (Alan) Sainsbury, also developed the alternative suggestion of the Mather & Crowther report, forming the Distributive Trades Alliance in order to co-ordinate opposition to the emergence of trading stamps amongst all sectors of the retail industry. The DTA instigated a boycott of the bakery products of Associated British Foods, owner of the stamp-issuing store, Fine Fare. This boycott, although eventually condemned by the Restrictive Practices Court in 1965, forced Fine Fare to abandon the use of trading of stamps within twelve months of their introduction.<sup>118</sup> An American-based stamp-issuing company claimed that the DTA's activities were such that, if it operated within the United States, 'it would have long

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<sup>116</sup> JS Archive, HIST/7, Preliminary Proposals for an Anti-Stamp Campaign, 4th April 1963.

<sup>117</sup> JS Archive, HIST/7, Letter from J.D. Sainsbury to A. Tennant of Mather & Crowther 20th June 1963.

<sup>118</sup> The Grocer, 19th June 1965, p.34 and Financial Times, 26th September 1964.

since attracted the attention of the Federal Trade Commission'.<sup>119</sup> Retailers of consumer durables also threatened to break RPM agreements, unless manufacturers took action to prevent their branded goods being sold in stamp-issuing stores.<sup>120</sup>

Manufacturers were particularly concerned over the introduction of trading stamps as a way of undermining margins. As early as May 1963, the Food Manufacturers' Federation, (FMF), was in contact with Lord Sainsbury for help in putting the manufacturers' point of view.<sup>121</sup> However, manufacturers' associations such as the FMF faced similar problems presenting a united view on trading stamps as the National Association of Multiple Grocers, since they recognised that 'small manufacturers might see stamps as a method of achieving free advertising at moderate cost.' In the case of the FMF, they urged larger manufacturers to use 'consultation and persuasion behind the scenes.' and, as a federation, decided to 'advise members of the inherent dangers of stamp trading and to recommend no participation in stamp schemes for manufacturers'.<sup>122</sup> Larger manufacturers quickly organised boycotts of stamp-issuing retailers. By December 1963, Cadburys (despite court action from Tesco and Victor Value), Rowntrees Mackintosh, EMI and Decca, Gillette, Imperial Tobacco Co., Distillers Co. and tyre manufacturers' including Dunlop, Firestone, Avon, Goodyear and Michelin were all involved in boycotting retailers.<sup>123</sup>

The significance of the war over retail trading stamps lies with the conflict that was emerging between the continuation of a market characterised by competition

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<sup>119</sup> Financial Times, 15th October 1964.

<sup>120</sup> Observer, 15th November 1963 for threats from the John Lewis partnership.

<sup>121</sup> FMF, Executive Committee Minutes, Vol.11, 63/87 Stamp Trading, 28th May 1963.

<sup>122</sup> FMF Archive, Executive Committee Minutes, Vol.11, 63/148 Trading Stamps, 17th September 1963 and 63/192 Trading Stamps, 26th November 1963.

<sup>123</sup> Sunday Telegraph, 8th December 1963.

based upon a combination of price and levels of service and a market characterised by simple price competition. To what extent should price competition be regulated within the industry? The Sainsbury family had consistently opposed resale price maintenance, yet were prepared to invest considerable amounts of managerial time and money in the defence of the status quo in grocery retailing and, even more significantly, resale price maintenance outside grocery retailing.

Throughout, Sainsbury's claimed that opposition to trading stamps lay with the increasing costs which consumers would pay as the costs of stamps was passed on, yet the evidence for this was weak. Studies in the 1950s within the United States, by the Department of Agriculture, across 21 cities showed that wide variations of price changes existed between stores that did and did not issue stamps. Nevertheless, the study also suggested that, while on average prices in stamp-issuing stores had risen faster than in non stamp-issuing stores, the rise had not been enough to counteract the discount received when stamps were redeemed. Another US study in the 1960s suggested that only in a stamp saturated market could the use of stamps lead to an increase in prices<sup>124</sup> In Britain the claim that prices would be affected was similarly disputed. In 1964 an Institute of Economic Affairs publication argued that 'there is little ground for the argument that the cost of trading stamps must ipso facto be transferred onto the consumer in the form of higher prices'<sup>125</sup> and in 1965 a Consumer Association investigation, across 120 stores over four months, concluded that prices were not affected.<sup>126</sup>

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<sup>124</sup> Quoted in Padberg, *op.cit.*, p.157. This is an obvious difference between the conflict between retailers over trading stamps in 1963 and over discount cards in 1995, given the increased levels of concentration within the trade.

<sup>125</sup> C. Fulop, *The Role of Trading Stamps in Retail Competition*, (1964), p.65.

<sup>126</sup> See *The Grocer*, 3rd July 1965 p.34.

The emergence of trading stamps threatened to intensify price competition in the grocery retail trade and it was this that Sainsbury's and other multiple retailers feared. Sainsbury's recognised that, while, the demise of RPM further weakened manufacturers' ability to determine prices, there was a need for co-operation within the industry as a whole to prevent price competition from becoming too intense.

In 1964 the Trading Stamps Act was passed which, although not as far reaching as the bill initiated by Lord Alan Sainsbury, regulated the use of trading stamps and ensured stamps' monetary value was printed on them. That the DTA campaign can be considered to have been relatively successful can also be gauged by the data collected in the 1971 Census of Distribution. In 1971 only 39 multiple grocery organisations with 3,144 stores were issuing stamps. Similarly among independents only 5,676 firms with 5,984 stores were providing stamps.<sup>127</sup>

- Trade Associations and the Grocery Trade

The ability of firms to influence the development of the market is determined not simply by their own relationship to suppliers and customers, but also by their influence within decision making bodies external to the firm. In the case of the food industry the influence of the Sainsbury family within the trade associations was unique. The Sainsbury company had a long tradition of support for co-operation between companies; its very origins were intimately tied up with the Pact. The company was also a central element within the Distributive Traders Alliance.

Still more importantly, the Sainsbury family was at the very heart of policy formation within the industry at this key point in time. The family's strong paternalistic

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<sup>127</sup> UK Census of Distribution, 1971, Supplement, table 49.

and philanthropic traditions led the individual family members to actively participate in all areas of the trade. Lord Sainsbury held the view that; 'I do maintain that family businesses can, and do, provide in many instances the type of leadership that a large community of people engaged in common enterprise require.'<sup>128</sup>

It was these beliefs that led Lord Sainsbury to become President of both the Multiple Shops Federation and the National Grocers' Federation from 1963 to 1966, the Grocers' Institute in 1964-66, and its predecessor the Institute of Certified Grocers' in 1963-64; he was also President of the international chain store organisation, Comité International des Entreprises à Succursales, CIES, in 1965-68.<sup>129</sup> He also represented the food trades on numerous government bodies including the Food Research and Advisory Committee, from 1960 to 1970 (as its Chairman, 1965-70) and the National Economic Development Council for the Distributive Trades in 1964-68.<sup>130</sup> Similarly James Sainsbury, the family member most closely linked to the manufacturing aspects of the business, was Chairman of the influential London Provision Exchange in 1957-58 and the National Association of Multiple Grocers from 1967 to 1969.<sup>131</sup> Family members and company representatives also represented the trade on countless other government and non-government bodies.

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<sup>128</sup> Lord Sainsbury speaking in 1954 and quoted in Dictionary of Business Biography, Vol.5, (1986), p.7. Unifying notions of 'community' and 'service' are regularly occurring themes within the Sainsbury family's writings. For an instance of James Sainsbury's, for example; 'I am sure that I speak for our trade as a whole when I say that we are at all times at the service of the permanent officials for the consultation which we believe is indispensable in the conduct of the affairs of Food, as well as of Agriculture.' JS Journal, No.48, 1958, p.4.

<sup>129</sup> Dictionary of Business Biography, p.8, IGD, Report and Accounts, (1991) and The Grocer, 25th June 1966, p.40-1.

<sup>130</sup> Dictionary of Business Biography, p.7.

<sup>131</sup> JS Journal, December 1984, p.3.

The atomistic nature of the food industry and the retail trade was reflected in the development of trade associations. A myriad of trade associations existed within the retailing and food manufacturing trades, many of which failed to last and were either absorbed into larger organisations or simply disappeared entirely. Trade Associations covered all areas of the trade and provided a wide range of different services. The main separation between organisations was between the producers, wholesalers and retailers, but within these boundaries various smaller sectional and geographical interests were represented by a multitude of associations, some of which were linked to one another but many of which remained autonomous. An indication of the size and influence of some of the main trade associations within the retail trade comes from examining their membership levels and their main roles.

The Food Manufacturers' Federation was one of the most important and coherent of the trade associations within the industry. The FMF, incorporated in 1925, represented the manufacturing firms across the industry, with 1006 members in 1956.<sup>132</sup> The FMF's main aim was to provide services for its members and co-ordinate the activities of affiliated associations. The FMF's Articles of Association stated that the Federation should 'promote by all lawful means the welfare of the food manufacturers' and 'create and maintain a public opinion favourable to the food trades'.<sup>133</sup> Its Presidents included representatives of all the major food manufacturing companies, including Crosse & Blackwell, Dell Foods, Nestle, Unilever, Schweppes, Reckitt & Colman, Unigate.<sup>134</sup> Companies such as Sainsbury's and Tesco, which also

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<sup>132</sup> FMF, List of Members, Revised May 1956.

<sup>133</sup> FMF, Memorandum and Articles of Association., 22nd December 1925, p.1.

<sup>134</sup> FMF, Annual Report & Accounts, 1972, p.24.

manufactured products, were members, with the directors John D. Sainsbury and W.M. Justice acting as council members for Sainsbury's.<sup>135</sup> The Sainsbury company were also represented on many of the FMF's various committees and sub-committees, including Education, Food Additives, Hygiene, Food Machinery and Labour and Plant Utilisation.

The Food Manufacturers' Industrial Group (FMIG), founded in 1946, was also affiliated to the FMF. It was the FMIG that appointed the employers' representatives to the food manufacturing Joint Industrial Council, the body which negotiated national wage levels. The FMF provided advice for official bodies, providing representatives on 63 British Standards Institute committees in 1959, but was not directly involved in regulating the industry through the enforcement of resale price maintenance or the publication of stop lists. The FMF was in actual fact prevented from engaging in restrictive trade practices by its articles of association.<sup>136</sup> The FMF did, however, allow member firms to form trade groups who were free to promote the use of restrictive trade practices. An example of this type of group was the Sausage and Meat Pie Manufacturers' Association.<sup>137</sup> The FMF also provided secretarial facilities for trade groups in exactly the same way as occurred in the British Electrical Manufacturers' Association.

The trade associations of wholesalers were numerically irrelevant in comparison to those of the manufacturers, yet of considerable influence within the trade. The most important was the National Committee of the Provision Importing

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<sup>135</sup> See FMF, Annual Report & Accounts, 1962.

<sup>136</sup> FMF, Bulletin, July 1955, p.160.

<sup>137</sup> The Association had 102 members and used RPM until it was removed at James Sainsbury's instigation. See JS Journal, December 1984, p.3 and FMF, Annual Report and Accounts, 1972, p.22.

Trade, which represented the interests of the provision exchange organisations including London, Manchester, Liverpool, North Eastern and Scotland. Below this was the Wholesale Grocers' Federation which faced with a falling membership, from nineteen to six and a failure of the organisation to be able to maintain a quorum at its annual meeting, moved away from being a federation of wholesale associations towards individual membership. By 1965 it claimed 620 members, covering some 95% of trade in England, Wales and Northern Ireland.<sup>138</sup> In grocery retailing trade associations represented different sectors. The Retail Distributors' Association, representing the department stores, in 1964 had 420 members.<sup>139</sup> Its main function was the publication of statistical material for members produced from annual company surveys. These surveys highlighted changing trends including average floorspace, turnover and rates of return on capital employed.<sup>140</sup> The Association also provided legal and advisory functions for members and the industry.<sup>141</sup> The Multiple Shops' Federation claiming over 400 members and the Supermarkets' Association (SMA) with some 56 members covering 900 supermarket stores, represented half of all supermarkets.<sup>142</sup> The SMA also had 131 associate members, covering a wide range of food manufacturing, equipment and service companies.<sup>143</sup> In contrast, at the independent end of grocery retailing was the largest of the associations, the National Grocers' Federation, with a membership of between 17-18,000.<sup>144</sup> This organisation

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<sup>138</sup> The Grocer, 2nd October 1965, pp. 21-22.

<sup>139</sup> The Grocer, 4th April 1964, p.24.

<sup>140</sup> See Retail Distributors' Association, Annual Statistical Reports, 1959-1970.

<sup>141</sup> See H. Levy, Retail Trade Associations, (1942).

<sup>142</sup> The Grocer, 21st November 1964, p.28.

<sup>143</sup> The Grocer, 30th May 1964, p.32.

<sup>144</sup> The Grocer, 12th December 1964, p.30 and 25th June 1966, p.40.

was created before the First World War and was both hostile to the emergence of multiple retailing and closely linked with the regulation of resale price maintenance.

Trade associations were rarely profitable organisations and some made losses. The FMF ran an operating deficit throughout the 1960s, with the single exception of 1961, due to the failure of subscriptions and fees from secretarial services to cover operating costs. The FMF was only able to continue due to the cross subsidy derived from the annual food manufacturers' exhibition.<sup>145</sup> Similarly, despite the Wholesaler Grocers' Federation's move towards individual membership, the organisation made a loss of £35,000 in the four years to 1966, forcing it to sell its offices, its main asset.<sup>146</sup>

The largely unconnected and highly uncoordinated nature of trade associations within the food manufacturing, and particularly within the retailing, industries was to some degree counter-acted by the multiple membership of many firms. This was especially true for those firms which attempted to influence the development of the industry, such as Sainsbury's. Nevertheless, trade associations in the food manufacturing and retailing industry suffered from an inability to develop a coherent strategy for dealing with either the problems facing the industry or with negotiations with government bodies.

The Food Manufacturers' Federation's general view on issues effecting the industry was typical of British industry in the period. The 1963 President's statement summed this position up. The Federation would 'try to look at problems in two ways. Firstly, what can industry do to help itself; secondly what can it do to resist, quite

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<sup>145</sup> FMF, Annual Report and Accounts, 1957-71.

<sup>146</sup> The Grocer, 25th June 1966, p.42.

rightly, any action by government or other bodies which will in its view damage the industry'.<sup>147</sup> As a result the Federation recognised immediately that liaison within the industry could prove problematic and could lead to a conflict, with its membership, 'because it is bound to lead to a natural struggle between the individualists and those that feel that some overall agreement on good practice will prejudice no one and can be of benefit to both manufacturer and distributor'.<sup>148</sup> Throughout 1961 the Executive Committee discussed issues relating to Britain's possible entry into the Common Market, ranging from restrictive practices to food additives with associations representing biscuit and cocoa manufacturers. The FMF found itself reluctantly being pushed into co-operation with other trade associations, despite worries over the hostility this could cause amongst member firms.

The strength of atomistic individualism is highlighted by the difficulties faced in attempting to establish a co-ordinating body for the industry. The ending of rationing in 1954, the slow growth of consumer demand and the collapse of RPM led to an increasing awareness across the industry that some level of co-ordination was required. Despite this recognition, co-ordination at any level was extremely difficult to achieve. No more clearly was this shown than in the creation of a consultative committee for the distributive trades by the FMF.

In 1960 the FMF opposed co-operation on the grounds that it believed that the 'attitude and practices of individual manufacturers varied widely and that it would not be possible to agree a general line of policy'.<sup>149</sup> However the signing of

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<sup>147</sup> L. Rose, FMF Presidents Statement, Report and Accounts, 1963, p.1.

<sup>148</sup> Ibid., p.18.

<sup>149</sup> FMF, Executive Committee Minutes, Vol.11, 60/11 Liaison Between Manufacturers and Distributors, 21st January 1960.

the Treaty of Rome led European retailers to begin examining international co-operative strategies. The FMF, while opposing a conference called by the International Association of Chain Stores to examine 'collaboration between food chains and food manufacturers', reluctantly decided to send an observer.<sup>150</sup> By the end of 1961, the FMF was beginning to soften its attitude towards co-operation with wholesalers' and grocers' organisations. The FMF, while still rejecting any proposals for permanent liaison, accepted an invitation from the National Federation of Wholesale Grocers and Provision Merchants for discussions, on condition that any agenda would avoid all discussions of pricing and would remain on an informal basis.<sup>151</sup>

By 1963 the FMF were discussing the creation of a Distribution Committee involving the Wholesale Grocers' Federation, the London Provision Exchange along with the Multiple Shops' Federation and Supermarkets' Association, whose aim would be 'to liaise and consult with all trade associations' in wholesaling and retailing on 'problems of common interest, e.g. night deliveries, standardisation of pallets etc.'<sup>152</sup> Finally, in July 1963, the FMF agreed to the setting up of a permanent liaison committee, the Distribution Committee. However, yet again the condition was imposed that any liaison between manufacturers, wholesalers and grocers would avoid discussion of manufacturers' pricing and distribution policy.<sup>153</sup>

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<sup>150</sup> FMF, Executive Committee, Vol.11, 60/81 Conference on collaboration between food chains and food manufacturers, 28th April 1960.

<sup>151</sup> FMF, Executive Committee, Vol.11, 61/184 Proposal from Wholesale Grocers and Provision Merchants to form a permanent trade relationships committee 2nd November 1961 and 61/216 Proposed liaison with Grocers, 7th December 1961.

<sup>152</sup> FMF, Executive Committee Minutes, , Vol.11, 63/89 Joint Liaison between Wholesale Grocers' Federation and the FMF, 28th May 1963.

<sup>153</sup> FMF, Executive Committee, Vol.11, 63/107 Grocers' Federation and FMF Joint Liaison Committee, 25th June 1963.

Even after 1963, it was still felt, within the retailing sector of the trade, that a lack of co-ordination existed when it came to discussions with government bodies. The main trade paper *The Grocer* reported, as late as 1965, that the Retail Distributors' Association believed that the 'retail trade has no machinery which offers government a single point of contact'<sup>154</sup>

The lack of concentration and the lack of vertical integration not only made attempts at market structuring prone to failure but also ensured that manufacturing firms were intent on retaining as much control over the industry as possible. Thus, the key reason behind the inability of different sections of the food industry to co-operate lies with the resistance of manufacturers to discuss pricing and distribution policies, in the aftermath of the collapse of RPM. In June 1959, twelve months after the collapse of RPM in grocery retailing, two hundred agreements relating to the food industry had been registered as still operating with the Office of the Registrar for Restrictive Trading Agreements. Of these 133 related to prices and 65 to collective discrimination.<sup>155</sup> By 1960 registration had increased to 245 and although the majority had been voluntarily altered, to take account of the 1956 Restrictive Trade Practices Act, it was still suggested that competition would not automatically ensue.<sup>156</sup>

Despite the recovery in manufacturing output prices relative to retail prices after 1961 (see Figure 4.3) manufacturers' margins were continually under pressure, from the influence of both wholesalers and retailers, as manufacturers were faced with abandoning these agreements. The multiple organisations were altering the balance of

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<sup>154</sup> *The Grocer*, 8th May 1965, p.55.

<sup>155</sup> N. Cuthbert and W. Black, 'Restrictive Practices in the Food Trades', *Journal of Industrial Economics*, Vol. VII, 1958-9, p.35.

<sup>156</sup> N. Cuthbert and W. Black, 'Restrictive Practices in the Food Trades, II', *Journal of Industrial Economics*, Vol. VIX, 1960-61, p.76.

influence within the trade and the wholesale associations were increasingly reflecting the multiples' view. The forum in which this threat to manufacturers' control of prices emerged was in the provision exchanges, the market place for wholesale produce.

The wholesaling of the food industry became geographically centralised in a series of produce exchanges, in the last quarter of the nineteenth century, around the main British ports including Liverpool, Manchester and London. The London exchange formed in 1887, and renamed the London Provision Exchange in 1924, became the central organisation for determining prices and levels of competition within the grocery market.<sup>157</sup> The London Provision Exchange's origins lay in the needs of producers, importers and sellers as opposed to buyers. As a result, although buyers, including Sainsbury's, were members of the exchange, it rapidly became a vehicle for the development of price rings and agreements aimed at preventing multiple retailers from gaining direct access to produce.<sup>158</sup>

Attempts at establishing price fixing agreements were, however, limited from the exchanges inception by the multiples ability to gain direct access to supplies from producers. The bacon pricing agreements in the 1890s founded on Sainsbury's refusal to abide by the restriction of purchasing only through Produce Agents Association members.<sup>159</sup>

Despite the early difficulties of enforcement the provision exchanges fixed both wholesale and retail prices for produce, particularly meat and dairy produce, through the weekly meetings of a panel of sellers and buyers. These meetings not only decided prices but, also, during the First World War and other crises, including the

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<sup>157</sup> H. Barty-King, Making Provision, (1986), p.37 & p.97.

<sup>158</sup> Ibid., pp. 47-60.

<sup>159</sup> Ibid., p.59.

abandonment of the gold standard, fixed gross profits for importers, wholesalers and retailers respectively. The 'Gentleman's Agreements' between the Board of Trade and the provision trade restricting imports of food stuffs into Britain, after 1933, was highly effective in preventing retailers from developing new supply chains.<sup>160</sup> The Provision Exchange's influence over prices became such that the weekly prices, fixed in meetings, were quoted in the trade papers and were used both nationally and internationally. Butter prices were determined by the Manchester and London exchanges, egg prices by Glasgow and London and cheese, bacon and ham by the London exchange.<sup>161</sup> Thus the Provision Exchanges in the 1930s became formalised markets with access controlled by membership, supply by gentleman's agreements and prices determined by the relative strength of the constituent participants within the meetings of the panel.

The impact of the Second World War and rationing was to strengthen the position of the provision exchanges against the multiple retailers. By 1943 the government had ensured that all wholesalers were members of relevant trade associations.<sup>162</sup> The multiples ability to create direct supply chains with producers was strictly limited by the introduction of zoning and pooling arrangements for distribution, undertaken by wholesalers, and enforced by the Ministry of Supply and the Ministry of Food.<sup>163</sup> These restrictions upon supplies provided the exchanges with the influence that they had been unable to achieve in their earlier years.<sup>164</sup>

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<sup>160</sup> Between 1932-36 'foreign' food imports fell by half. *Ibid.*, pp.108-9.

<sup>161</sup> *Ibid.*, pp.107-8.

<sup>162</sup> PRO MAF 99/1847, Draft record of the Wholesale Co-ordination Division.

<sup>163</sup> *Ibid.*, p.6 and PRO MAF 85/184 Timetable for Decontrol for explanation of the hand over back to private control of wholesaling operations in 1954.

<sup>164</sup> Pooling of supplies could even lead to private retailers having to sell Co-op branded goods in their stores. See Birchall, *op.cit.*, p.139.

After 1945 as rationing was slowly removed the larger multiple retailers were again able to create direct supply chains, with the result that the exchanges were increasingly forced to respond to the multiples' interests. The influence of the multiples within the exchanges was to change their character, from being organisations whose main function had been to benefit importers and producers, to organisations representing the interests of the larger retailers. By 1944 the exchanges recognised they would have to accommodate the interests of the multiple retailers and that the position of firms such as Sainsbury's, within the provision trade was 'no longer a matter of dispute'.<sup>165</sup> In 1957 James Sainsbury became the Chairman of the London Provision Exchange.<sup>166</sup> As a result, the ability of the multiple retailers to push down prices, at the Exchange's meetings, increased, highlighted by the conflict over bacon prices with the Ulster Bacon Association UBA in 1965.

Bacon entering the British wholesale market was subject to controls laid down in the International Bacon Sharing Agreement. These controls established market shares by country of origin, including Britain. Prices were determined at weekly meetings of selling agents, representing each producer country, after consultation with multiple retailers and wholesalers.<sup>167</sup> In July 1965 bacon producers, through the Ulster Bacon Agency (UBA), announced their decision to withdraw from the weekly exchange's pricing meetings and to price their own bacon.<sup>168</sup> The UBA objected to the fact that 'neither the Ulster pig producers, the Pigs Marketing Board, nor the curers had any direct say in the price at which Ulster bacon was sold.' The UBA also argued that

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<sup>165</sup> Barty-King, op.cit., pp.123-125.

<sup>166</sup> JS Journal, December 1984, p.3.

<sup>167</sup> The Grocer, 30th October 1965, pp. 28-29.

<sup>168</sup> The Grocer, 10th July 1965.

the selling agents were failing to represent the producers and that direct pricing would create a better return.<sup>169</sup>

In response to the UBA the London Provision Exchange turned to the multiple retailers for support. A Joint Bacon Committee was set up by the National Association of Multiple Grocers' and the National Committee of the London Provision Exchange to resist the UBA.<sup>170</sup> *The Grocer* also suggested that some orders for Ulster bacon were cancelled.

This conflict, between Ulster bacon producers and the London Provision Exchange, proved to be important as it reflected resistance to the multiples and wholesalers increasing dominance within markets. The dispute, with the UBA, was indicative of a general worry amongst the multiples that as, the *Grocer* suggested, 'It could be that the multiples and the wholesalers feel their grip on the market is slipping. If one supplying country goes it alone, the rest might follow.'<sup>171</sup> At the heart of the issue was the opposition of provision exchanges, and through them multiple retailers, to the emergence of centralised selling organisations and marketing boards of producers. The move towards marketing boards to restrict supply of produce onto the market and so influence prices went to the core of the provision exchanges' functions.<sup>172</sup> Yet again the issue revolved around the question of which section of the trade should wield the influence over price determination. Significantly, this dispute occurring twelve months after the resolution of the trading stamps conflict highlights the difficulties firms faced in regulating atomistic markets.

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<sup>169</sup> *The Grocer*, 30th October 1965, p.28.

<sup>170</sup> *The Grocer*, 6th November 1965, p.31.

<sup>171</sup> *The Grocer*, 30th October 1965, p.28.

<sup>172</sup> For James Sainsbury's speech against Marketing Boards as Chairman of the London Provision Exchange to the Annual Dinner See *JS Journal*, March 1958, No.48, pp. 1-5.

The influence of the multiples within the London Provision Exchange was not simply due to the growth of multiple retailing in Britain, but also due to the fact that the weakness of trade associations, within the food manufacturing and wholesaling sectors of the industry, increased the relative strength of a handful of multiple chains.

That the multiples made an open attack on price maintenance, rather than simply push for increases in their own individual discounts also indicates that the multiples themselves were not completely free agents in these disputes. Threatening the position of the multiples was the emergent voluntary chains of independents which, as we have seen, were slowing the multiples domination of markets such as London. Only an all out onslaught against RPM and manufacturers control would lead to an across the board reduction in producer prices, which the multiples, through their domination of supermarket retailing, were able to benefit most from.

Sainsbury's was well placed in order to take advantage of, and influence these changes, given that it had always been both a manufacturer and a retailer and had maintained membership of all the important trade associations. The Sainsbury company management were astute enough to recognise that the weaknesses of the trade associations within the industry allowed Sainsbury's to become a big fish in a small pond. However, as the retail stamps conflict proved altering the balance of power within the industry could also lead to a situation where price competition would become too intense. Thus, although the Sainsbury family were vocal opponents of resale price maintenance, they were nevertheless prepared to defend it and recognised that the Sainsbury company benefited from other co-operative strategies within the industry.

- Government and Food Pricing

Apart from the manufacturers, wholesalers and retailers and their respective trade associations, the government took an active part in both defining the structure of the market and controlling the movement of food prices. The recognition, that co-operation within the industry was essential for stability and that the different sections of the trade were unable to co-operate also ensured that the government continued to play a formative role in the development of the industrial structure.

A variety of government departments had an influence on the development of the food industry. After the Treasury it was the Ministry of Agriculture, Fisheries and Food, (MAFF), formed in 1955 out of the Ministry of Food and the Ministry of Agriculture and Fisheries, that was of greatest importance to the development of controls over food prices, after 1945. The MAFF, and its forerunners, were highly supportive towards the food industry, pressing for increases in margins and resisting Treasury attempts at limiting food subsidies. The extent of government food subsidies, to the food industry, was periodically to re-appear as an issue confronting the Ministry. The 1947 Lucas Report, into the workings of the agricultural marketing acts, questioned the degree to which producer price controls maximised farm output and in 1948 government expenditure on food subsidies was capped at £465m.<sup>173</sup> Nevertheless, criticisms continued of government subsidies to private industry through government bodies such as Meat Importers National Defence Association Ltd., the Bacon Importers National Defence Association Ltd., and the Wholesale Meat Supply

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<sup>173</sup> Ministry of Agriculture and Fisheries, Report of the Committee Appointed to Review the Working of the Agricultural Marketing Acts, Economic Series 48, (1947), para. 231-33 and A. Cairncross, 'Reconversion 1945-51', The British Economy Since 1945, ed. N.F.R. Crafts and N. Woodward, (Oxford 1991), p.47.

Association.<sup>174</sup> Food subsidies were reduced through most of the 1950s before increasing briefly again in the late 1950s. In response to this rise in food subsidies the Treasury was again becoming interested in the degree to which British food costs were subsidised. On this occasion the Treasury attempted to examine food subsidies on a comparative basis. One study carried out for the Treasury by the Central Statistical Office, in 1959, suggested that Britain had the most highly protected agriculture in Europe with subsidies amounting to '50% of gross agricultural product, or rather value added'.<sup>175</sup> MAFF was therefore concerned to prevent the Treasury from examining too closely government support for the food industry.

MAFF's attitudes towards the producers and retailers appears to have been particularly favourable. In July 1945 the Ministry of Food was prepared to attempt to gain an increase in food prices from the Treasury, due to pressure from the multiple organisations. The Ministry of Food maintained that 'we are faced, possibly for the first time since the outbreak of war, with the possibility of a serious agitation by the retail trade on a united front'. The Ministry was prepared to accept this pressure despite the fact that, it privately believed that, 'margins have been fixed on a basis to keep the least efficient businessman in existence'.<sup>176</sup> Again, in 1947, when the National Committee of the Wholesale Provision Trade, which included the London Provision Exchange, pressed for an increase in profit margins, arguing that 'Wholesalers are having to subsidise bacon distribution on behalf of the Ministry of Food since they are making a loss', the Ministry secured increases including a 27%

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<sup>174</sup> See PRO MAF 128/684 Post-War Reconstruction General Policy and Daily Worker, 'We Pay Millions to the Meat Men, 5th October 1949.

<sup>175</sup> PRO MAF 333/3, Ministry of Agriculture, Food and Fisheries report by J.H. Kirk 21.1.59 and Memorandum on Agricultural Protection, August 1961.

<sup>176</sup> PRO MAF 128/356, Lachlan Maclean to J.R. Murie, Ministry of Food, 2nd July 1945 and F.N. Tribe 31 October 1945 note to Sir Harry Peat.

increase in straight wholesale margins and a 33% increase in margins for wholesalers delivering to multiple branches.<sup>177</sup>

The reason for conceding to such requests largely lay with the Ministry's view that any level of bankruptcy within the retail trade would seriously disrupt the food distribution system, and that the Ministry could not replace the distribution and retailing functions of the industry. That MAFF was supportive to the food industry and conceded these demands, as opposed to being a victim of rent-seeking organisations, is strengthened by the knowledge that the Ministry of Food and the Ministry of Supply, as noted above, had achieved a high level of experience in the purchasing and wholesaling of food. This experience ensured that the Ministries were efficient information processors and mitigated against private industry simply exploiting bureaucracy.<sup>178</sup>

Still further evidence for this view comes from examining the Ministry's resilience to pressures from those sections of the industry whose role could be replaced, such as the importing organisations. In 1950 the National Committee of the Provision Importing Trade suggested, prior to de-control, that the importing section within the provision exchanges were 'ready to take over its normal functions' and was ready to be 'of service to the Ministry of Food'. The attitude of the Ministry of Food was less than grateful. The Ministry's view was that they were already 'buying and shipping goods in the most economical way' and that the trade were simply 'attempt(ing) to insert themselves into a set-up where there is really no room for

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<sup>177</sup> PRO MAF 85/111, Letter to Sir Percivale Liesching from F.Killick Secretary of National Committee of the Wholesalers provision Trade. 16.10.47 and Minutes of Margins Committee 18th November 1947.

<sup>178</sup> For a similar view on the Ministry of Supply see P. Howlett, 'New Light Through Old Windows', Journal of Contemporary History, Vol.28, 1993.

them'.<sup>179</sup> Further, it was suggested that, 'by and large we are at present paying these trades more than is justified by the value of the work they do for us, with the object of keeping them in being. I should prefer to cut off these payments as quickly as possible and to put it vulgarly, to force these trades to scratch for their own living.'<sup>180</sup> MAFF, and its predecessors, while defending the food industries interests were clearly capable of maintaining a level of independence from sections of the trade.

MAFF also played a central role in defining the industry's market structure, regulating the degree of competition within the trade, ensuring continuity of supplies and preventing competition leading to what would be considered to be 'damaging' price falls. The transition away from rationing was considered to be fraught with dangers. In particular, public and industry disquiet over any return to shortages, were considered to be two of the main dangers in the change over to de-controlling food supplies.<sup>181</sup> For this reason the Ministry of Food was eager to ensure that wholesale prices were fixed in advance by importers.<sup>182</sup>

The Ministry's market structuring role also created significant difficulties in responding to the development of competition policy, particularly the 1956 Restrictive Trade Practices Act. The 1956 Act made restrictive practices registerable and made collective resale price maintenance illegal. The problem facing the Ministry was that confusion reigned over whether or not the Agricultural Boards were considered to be trade associations, whether the marketing schemes were

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<sup>179</sup> PRO MAF 99/1853 A. Warren Wholesale Distribution Division to E.G. Harwood Ministry of Food 6th February 1950 and 1st February 1950.

<sup>180</sup> Ibid., E.G. Harwood to A. Warren 31st January 1950.

<sup>181</sup> PRO MAF 85/184 Note on draft version of letter from Gwilym Lloyd-George to Sir Bodinnar Ministry of Food 25th May 1954.

<sup>182</sup> Ibid., Decontrol Standing Committee Minutes, 22nd May 1954.

registerable under the 1956 Act and whether or not the boards activities in advertising prices, collecting and disseminating statistics could be considered a restraint of trade.<sup>183</sup>

The Registrar of Restrictive Trade Agreements had already notified MAFF that agreements in respect of pigs, barley and hops would all fall foul of the Act. In the case of pigs the Ministry had expressly considered the Pig Marketing Board to be a trade association in 1947, whose role was to bond the producers to the manufacturers through the Pig Marketing Scheme and the Bacon Marketing Scheme respectively.<sup>184</sup> The Board's individual agreements to purchase pigs from farmers were not registerable but the agreement to exclusively supply curers was. The complication arose from the fact that the agreements with the producers were underwritten and conditional upon the agreement with the curers, which in turn, under the Act, also made the individual agreements with producers registerable.<sup>185</sup>

The Ministry was successful in gaining agreement from the Registrar of Restrictive Trade Agreements that Agricultural Boards would not be considered trade associations. The Ministry also attempted to, either, alter existing agreements or find new methods of restricting competition within the industry, where the Registrar would enforce the Act. In the case of hops this involved the introduction of import quotas, in 1961, to ensure the Brewer's import restriction agreement would not come before the Restrictive Trades Practices Court. Despite these successes and the view that the 'Registrar will continue to find ways and means of keeping these

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<sup>183</sup> PRO MAF 333/12 See letter from H Rutter MAFF Legal Dept. to G.V. Rogers Office of the Registrar of Restrictive Trade Agreements 18th November 1965.

<sup>184</sup> PRO MAF 85/149 Bacon Marketing Board 2nd October 1947.

<sup>185</sup> PRO MAF 333/12 National Farmers Union (NFU), memorandum 27th September 1964, p.4.

cases from Court' it was accepted that the impact, particularly 'the unsettled and perilous state of the bacon pig agreements', was intolerable.<sup>186</sup>

The rearguard action against the 1956 Act was a recognition, by the Ministry, that the outbreak of price competition could be destructive to the industry and only regulation would provide a level of stability within the market for producers, wholesalers and retailers. Without doubt the 'unsettled state' of the bacon pig agreements in 1964 contributed to the conflict between curers and wholesalers in 1965. The industry was undergoing structural change which MAFF was unable to prevent despite its rearguard action, against the 1956 Act. This change was to involve the multiple retailers emerging as the most significant group within the industry.

- Conclusion

The chapter has suggested that experience of the British retail trade was unusual for British industry, generally, in that the restrictions placed upon the industry by post-war reconstruction proved to be more prolonged than for other industries. The impact of these restrictions was to solidify the industrial structure for the industry, such that the relationships between manufacturers, wholesalers and retailers appeared to be artificially frozen in the status quo created in 1938. Underneath the surface, however, a series of fissures were being created as the constituent elements within the industry adapted to these restrictions. The retailers provided the most dynamic sector within this industry, despite the fact that it was the retailers who had been the weakest element at the time the restrictions had been imposed. By the ending of war-time

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<sup>186</sup> Ibid., Comment on NFU memorandum .

restrictions new methods of operation were being established, by multiple retailers, which would fundamentally alter the balance of power within the trade.

As post-war restrictions were withdrawn the fissures within the industrial structure came to the surface, resulting in the industry undergoing an extremely rapid transformation. The six years between the breakdown of RPM in 1958 and the passing of the 1964 Restrictive Trade Practices Act saw the completion of a transfer of influence, from the manufacturers and wholesalers towards retailers. This transfer required high levels of investment and, as a result, retailers turned first to finance capital and later to retained earnings in order to fund both mergers and acquisitions as well as new investments.

The multiple retailers, in particular, gained most from these upheavals, yet immediately began to face a new threat from within. The multiple retailers were in conflict with one another over the terms and conditions within the new market and simultaneously faced the threat of independent grocers organised in voluntary groups. In order for the multiples to maintain and improve their new-found strength they were required to re-define the limits of competition and co-operation.

By the mid 1960s a new balance between price and non-price competition had been established. The extension of retail trading stamps across the grocery sector had been halted and gross profit margins, highlighted by Figure 4.6, were more stable. This new framework for competition also ensured that the advantages of the multiples over the voluntary chains was re-established. By 1971 the growth in concentration of the multiple firms, by turnover, was returning as the multiples continued to win market share. The growth of voluntary chains also appears to have been faltering. The 1971

the Census of Distribution indicates that voluntary chains membership had fallen to 20% of the independent sector and only 31% of sales within the independent sector.<sup>187</sup>

Multiple retailing certainly challenges Lazonick's view that British business was unwilling to enter into innovative business strategies based upon transforming high fixed costs into low unit costs. Multiple retailing also challenges the view that family control prevents the creation of organisational capabilities.

This strategy of controlled price competition lasted until the mid 1970s when stagnant growth in food sales increased pressure on the multiples to adopt alternative competitive methods. An intense price war initiated by Tesco in 1977, under their 'Check-Out 77' campaign, ushered in a new era of instability in food retailing. However, by the mid 1980s the multiples recognised that competitive strategies based upon price competition were unsustainable in a highly oligopolistic market. The multiples responded by not only moving towards new increases in store size with the emergence of hypermarkets but also increased their technological reliance upon their food technology departments, as well as by forging closer links with suppliers.<sup>188</sup> The effects of this strategy were to increase still further the dominance of the multiple chains over the development of the food industry.<sup>189</sup>

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<sup>187</sup> U.K. Census of Distribution, 1971, Supplement, Table 3.

<sup>188</sup> Loveridge and Pitt, op.cit., p.86.

<sup>189</sup> Gardner and Shepherd, op.cit., p.153.

- Chapter Five
- Conclusion
- Governing the Market: Towards a Market Governance Theory of the Firm.

In this chapter we return to a formal discussion of transaction cost analysis in order to interpret the findings of the case study material. In particular we wish to focus upon the way in which the case studies inform our understanding of information, opportunism and competition and whether or not a general theory of the firm emerges.

The starting point for this study was the recognition that explanations for the relative decline of the British economy in the post-war period maintained a static deterministic approach in which the key factor(s)- employers' conservatism, trade union obstruction, government interference (or lack of government interference)- all remain as monolithic entities whose effects are considered to be uniform over time.<sup>1</sup> It was suggested that the depiction of factors of production or economic institutions as both homogenous and unchanging over time created a false interpretation of economic development.

Chapter one examined a number of the explanations put forward for British relative economic decline and suggested that each one contained a broad range of

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<sup>1</sup> M. Olson, The Rise and Decline of Nations, (New Haven Conn., USA 1982), M.J. Wiener, English Culture and the Decline of the Industrial Spirit 1850-1980, (Middx 1985) and W. Hutton, The State We're In, (1995) being three of the most important examples of this point.

experiences, which, while not preventing generalisations, did prevent one-dimensional interpretations. In defence of these forms of explanation, it may be suggested that understanding long term economic change requires simplification. Unfortunately this often results in the failure of institutional explanations due to both a lack of detail and a lack of abstraction. Crudely put, institutional explanations too often fall between two stools. It was argued that the historical specificity, or contextualisation, of institutions required analysis in determining their impact on economic development, as much as the institutional forms themselves. In particular, the role of trade unions and employers were highlighted as areas in which historical contextualisation was essential. These findings led to the view that a firm level analysis could be of greater value. In particular the transaction cost analysis approach to the firm appeared to offer the most promising area of research, with both a level of detail which allowed for motivation as well as a degree of abstraction that allowed for generalisable theories to emerge.

It was suggested that Coase's efficiency based view that firms internalised market transactions in order to lower transaction costs, however, was oversimplified.<sup>2</sup> The origins of this over-simplification, it was suggested, lay in the treatment of information as readily available and costless to attain. This weakness was also highlighted in Stigler's approach to information as a single commodity equally available both to organisations such as firms and single agents such as consumers.<sup>3</sup> North's and Williamson's subsequent developments that institutions, contract and governance bodies were required to prevent opportunistic behaviour, it

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<sup>2</sup> R.H. Coase, 'The Nature of the Firm', Economica N.S, No.4, November (1937), p.389.

<sup>3</sup> G. Stigler, The Organisation of Industry, (Illinois 1968), p. 172.

was also suggested, implied a recognition that the minimisation of transaction costs alone was not the sole purpose of firms' internalising of transactions through strategies based upon vertical integration.<sup>4</sup> As a result, Marglin's view that firms required internalisation in order to enforce supervision and discipline over employees, in order to appropriate the benefits derived from the division of labour to the resource allocator, was considered to be a preferred view of the development of the firm.<sup>5</sup> However, this view suffers from a lack of emphasis on the importance that the market plays in determining organisational form. Nevertheless, Marglin's view of the firm as a mechanism for centralising power within the entrepreneur's hands, through their control of the mechanisms of supervision and discipline, was to be utilised along with a conceptualisation of the market itself as an institution.

Pitelis's view that markets, particularly the labour market, are, in fact, hierarchical and that the firm represents simply one form of hierarchy<sup>6</sup> was considered to be essentially compatible with the views of Lazonick, who suggests that market agreements between firms represent the removal of transactions from the market during the lifetime of a contract. Lazonick further concludes that firms develop their organisational capabilities, defined as the manifestation of 'the power of planned and co-ordinated specialised divisions of labour to achieve organisational

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<sup>4</sup> D.C. North, Institutions, Institutional Change and Economic Performance, (Cambridge 1990), pp.107-112, P.L. Joskow, 'Asset Specificity and the Structure of Vertical Relationships', The Nature of the Firm, ed. O.E. Williamson and S.G. Winter, (Oxford 1991), p.126, O.E. Williamson, The Economic Institutions of Capitalism, (New York 1985), p.41 and O.E. Williamson, Economic Organisation. Firms, Markets and Policy Control, (Brighton 1986) p.187.

<sup>5</sup> S.A. Marglin, What Do Bosses Do? The Origins and functions of hierarchy in capitalist production, Review of Radical Political Economics, Vol.6, No.2, 1974.

<sup>6</sup> C. Pitelis, Market and Non Market Hierarchies, (Oxford 1991) p.31.

goals', with the aim of transforming high fixed costs into low unit costs.<sup>7</sup> This view, it was suggested, also suffered from the placement of the internal dynamic within the firm as the motivating force in business organisation.

As an alternative interpretation the view was presented that the firm does not principally act to centralise the power, derived from the division of labour and the implementation of supervision and discipline, to ensure the Marglinian appropriation of the residual product into the hands of entrepreneurs. Nor do firms principally act to centralise power to create a Lazonick-type transformation of high fixed costs into low unit costs. Rather it was hypothesised that the centralising of power described by Marglin and Lazonick occurs in order to provide the entrepreneur with the ability to ensure the market itself can be structurally altered to the benefit of the firm. Power within the firm is utilised to redefine the market as an institution through the development of governance procedures within the market. The aim of these governance procedures is then to ensure that firms maximise the information available to them, and hence increase their own opportunities, while minimising the extent to which they will be faced with information scarcity and opportunistic behaviour by competitor firms.

This interpretation does not exclude, power or efficiency based, models of the firm but aims to locate their role firmly within the a wider context of market governance. The degree of success which firms achieve in re-structuring markets is itself dependent upon the maximisation of the benefits derived through the processes of supervision and discipline and the creation of organisational capabilities.

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<sup>7</sup> W. Lazonick, Business Organisation and the Myth of the Market Economy, (Cambridge, Mass 1991), p.328.

The market as an institution, the development of governance procedures and the firm as a mechanism for the utilisation of power therefore emerged as the key areas of interest within this study.

- **Results**

The examination of these issues will broadly be divided into the periods of; the post-war economy (covering the reconversion to peace and the replacement of government controls by industry-regulated markets and market mechanisms) and the later movement from a sellers' market towards the development of more competitive markets. All of these developments were gradual changes without fixed dates. The chronology of this process is further confused by the fact that each of the three case studies had very different dynamics, with respect to the ending of government controls, the re-introduction of market mechanisms and the emergence of competition.

The first factor of importance in defining the pattern of development for the market following the end of the war was that of government. The Second World War saw the reduction if not removal of the market from the economy in Britain.<sup>8</sup> As a result government played a central role over decisions on the move towards decontrol, the form competition should take and the speed at which de-control should progress.

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<sup>8</sup> P. Howlett, 'British Business and the State During the Second World War', World War II and the Transformation of Business Systems, eds. J. Sakudo and T. Shiba, (Tokyo 1994) and P. Howlett, 'The Thin End of the Wedge: Nationalisation and Industrial Structure during the Second World War', The Political Economy of Nationalisation in Britain 1920-50, eds. R. Milward and J. Singleton, (Cambridge 1995).

The case studies of the Anglo-Iranian Oil Co., General Electric and of Sainsbury's all highlight the extent of government involvement. The Treasury and Ministry of Fuel and Power, in the case of oil, were involved in decisions over domestic supplies and the development of domestic refining. The Ministries of Supply and Fuel and Power along with the Board of Trade, in the case of electrical engineering, stipulated technical limits upon the capacity of generator sets and more generally placed limits upon output from the industry, for the domestic consumer market. Finally, the Board of Trade, the Ministry of Supply and Ministries of Food and of Agriculture and Fisheries oversaw the post-war controls over supply and prices within the retailing sector.

Evidence provided from input-output tables further suggests that in the initial re-conversion to a peace time economy, government purchasing was essential for the continued prosperity of important sections of manufacturing, particularly the electrical engineering and military-related industries. We can conclude that government policy with regard to competition and public expenditure provides a central element in the decisions of firms in the development of governance structures.

For resource allocators within private industry the reconversion to peace between 1945-51, including the re-introduction of market mechanisms, created significant information based difficulties. Continued shortages and the incremental introduction of de-control was to re-inforce the difficulty of attaining market information. The uneven level of de-control across industries was also to have a differential impact across industries, following the re-introduction of the market mechanism.

Since business normally operates under conditions of uncertainty, information asymmetry and the risk of opportunism, opportunities for firms to indulge in opportunistic behaviour under circumstances where market mechanisms were being re-introduced must therefore have been increased.<sup>9</sup> These risks from opportunism must have been further increased given the lack of long term relational contracting arrangements, following the introduction of pooling and rationing by the Ministry of Supply at the beginning of the war.

The dollar shortage combined with the risk of rapid price rises leading to inflation and profiteering acted to motivate government to continue controls over prices and supply for longer than it had after World War One. Hence piecemeal de-control may also be taken as a recognition of the inherent dangers of opportunism due to information asymmetry. Thus the initial period of conversion to peace was a period in which market transactions suffered from extreme levels of asymmetric information, with high levels of risk from opportunistic behaviour.

Despite government price controls and risks from opportunism firms were nevertheless able to achieve notoriously high profits in this period.<sup>10</sup> That profits were generally considered to be excessive can be gauged from government's ability to increase the burden of company taxation for raising revenue. Company taxation had been raised to 10% on undistributed profits and as much as 50% on distributed profits by 1951.<sup>11</sup>

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<sup>9</sup> Williamson, Economic Institutions, p.41.

<sup>10</sup> J. Tomlinson, 'Productivity Policy', Labour Governments and Private Industry, eds., H. Mercer, N. Rollings and J. Tomlinson, (Edinburgh 1992), p.47 and T. Barna, 'Those "Frightfully" High Profits', Oxford University Bulletin of Statistics, Vol.11, No.2, 1949

<sup>11</sup> A.A. Rogow, The Labour Government and British Industry 1945-51, (Oxford 1955), p.120.

Williamson distinguishes opportunism from abnormally high returns due to 'pre-existing and fully disclosed productive conditions' such as unique locational and differential skill advantages.<sup>12</sup> The immediate post-war period may then simply reflect such pre-existing conditions, however, it is more likely that high profits reflected both pre-existing conditions and opportunist behaviour. Certainly, the virtual elimination of bankruptcy within the retail trade, until after 1950, suggests that the seller's market provided profits based upon opportunism rather than simply pre-existing conditions.

Richardson points out that where risk is high some form of insurance would be expected to develop.<sup>13</sup> Thus the existence of abnormal rates of profit suggests that one form of insurance against opportunism available to firms may in fact have been opportunism itself. A risk aversion strategy based upon opportunism may also explain the widespread resistance to change from within the business community to changes in the market environment. Government proved unable to limit either profits and dividend payments or introduce a more competitive market environment.<sup>14</sup>

Risk aversion could also take other forms. As Richardson points out; 'Uncertainty about future receipts and payments will oblige the entrepreneur, bent on profit maximising expected income, to take steps to introduce some adaptability into his plans.'<sup>15</sup> A Coasean view would suggest that firms would be expected to move towards the internalisation of transaction costs and/or to rapidly introduce

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<sup>12</sup> O.E. Williamson, Markets and Hierarchies: Analysis and Antitrust Implications, (New York 1975), p.26.

<sup>13</sup> G. B. Richardson, Information and Investment, (Oxford 1990), pp.174-190.

<sup>14</sup> H. Mercer, Constructing a Competitive Order, (Cambridge 1995).

<sup>15</sup> Richardson, op.cit., p.183.

Williamson-type governance bodies requiring relational contracts for the restriction of opportunistic behaviour, where transaction-specific assets were required.

One method of internalising transaction costs would be through merger activity. While official government data covering merger activity does not exist prior to 1954, it has been suggested that merger activity was not exceptionally intense in the early post-war era. The peak year for mergers prior to the Second World War - 1929 (when 431 firms disappeared through mergers) - was not equalled until 1959. Still more importantly the trends in merger activity discernible from the data show that, for the period of reconversion, merger activity was exceptionally low, only picking up in the early 1950s. Taking the first decade after 1945 as a whole, merger activity led to 1156 firms disappearing through mergers compared to 1414 between 1930-9 and 3997 disappearing between 1955-64.<sup>16</sup>

A second method of internalising transaction costs would be through increasing investment in strategies based upon integration. Ownership advantages encourage managerial economies of scope, derived from the application of managerial skills to a wider range of transactions.<sup>17</sup> It should be recalled, however, that these ownership advantages are suggested to be absent from regressions using line of business data (see p.25). Internalisation may create Coasean advantages from the replacement of market transactions by firm level co-ordination or by the removal of market externalities.<sup>18</sup> The advantages gained through ownership and

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<sup>16</sup> L. Hannah, The Rise of the Corporate Economy, (London, 2nd. ed. 1983), pp.167-178.

<sup>17</sup> See J. Dunning, Multinational Enterprises and the Global Economy, (Reading 1993), pp.66-68.

<sup>18</sup> M. Casson, The Firm and the Market, (Oxford 1987), pp.36-38 for a critical analysis of these points.

internalisation have been presented as two key determinants for the growth of the firm, and still more so the multinational firm.

The immediate post 1945 period does not appear to be one in which firms, as a whole, were responding to opportunistic behaviour by re-defining either vertical or horizontal relationships. Hannah suggests 'The 1920s rise in British concentration levels was followed by several decades of stagnant, or possibly even declining, concentration, so that the level of 1930 was probably not exceeded until the early 1950s'.<sup>19</sup> Thus the period of reconversion, despite high levels of risk, did not lead to an internalisation of transaction costs by business, rather (if anything) a reduction of concentration and low levels of merger activity suggest business was more than willing to allow market transactions to predominate, leading to a definite increase in the importance of the market for transactions.

The electrical engineering industry and the grocery retail trade are two cases which fit this picture. Concentration levels remained relatively static throughout this period for grocery retailing and fell slightly in electrical machinery from 48% to 44% between 1935 and 1951.<sup>20</sup> The period is one in which the multiple retail stores singularly avoided capital investment in the development of self-service stores, leaving the Co-operative societies to take up almost all available building licences under the government's special scheme. The only exceptional case in the case studies, that appears to contradict this picture, is that of the development of domestic refining by the oil industry.

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<sup>19</sup> Hannah, *op.cit.*, pp.91-92.

<sup>20</sup> R. Evely and I.M.D. Little, Concentration in British Industry, (Cambridge 1960), p.336.

Domestic mineral oil refining saw a significant increase in the concentration of gross output from 77% to 85% between 1935 and 1951.<sup>21</sup> The extremely rapid development of domestic refining within the British oil industry between 1947-52 was however an example of investment initially motivated by the British government's concern over the dollar shortage, rather than that of the oil companies' concern for transaction costs. The Anglo-Iranian Oil Co.'s change of view, from initial unwillingness to later active participation in the expansion of domestic oil refining, was due to the reduction in costs of transportation and the expansion of demand for finished products. However, these costs were incurred within the firm itself as the industry was already vertically integrated. The move towards domestic refining (while admittedly a transaction cost minimisation development) should therefore be considered to represent an example of Lazonick's development of organisational capabilities, rather than Williamson's replacement of market transactions by hierarchical organisation.

Support for the view that neither excessive transaction costs nor opportunism were considered to be significant drawbacks to the operation of the British oil companies can also be gained from the disputes AIOC had over steel allocations with the Ministry of Supply, the Treasury and the Ministry of Fuel and Power. Government support was forthcoming for the priority allocation of steel supplies and the granting of permission for the use of steel reserves for the development of domestic refining, but conflict arose from the oil industry's overseas expansion plans. Government suggestions that the oil companies themselves should prioritise steel allocations were rejected by the companies. Yet in rejecting this proposal

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<sup>21</sup> Ibid., p.335.

companies increased their own individual risks of gaining supplies. Rival firms might prove more successful at influencing government departments over the allocation of steel, and in so doing reduce supplies available for the rest of the industry. That the oil companies turned down an opportunity to create a governance procedure, through agreement on steel allocations, also suggests that governance may not have been the prime motivation of the companies themselves; unless alternative governance procedures had already been established within the industry.

The apparent absence of a move towards the internalisation of transaction costs, through either ownership or internalisation approaches, in the period of reconversion, may, perhaps, be considered to be linked to post-war shortages and the controls placed on raw materials available for capital investment. However, this would not explain the lack of merger activity and it is this fact that lends weight to this study's hypothesis that firms' activity was motivated by market governance issues rather than market transaction costs. British business in the period of reconversion from war to peace could and did rely upon market transactions as long as these transactions could be controlled through governing contracts and governing bodies.

It is these governing bodies that also provide the key to unlocking the institutional nature of the market in this early post-war period. Casson notes that monitoring the quality and reliability of information is itself information-intensive and as a result 'custom is an economically rational response to high information

costs'. <sup>22</sup> This use of custom can be most clearly seen in examining the post-war contracting mechanisms set up by firms.

There are two important conclusions to be drawn from the early post-war introduction of cartels, price fixing and market sharing agreements. First, the timing of the introduction of co-operative agreements was extremely rapid once controls began to be lifted. The major oil companies were involved in the attempt to introduce an As-Is type of agreement before the end of the war. Firms in the electrical engineering industry were also keen that the pre-war agreements continue without a break. The 1948 Lamp Agreement, covering lamp manufacture and marketing, for example (although not signed until 1950) was backdated to cover the period from 1st July 1948 and continued the earlier 1941 agreement. The case of food retailing was exceptional only in that the return of resale price maintenance was restricted by the continuation of rationing until 1954. Nevertheless, as soon as an end to rationing was discussed, as the example of the bacon trade highlights, an explicit understanding that price fixing should return was sought.

The second important conclusion to emerge from these agreements was the fact that all the agreements were virtual carbon copies of those in existence before the war. There was no attempt at the outset to redraw the conditions operating within the market. Again, in all three industries, firms were explicit in both their aim at a re-introduction of agreements and in that no attempt should be made to abandon the agreements arrived at prior to 1940. The explanation for the rapid re-introduction of co-operative agreements needs to be understood in terms of firms' use of 'custom' as

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<sup>22</sup> M. Casson, 'Economic Perspectives on business information', Information Acumen: The Understanding and Use of Knowledge in Modern Business, ed. L. Bud-Frierman, (1994), pp.156-159.

a risk aversion strategy in attempting to restrict the levels of competition within markets. Firms were keen to avoid levels of competition emerging that had been considered to be damaging in the inter-war years and had led to the original agreements. Entrepreneurs, clearly then, took a pessimistic view of likely post-war economic development. As the British Electrical and Allied Manufacturers Association, BEAMA, had put it in 1927: the highest form of civilised society could only be attained by the 'co-operation of individuals to ensure the highest common level of advancement without strife and without destruction'.<sup>23</sup> Anything else could only, in their view, lead to 'the bitter struggle of individuals in a chaos of destruction'.<sup>24</sup>

Agreements were designed with horizontal restrictions, preventing firms from individually competing opportunistically for markets, but were not designed with vertical restrictions, preventing firms from acting opportunistically to their suppliers and customers. The concentration of agreements was therefore upon prices, market sharing, tendering procedures, restrictions upon distribution etc. All of these areas restricted information flows, hence increased transaction costs for customers and raised returns for manufacturers.

For firms to re-establish market governance procedures required the establishment of bodies which could supervise and mediate within the industry. In the oil industry firms could develop effective inter-firm agreements. Joint ventures in oil concessions ensured that the supply of crude oil could be regulated and inter-firm

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<sup>23</sup> British Electrical and Allied Manufacturers Association, Combines and Trusts in the Electrical Industry. The Position in Europe in 1927, (London 1927), pp.6-7.

<sup>24</sup> Ibid., p.7.

agreements such as the Aviation Agreement (between AIOC and Shell) regulated distribution and marketing.<sup>25</sup>

In less concentrated industries successful regulation required external bodies entirely separate from the firms themselves. Regulation was harder to achieve due to the occurrence of free rider problems and an inability to impose decisions upon those breaking agreements.<sup>26</sup> The difficulty in monitoring agreements and the prevention of free rider problems in industries with high levels of asset specificity required agreements to introduce disciplinary clauses including fines, co-ordinated court action over patent infringements and the breaking of restrictions on distribution.<sup>27</sup>

This form of regulation was at its most successful within the electrical engineering industry.<sup>28</sup> This is despite the fact that the formalised trade groups linked to trade associations required extensive support in order to monitor individual company performance. Supervisory and disciplinary control over firms was extensive in the case of electrical engineering. BEAMA successfully enforced agreements restricting manufacturers from even small-scale advertising in obscure areas such as exhibition brochures.

In food retailing the trade associations were at their weakest due to both the low levels of concentration within retailing, before the late 1950s, and the differences of interests between independent and multiple retailers. As a result, market

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<sup>25</sup> See M. Casson, Enterprise and Competitiveness, (Oxford 1990), pp.22-25 on joint ventures.

<sup>26</sup> M. Schneiberg and J. Rogers-Hollingsworth, 'Can Transaction Cost Economics Explain Trade Associations?', The Firm as a Nexus of Treaties, ed. M. Aoki and O. E. Williamson, (1990), p.322.

<sup>27</sup> See E. Hexner, International Cartels, (Univ of North Carolina, USA 1946), pp.80-81.

<sup>28</sup> K.R. Mirow and H. Maurer, Webs of Power, (Boston USA 1982), pp.36-64.

governance in retailing was imposed from outside the trade by food manufacturers' organisations.

If the justification for firms to be involved in co-operative agreements came from concerns over the possibility of a return to the pre-war economic conditions, the success of co-operative agreements reflected firms' contemporary concerns to develop effective market governance procedures. The form which co-operation took was highly flexible and dependent upon both government anti-monopoly policy and changes in the diffusion of market information.

The United States' tough anti-trust policies prevented US firms from direct involvement in formal co-operation with international competitors, but, as the case of Standard Oil (New Jersey) highlights, US firms were willing voluntarily to abide by agreements.<sup>29</sup> Elsewhere, in the electrical engineering industry, the US firm General Electric was able to co-operate directly through its shareholding of the firm AEI. Indeed AEI was throughout this period a motivating force in the development of co-operative agreements. In Britain hostility to monopoly was far slower in emerging, with the first permanent anti-monopoly legislation passed in 1948. Government concerns over the restriction of consumer demand aided firms involved in co-operative agreements, as there was concern in government of the consequences if consumer goods prices were lowered.<sup>30</sup> As a result firms adopted formalised, horizontally-focused, industry-wide bodies for the restriction of competitive pressures.

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<sup>29</sup> The 1918 Webb-Pomerene Act did allow U.S. firms to engage in international export cartels on conditions that they did not apply to the domestic market.

<sup>30</sup> A. Cairncross, Years of Recovery British Economic Policy 1945-51, (1985), pp.335-6.

The lack of market information in the period of reconversion was the second factor to influence the form of co-operation adopted by firms. As detailed above, the rapidity of the re-introduction of agreements reflected business concerns over the possibility of a return to pre-war trading conditions. Information scarcity existed in two significant forms. Firms faced increasing uncertainty and risk due to the lack of market information related to future demand, factor supply and price, which prevented accurate forecasting of production and investment. It is the scarcity of market information that can be used to explain the interest firms had in the timing of introducing agreements. The meetings between AIOC and Standard Oil (New Jersey) and those between AIOC and Royal-Dutch Shell indicate that firms had a misconceived view of post-war demand. Demand would rapidly outstrip supply in the late 1940s, resulting in major changes in investment strategy such as in increasing refining capacity. The re-introduction of resale price maintenance (as food rationing ended) is a recognition that producers, even as late as 1954, faced a lack of market information regarding future developments.

A second significant information scarcity problem arose from firms' lack of technical knowledge of the conditions under which competitors were operating. Lazonick suggests that the creation of a competitive equilibrium represents a significant problem facing firms that attempt to adopt an innovative competitive strategy. Adaptive firms can undermine innovative firms' organisational advantages if the fixed costs incurred in making organisational changes can be reduced by the adaptive firm.<sup>31</sup> Thus, for Lazonick, the development of a competitive equilibrium is a continual tendency within capitalism and innovative firms' success becomes

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<sup>31</sup> Lazonick, op.cit., pp.213-227.

dependent upon the lowering of their own fixed costs while raising those of adaptive firms.

The war can be said to have disrupted the competitive equilibrium under which firms operate as information scarcity made it difficult if not impossible to monitor investment strategies pursued by competitor firms. The investigations into developments within the German electrical engineering industry carried out by the British and American electrical manufacturers under the auspices of BIOS, CIOS and FIAT were therefore of great interest to the British electrical engineering industry. However, technical information scarcity related to organisational capabilities was not restricted to firms across combative nations but also affected information flows between firms within the allied bloc. The Anglo-American Council on Productivity, especially, recognised that, between the United States and Britain, a significant gap existed in areas such as production techniques, plant layout and the use of labour.

The scarcity of information therefore played a significant role in firms' decisions to re-introduce pre-war agreements in two ways. The scarcity of market information can be said to be a motivating factor in firms' timing in the introduction of agreements based upon custom, while scarcity of technical information on the organisational capabilities of international rivals reinforced support for the decision by firms to re-introduce pre-war custom based agreements.

The emergence of formalised governance bodies, some with supervisory and disciplinary powers over members, emerged in the early post-war period due to the market governance concerns of firms aiming to prevent competition becoming too intense. The organisational form of co-operation adopted reflected, primarily, government acceptance of restrictive practices by business, but also inadequacies in

information, both market and technical, rather than simply transaction cost considerations. The functional activities of governance bodies and the definition of areas of competition regulated by co-operation, however, reflected firms' market governance concerns and therefore was largely industry-specific.

It can be concluded that the early post-war period was one in which there is strong evidence to suggest that market and technical information scarcity played an important part in firms' organisational decision making. Firms responded by adopting risk-averse strategies, based upon opportunism and the regulation of competition, rather than a transaction cost minimising approach, based upon economies of internalisation and ownership. The early post-war period can then be characterised as one in which power, not efficiency, considerations dominated entrepreneurial thinking. The power considerations that were of importance were those of influencing market structure and not those of supervision and discipline or the creation of organisational capabilities.

A final finding which emerges in this period of re-construction is that, a profit maximising strategy appears synonymous with opportunism. Was this a result of the unique pre-existing conditions of reconstruction period and/or dangers of risk?, or is opportunism related more generally to profit maximising?

- The Emergence of Competitive Markets

From 1950 there initially appears to be strong evidence contradicting the view that firms act as governance bodies whose aim is to structure markets.

Government took an increasingly hostile attitude to restrictive practices by business with effective legislation in 1956, 1964 and 1965.<sup>32</sup> By the mid-1960s there had been a convergence of anti-trust policies between the US and Britain and as a result 'business self-regulation had given way to public control'.<sup>33</sup> In fact in some areas anti-trust in Britain was considered harsher than in the US. In 1962, after the collapse of resale price maintenance (RPM) in the food trades and the abolition of collectively enforced RPM, one private Co-operative Society study into American retailing could suggest that; 'Broadly speaking, the position at the moment appears to be that in 29 out of 50 States the law relating to resale price maintenance permits a manufacturer to enforce his prices on all retailers provided that he can show that one retailer has contracted to observe his retail prices. This appears to us be more strongly favourable to the maintenance of prices than the British law'.<sup>34</sup>

The period from 1952 also saw a significant rise in the development of merger activity within the British economy. From a post-war low point of 49 firms disappearing by merger in 1950 mergers increased 160% in 1951 and by a further 240% in 1952. Despite a falling off of the rate of growth in merger activity in the mid 1950s, by the end of the 1950s merger activity was again increasing. By 1959

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<sup>32</sup> J.G. Walshe, 'Industrial Organisation', The British Economy Since 1945, eds. N.F.R. Crafts and N. Woodward, (Oxford 1991), p.363.

<sup>33</sup> T. Freyer, Regulating Big Business: Antitrust in Great Britain and America 1880-1990, (Cambridge 1992), p.298.

<sup>34</sup> Co-operative Wholesale Society, Discount Houses in the USA, A Survey based on the Report of a Deputation from the CWS, (Manchester 1962), p.12.

the number of firms merged was almost eight times the 1950 figure. Similarly, with regard to concentration there was a continual growth in the share of total net output accounted for by the largest 100 firms, from 22% in 1948 to 26% in 1953 and to 33% by 1958.<sup>35</sup>

There therefore appears to be a strong *prima facie* case in favour of the view that firms acted to gain internalisation and ownership advantages. Efficiency criteria and transaction cost minimisation may well have played a significant role in the development of the firm from the mid-1950s onwards. Similarly, profit margins in all the case studies were falling leading to a suggestion that, with reductions in information asymmetry, firms abandoned (either willingly or forcibly) a strategy based upon high risk and high levels of opportunism for a profit maximisation strategy based upon competition.

A more detailed examination of the period, however, again highlights the importance of market governance issues for firms' organisational developments as opposed to transaction cost minimisation.

The changing relationship between government and business and the effect of this relationship on the market certainly was important. However, the view that government is inherently a trust buster and was gradually becoming awakened to restrictive practices has been seriously challenged. Mercer suggests 'The history of competition policy has little to do with the gradual enlightenment...about the virtues of competition'. For Mercer 'business views reigned supreme' and government responded to rather than challenged these views, in particular the needs of

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<sup>35</sup> Hannah, *op.cit.*, p.177 for data on mergers and p.180 for concentration data. Hannah points out that concentration differences may be 'accounted for entirely by errors in the data or by faulty assumptions in the interpolations'.

transnational companies, in creating a less restricted domestic market.<sup>36</sup> Mercer also suggests that domestically the labour movement and the international influence of the United States both acted as counter-weights to the sections of business which remained intent on the continuation of highly formalised restrictive practices.<sup>37</sup>

The evidence, of government as a major purchaser by the early 1960s leads us to qualify Mercer's emphasis. Given that government orders accounted for at least 25% of all domestic sales of plant and machinery and almost 40% of all transport equipment by the early 1960s, it would be surprising that such a shift did not have an input into the development of more stringent competition policy. Certainly, government purchasing policy became closely linked to the boosting of efficiency and (as was seen in electrical engineering) commissioning bodies by the mid-1950s were no longer prepared to accept tenders without competition.

Thus it could be concluded that government by the late 1950s was becoming more, not less, interested in competition in order to promote lower prices and efficiency. By the late 1960s government was certainly strategically involved in these questions through bodies such as the Industrial Reorganisation Corporation. Yet even on this point firms' control over markets seems the most important criterion.

The existence of large, protected government markets meant that for domestic firms many of the restrictive agreements were no longer necessary. Politically government found it extremely difficult to award large orders to non-British firms. In the defence sector alone employment in 1961 was estimated at

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<sup>36</sup> Mercer, Constructing, p.170-3.

<sup>37</sup> Ibid., p.84 and p.146.

363,000, 4% of the employed workforce.<sup>38</sup> As a result agreements restricting the entry of international competitors were less necessary and the boundaries between private and public industry became increasingly blurred.<sup>39</sup>

It appears then that government's interest in competition policy does not simply reflect, either government's or firms', interest in efficiency. It is just as likely, as Mercer maintains, that larger, multinational firms wished to develop a competitive framework more conducive to the exploitation of their organisational capabilities. It was also these firms which were most closely linked to government orders and had least to lose by the entry of international competitors into the domestic market.

This leaves us with the question of whether or not increases in merger activity, concentration and the movement away from formalised agreements needs to be understood in terms of firms' efficiency advantages, or in their changing approach to market governance.

The first point to make here is that the chronology of the efficiency models is simply wrong. Efficiency models assume internalisation takes place when information and transaction costs are high. Yet information costs were falling after 1950 and still more so by the 1960s. The timing of merger activity and increases in concentration generally post-dates the challenge to restrictive practices, the liberalisation of the international economy (through GATT and the Common Market) and the fall in the cost of information. The most important study of the possible gains derived from post-war merger activity has noted that 'the significant finding was that

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<sup>38</sup> Economist intelligence Unit, The Economic Effects of Disarmament, (1963), table 7.

<sup>39</sup> See N. Harris, Competition and the Corporate State: British Conservatives, the State and Industry, (1972), p.66 and p.149.

in all the seven post-merger years...on average profitability showed a decline from the pre-merger level.<sup>40</sup> The merger boom of the late 1960s was also a mechanism for retaining the restrictions which had been abolished through legislation on competition policy.<sup>41</sup>

The only efficiency-based explanation for this discrepancy in the chronology of internalisation that can be sustained is that firms efficiency gains were rising faster than the falls in market transaction costs over the period. Here we need to turn to our case studies.

Alterations to governance procedures within the oil industry developed from the late 1940s. By 1947, oil companies recognised that a significant rise in demand for oil products was underway: the fears of over-capacity within the market now gave way to frantic moves to keep pace with demand. The problems posed by satisfying demand brought the major oil companies into direct conflict with government in both Britain and the United States. The British government was pressing AIOC to divert supplies destined for other countries to Britain, while in the United States the Federal Trade Commission began an investigation into the price-fixing of oil companies operating within the US

By 1947 oil companies began to develop alternative forms of co-operation in order to maintain control over the direction in which the market for oil products would develop. The central consideration, for all the major companies, related to upstream operations in the maintenance of a system of oil concessions. All the

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<sup>40</sup> G. Meeks, 'Disappointing Marriage: A Study of the Gains from Merger', University of Cambridge, Department of Applied Economics, Occasional Paper, 51, (1977), p.33.

<sup>41</sup> Walshe, op.cit., p.351.

majors wished to see the continuation of the system whereby oil exploration and extraction was to be completely controlled by co-operative joint ventures, made up of the companies and explicitly excluding the government of the oil producing country. Only under these conditions could control over the lifting and supply to markets of crude oil be controlled. It was the governance of supply that led the oil majors to adopt this method of contract; it was also why opposition to nationalisation or true open door policy, allowing the independent oil companies access to concession negotiations, was so strong. However, in order to maintain this form of governance, the majors were required to increase concession payments, leading to the 50:50 agreements reached first with the Venezuelan Government in 1933 and adopted within the Middle East from 1950. The second alteration to the pre-war contracting was the abandonment of the Red Line agreement in 1947, which, while retaining the oil majors' control over exploration and extraction, spread the control across all the major companies. Significantly, the success of this new strategy can be gauged from the fact that the consortium joint venture was used for the return of the oil companies to Iran after the coup in 1954.

Elsewhere the abandonment, with particular exceptions, of the 'Marriage Letters' in 1949 between AIOC and Shell highlights the recognition between individual oil companies that a return to pre-war conditions was no longer a possibility and that a more flexible approach was required in order to maintain a reduced hold over the developments within the industry.

Flexibility took the form of detailed meetings to co-ordinate investment strategies in midstream operations from 1951, but the need for a more flexible approach was most apparent within the downstream operations of distribution and

marketing. Increasing levels of price competition from the newly emergent independents and Russian oil exporters from the early 1950s could be prevented in some markets such as Britain, where Russian oil imports were banned, but elsewhere companies such as AIOC responded by attempting to co-opt independent firms into existing market arrangements. So the AIOC subsidiary, Commonwealth Oil Refineries, attempted to make agreements with the American independent oil company Caltex and the French national oil company, CFP, in the Australian market. The Aviation Agreement, by contrast, represented the adoption of pre-war co-operation based upon the monopolistic control of markets, which had been used for the creation of the consolidated companies. The fact that AIOC and Shell simply attempted a redistribution of existing market shares, as opposed to adapting a model incorporating a flexible approach, recognising the growth in demand and rising competition, was certainly one element in the agreement's failure.

Finally, the moves first towards Solus agreements in 1950 and then to direct ownership of petrol stations from 1953 can be understood as a classic example of transaction cost minimisation. However, as the move towards direct ownership began in the United States after exclusive dealing agreements were ruled illegal and competition policy was becoming a significant issue for government in Britain, governance issues again appear to provide a stronger explanation for this development of vertical integration.

AIOC and the major oil companies in general proved successful in developing adaptive and innovative procedures for governance in the era after reconversion from the late 1940s to the late 1950s. Faced with significant threats to the structure of the market, the major oil companies were able to either prevent

change or adopt new methods of governance to circumvent change. The high levels of concentration and extensive vertical integration within the industry were two factors which enabled major oil companies to adopt successful and flexible co-operative strategies aimed at structurally influencing the development of the market for oil products.

It should be pointed out however that this success proved to be only temporary. The success of the joint venture agreement in securing control over access to oil reserves at the same time necessitated that oil majors expand sales of crude oil on the market. By the late 1950s, an excess of crude oil enabled the independents and national companies to develop, bringing new challenges in distribution and marketing. By 1960 the emergence of OPEC was also to present a new challenge to the institutional framework developed by the majors.

Importantly then, it was reductions in asymmetry of information that acted to undermine the position of the majors. Governments of oil producer nations and oil importing nations, in different ways, wished to establish their own influence within the oil market and increasingly threatened the majors control of information. If information asymmetry led to the opportunist business strategies in the late 1940s, then it was the reduction in information asymmetry that led to the external challenges that prevented the continuation of opportunism into the 1950s.

The success of AIOC and the oil majors is in marked contrast to the experience of the General Electric Co. and the other major British electrical engineering companies in the control of the market for electrical manufactures in this period. Electrical manufacturing was one of the most successful areas of British manufacturing in the period, yet in an international perspective the industry was

losing the competitive advantage it had acquired as a result of the allies' victory in 1945. The explanation for this was the lack of flexibility within the governance bodies introduced after 1945.

Not until the late 1950s did firms begin to examine alternative methods of co-operation in an attempt to continue to influence the development of the market. It could be suggested that the period 1953-7 represents the turning point in this process. In 1953 General Electric (US) finally disposed of its major share-holding in AEI and the anti-trust case in the United States finally came to an end. By 1956 GEC, AEI and English Electric faced changes, due to British government action preventing collectively enforced restrictive practices, including resale price maintenance on domestic appliances. Finally, in the following year the Monopolies Commission ruled the contract price system effecting the supply of capital goods operated against the public interest.<sup>42</sup>

The co-operative methods adopted as a result by electrical manufacturers further indicate the importance of technical information regarding competitors' organisational capabilities. Technology-sharing agreements became increasingly important as research and development expenditure became concentrated within the industry. The increase in research and development, driven by the growing technological complexity of products and the demands of defence projects, provided the industry with an alternative to rings as a mechanism for ensuring co-operation and monitoring between firms. Under conditions where research is an expensive and complex activity, technical information scarcity problems become acute. Patenting

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<sup>42</sup> Monopolies and Restrictive Practices Commission, Report on the Supply and Exports of Electrical and Allied Machinery and Plant, (1957), para 775.

and technology sharing thus took on an increasingly supervisory role for the industry, with firms trading technological developments. The introduction of licensing agreements, including patented knowledge covering geographically distinct areas, ensured firms were able to use the property rights associated with technological development as a mechanism of ensuring disciplinary control over licensees.<sup>43</sup>

Market information gave way to technical information as a market governance mechanism. Did this change also see an abandonment of the opportunist business strategies of the early post war period? Certainly, many of the price restrictions were removed although as Mirow and Maurer make clear the tendering agreements in international markets, administered by the International Electrical Association, continued.<sup>44</sup> More importantly, perhaps, is a recognition that technical information is a unique commodity of unknown future value which is difficult, if not impossible, to substitute. We would also wish to highlight the restrictions which were used to regulate the exports of goods based upon technology-sharing agreements. Therefore, on balance, it could be suggested that while the opportunity to develop opportunist business strategies existed, these may not always have been taken.

A major explanation highlighted for the relatively poor performance of governance procedures within the British electrical manufacturing industry was the ownership patterns developed within the industry.<sup>45</sup> The case study suggests ownership issues were significant in terms of British firms' ability to act

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<sup>43</sup> M. Wilkins, The Maturing of Multinational Enterprise: American Business Abroad 1914-70, (Harvard 1974), p541, footnote 29.

<sup>44</sup> K.R. Mirow and H. Maurer, Webs of Power, (Boston USA 1982), p.254.

<sup>45</sup> See L. S. Reich, 'General Electric and the World Cartelisation of Electric Lamps', International Cartels in Business History, eds. A. Kudo and T. Hara, (Tokyo 1992), for development before 1945.

independently and therefore in the governance procedures and bodies selected by the industry. The weakness of British firms' governance procedures and inability to respond to changes in market information arose from the subsuming of British firms' governance requirements to those of the larger United States firms, particularly General Electric and Westinghouse.

Foreign direct investment in Britain in the electrical engineering industry had had a positive effect in relation to technology transfer in the late 1920s but FDI can be considered to have contributed to the failure to develop organisational capabilities after 1950. The industry became increasingly reliant upon government expenditure and complained of suffering from periodic bouts of feast or famine. Under these circumstances, governance issues became still more important but attempts at a resolution of the industry's difficulties were not made until the late 1960s.

The development of change in the retailing sector, and in the grocery retail trade in particular, was again very different from that of either the oil or electrical engineering industries. As discussed above Resale Price Maintenance represents a market governance as opposed to a transaction cost minimisation process. Retailers' margins are dependent upon the price differential between purchase and sales prices so they would normally be considered to be natural transaction cost minimisers. Yet RPM, rather than harming multiple stores such as Sainsbury's, provided them with the reduction of competitive pressures necessary to enable them to make the organisational investment in stores, training and centralised distribution that was central to their later challenge to the market structure. Thus, although the Sainsbury family and company maintained a philosophy opposed to RPM, its existence far from hindered the development of the company. However, the reintroduction of RPM in

grocery retailing was not as successful for manufacturers as the re-introduction of restrictive practices had been in other industries.

Prolonged rationing, continuing up to 1954, meant that market information regarding trends in food production and consumption was more available and reliable than had been the case in other industries. Similarly technical information on competitors' and suppliers' organisational capabilities was also well established. In particular, detailed knowledge of US practice had been available for some time and retailers' were increasingly concerned with adapting American methods to British circumstances. Market and technical information was of greater use to the multiple retailers who were able to incorporate new developments in self-service with supermarket-sized stores than to the myriad of small scale food producers.

The fact that information scarcity was not a significant difficulty facing grocery retailers resulted in an almost immediate attempt by the multiples to alter the conditions of governance within the trade, including manufacturer-imposed individual RPM agreements. The multiples were successful in creating a new competitive framework between 1958 and 1965. However, the creation of a new competitive framework also necessitated the limitation of price competition. Here again the multiple retailers were instrumental in defining the limits of this framework through the initial boycott of trading stamps and later the campaign against their issue, once the boycott failed. The success of this campaign resulted in legislation in 1964. That multiple retailers such as Tesco's and Sainsbury's were on opposite sides over the retail trading stamps war rather than disproving the market governance considerations simply highlights both the difficulty and urgency firms faced in developing limitations upon price competition.

The resolution of the trading stamps conflict also highlights the role of opportunism. Manufacturers' early post-war power was challenged by the emerging power of multiple retailing. However, the result was not simple price competition but a form of regulated price competition. This suggests that after 1964 the food retailing market was not characterised by simple self-interest with honest disclosure but by attempts to maintain a level of non-disclosure, or opportunism. Undoubtedly opportunism was not the same after 1964 as it had been before 1958 but nevertheless elements of it remained.

The institutional market structure established by the multiples by the mid-1960s was to last until Tesco's introduced the 'Check-Out 77' campaign in 1977. After the late 1970s the multiple retailers were to become involved in a new series of institutional changes which was to lead to large-scale investment in hypermarkets and new increases in the levels of concentration in food retailing.

In conclusion, it can be suggested that, while there is a great divergence of experience between firms in the movement away from government-controlled markets in the late 1940s to industry-regulated markets in the 1950s and on to freer markets by the early 1960s, it is still the case that there is strong evidence to support positively the hypothesis that firms act as governance bodies, whose aim is to structure markets. This finding is backed up by the still stronger evidence that the motivation and, even more importantly, the timing behind firms' organisational development is determined by their need to control information flows within the market. All three case studies highlight firms' differing responses to the changes brought about by the growth of the world economy in the period from 1945 - c.1965. This fact further highlights our starting point that institutions cannot be assumed to

be homogenous. The contextualisation and specificity of historical development needs to be considered when assessing the impact of institutions on economic development.

- Further hypothesis

Some of the wider findings of this study have thrown up surprising conclusions which require further research. In particular the role of information, opportunism, competition and the nature of the invisible hand are all areas of interest.

The study can be said to stand or fall on the question of information. Objections to this approach might be raised in two areas. Empirically it might be suggested that the post-war period was not one in which information scarcity predominated. During the war government ministries acted as efficient information processors.<sup>46</sup> After the war government controls and rationing could be suggested to have counter-acted any information scarcity. However, if this was the case then the movement towards de-control needs an explanation; why should de-control have taken place at all? Were there any economic arguments for de-control at all?

More theoretically it could be objected that information is, as Stigler maintains, simply a flag (price) and available to all actors without restriction. Such an approach would mean rejecting Casson's wider interpretation of information. For Casson information on one level is 'just a commodity that can be traded like any other' but on another distinguishing between good and bad information is extremely

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<sup>46</sup> P. Howlett, 'New Light through Old Windows: A New Perspective on the British Economy in the Second World War', Journal of Contemporary History, Vol.28, 1993

difficult.<sup>47</sup> Thus Casson maintains information is a heterogeneous series of commodities distinguished by their market and technical mix, quality, specification, reliability, etc. It is these difficulties of monitoring and contracting that lead to market failure. As Casson puts it 'it is because *information about information* is so costly to obtain that markets for information tend to break down.'<sup>48</sup>

If Stigler is correct institutional issues are of little concern since 'price dispersion is a manifestation - and, indeed, it is the measure - of ignorance in the market'.<sup>49</sup> Information then does not reflect questions of context, institutional capture, rent-seeking, opportunism etc. However, such an abstract view would face significant criticism from many involved in areas ranging from mainstream history to applied or industrial economics. Such a view would also suggest a very literal reading of Coase's theory of the firm. Firms internalise transactions on the basis that market prices are higher than internalised transactions. There are no advantages from ownership, internalisation economies derived from the removal of market externalities or control advantages over factor inputs to be gained. We would thus have a very static and singular view of the firm and perhaps economic development.

The view that information is diverse and open to institutional questions of control seems to be relatively secure. However, the view that firms should be considered as governance bodies before efficiency organisations may be less accepted. Casson, himself, accepts a view that the firm should be placed within an efficiency model. This implies that firms are the recipients and processors of information, as intermediaries, but play little role in its development and diffusion.

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<sup>47</sup> Casson, *op.cit.*, ed., Bud-Frierman, p.138.

<sup>48</sup> *Ibid.*, original emphasis

<sup>49</sup> G. Stigler, The Organisation of Industry, (Illinois 1968), p. 172 (emphasis added).

Casson recognises that false information may be deliberately traded if a market exists, but argues that custom, in societies with high information costs, and contracts, in societies with low information costs, provide mechanisms for the monitoring of the reliability of information.<sup>50</sup> Casson then maintains information is subject to institutional constraints but rejects the Williamson approach that trade will be deliberately characterised by opportunism where possible. Bounded rationality is rejected in favour of the entrepreneur's differential efficiency in processing market information.<sup>51</sup>

This thesis wishes to defend opportunism as a mechanism by which markets operate. The thrust of the argument suggests that successful entrepreneurs are not simply efficient information synthesisers but are able to reduce their exposure to risk through institutional measures. It was also maintained that the case study material lent towards the view that each firms' profit maximisation approach also involved opportunism. Under post-war reconstruction firms proved successful in developing opportunist strategies but these were limited, though not removed, as the seller's market declined.

A hypothesis emerging here then is that all transactions by definition are opportunistic. It will be recalled from McNulty that all competition is by definition competition for monopoly power but that "To compete for monopoly power is not...necessarily to realise it".<sup>52</sup> We could paraphrase this by suggesting that, all

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<sup>50</sup> Casson, op.cit., ed., Bud-Frierman, p159-166.

<sup>51</sup> See M. Casson, 'Information and Economic Organisation', Discussion Papers in Economics, No.317, (Reading 1995), p.10 and M. Casson, The Nature of the Firm Reconsidered: Information Synthesis and Entrepreneurial Organisation, (Unpublished Paper, Reading 1996), p.43.

<sup>52</sup> P.J. McNulty, 'Economic Theory and the Meaning of Competition', Quarterly Journal of Economics, (1970), p.639-657.

transactions are attempts to achieve opportunist advantage but that not all opportunism is successful.

Directly relating to opportunism then is the view to be taken of competition. This study has accounted for the changing competitive environment within business by way of interest groups, namely firms and governments. The view that increases in competition emerged from an awakening of policy makers, and business leaders, to the dangers of restrictive practices has been rejected. The study shows support for both McNulty's view of competition and also re-affirms a Schumpeterian view of the temporary nature of the advantages achieved. Western capitalism after the war regularly faced the 'perennial gale of creative destruction',<sup>53</sup> leaving even the most successful firms struggling to cope in what, Bamberg has suggested for AIOC, was an unstable and uncertain environment.<sup>54</sup> One key question deriving from this view is; did this pattern of instability continue after the early 1960s? in what ways did firms respond to the problems posed by the changing business environment of the 1970s and 1980s? Clearly, this form of study could be extended well beyond the early 1960s.

The final area of interest which this study has highlighted is the role of the invisible hand itself. Can a view that the invisible hand of market forces, however defined, be put forward if the market is understood as an institutional product of the visible hand?

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<sup>53</sup> J.A. Schumpeter, Capitalism, Socialism and Democracy, (1965), p.84.

<sup>54</sup> J. Bamberg, The History of the British Petroleum Company: The Anglo-Iranian Years 1928-54, Vol.2, (Cambridge 1994), p.517.

This study started with an interest in economic development and human agency. It has attempted to unravel the linkages between individual action, business organisation wider economic development. The study, surprisingly, has found little or no role for the invisible hand. Prices, competition and markets are all found to be the products of firms and governments in the creation of a regulated framework. The methods of regulation have changed, as has the framework, but these are suggested to be the products of national development, international economic integration and business needs; not the products of the invisible hand of the market. The hypothesis flowing from these findings is does the invisible hand exist?

If the market mechanism itself is found to be the product of market governance then the invisible hand is removed. Invisible market forces have been replaced by the regulation, control and structuring of participants - visible hands. Precisely, where can the invisible hand be located? Rather interestingly, the answer from Hannah and Casson is in business culture.<sup>55</sup> The ability to remove the need for particular types of monitoring information, e.g. due to high levels of trust, honesty etc., from transactions lowers the costs of information acquisition. Hence firms which are able to operate with lower levels of supervisory control may gain efficiency advantages over other firms and over using markets for the same transactions. One problem for this approach is the implicit acceptance that information leading to supervisory control is the key factor. We have returned full circle to Marglin.

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<sup>55</sup> L. Hannah, 'Delusions of Durable Dominance or the Invisible Hand Strikes Back', paper presented at the International Economic History Congress, session A2, (Milan 1994), pp.113-128 and Casson, Enterprise, pp.86-104.

Finally the research has deliberately emphasised the diversity not the typicality of the firms involved. It is in this area that further research is clearly required. Which, if any, of the three institutional patterns of development of the market and firms' organisational capabilities best reflects the British experience after 1945? Indeed how typical is the British experience? Only a much wider study of business co-operation would begin to resolve these questions.

- **Appendix One**

### **A Sectoral analysis of government expenditure using Input-Output tables**

This appendix details the construction of the tables 1.1 & 1.2 in chapter one.

The concern is to examine the degree to which public sector (government and public corporations) orders altered in the period from 1948-63.

Input-Output tables describe the flow of goods and services between industrial sectors within an economy. Their initial development assumed a closed economy in which all goods and services were purchased and consumed within a given time span. Input-Output tables aim was to develop input coefficients relating increases in input in one sector to total output within the economy as a whole.<sup>1</sup> As a result a series of linear equations could be built up generating a structural matrix for the whole economy, which could then be used to develop planning mechanism for future economic growth.<sup>2</sup>

In reality production is not a static process. Economies are not closed, goods and services are internationally traded, and output is not always used within a given time span, instead output can lead to increases in domestic fixed capital formation or increases in stocks and work in progress. As a result Input-Output tables in practice measure the flow of intermediary products between industries. Final output is simply presented in aggregate form with the only distinction made between exports, consumption by consumers and government and output leading to increases in gross

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<sup>1</sup> See W. Leontief, Input-Output Economics, (New York 1966), especially pp. 134-154.

<sup>2</sup> Input-Output tables were pioneered within the US during the war, where by 1943 a 95 sector table for 1939 had been produced. By 1961 attempts were also being made to consider the impact of reductions in arms spending upon the economy as a whole. See M. Offenburg and W. Leontief, 'The economic effects of disarmament', Scientific America, 204-4, (1961). Reprinted in ibid, pp.167-183.

domestic capital formation (fixed and stocks). Most importantly then, input-output tables do not tell us which industries are making the capital investment and what the inter-relationships are.

To analyse increases in capital formation it is necessary to rely upon the broad categorisation of capital investment made in National Income and Expenditure tables, between vehicles, ships and aircraft, plant and machinery and construction (dwellings and other new buildings and works combined).

Input-Output tables on Britain in the two decades after 1945 exist for the years 1948, 1954 and 1963.<sup>3</sup> The 1948 tables were published by researchers at the Department of Applied Economics, Cambridge in 1958 while those covering 1954 and 1963 were published by the Board of Trade in 1961 and 1970 respectively.<sup>4</sup> The Input-Output tables for 1948 provide information based upon 47 commodity groups based upon the 1950 Census of Production, while the Input-Output tables for 1963 provide disaggregated data within 70 industry classifications using the 1963 Census of Production.<sup>5</sup> The first government published Input-Output tables for 1954 classified the purchases of intermediate goods and services under 45 industry headings. Unfortunately, the 1954 tables only disaggregate public authorities (national and local government) expenditure into eleven categories, making them of little use for this study.<sup>6</sup>

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<sup>3</sup> There is also one set of tables for 1935. See T. Barna, 'The Interdependence of the British Economy', Royal Journal of the Statistical Society, Series, A, Vol.CXV, Part 1, (1952), pp.29-81

<sup>4</sup> I.G. Stewart, Input-Output Table for the United Kingdom, The Times Review of Industry, December 1958, pp.vii-ix, Board of Trade, 'Input-Output Tables for the United Kingdom 1954', Studies in Official Statistics, No.8, (1961) and Input-Output Tables for the United Kingdom, 1963, (1970).

<sup>5</sup> Board of Trade, Input-Output 1963, Table A make-matrix and Table D and I.G. Stewart, op.cit., pp.vii-ix

<sup>6</sup> Board of Trade, Input-Output 1954, Table 1, pp.4-5

By calculating the total purchases of intermediary products by the public corporations from each industry group and final product purchases by central and local government, and then measuring this against the total output of each industry, it is possible to ascertain how important public sector orders were for each industry (see Tables A1.1 and A1.2)

Total domestic output of private industry is used (rather than total output), as this study is concerned with the effects of the public sector within the domestic market, hence exports were removed from the output total. Unfortunately, imports of goods are treated differently in the 1948 and 1963 tables. In the 1948 tables imports are, where possible, incorporated into their respective commodity sectors, as an addition to domestic output, but in the 1963 tables they are presented separately from domestic output.<sup>7</sup> It is not possible to standardise imports between the two data sets. This study's concern leads us to exclude imports. This introduces an upward bias in the 1948 results, however, this is not considered to be of significance for two reasons: imports in 1948 were still highly constrained by dollar shortages and government controls and any upward bias acts against the point this study is trying to make, namely, that the public sector was of increasing importance as a factor in sales for private firms.

A minimum of 10% of total domestic output was taken as the level at which public sector consumption was considered to be of importance. The coal, gas, water and electricity supply industries are covered within these classifications for both the 1948 and 1963 tables. The communications industry, principally the post office, is shown separately within the 1963 tables.

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<sup>7</sup> I.G. Stewart, op.cit., p.viii

The road and railway industries present some problems. In the 1948 tables they are treated separately but in the 1963 tables they are combined. In 1948 both industries were the subject of nationalisation measures but it should be recalled the road haulage industry was subsequently privatised in the 1950s. Therefore the 1963 combined category for road and rail transport includes a significant level of private industry. As a result the calculations have been run both with and without the road and railway industry data. Excluding the road and rail transport category from the 1963 results entirely makes an impact in four areas: rubber purchases are reduced by 80%, other vehicles (mainly locomotives) by 90%, other electrical goods and mineral oils both by 40%.

The 1963 tables also includes a separate category for 'other transport' which includes the public sector airlines BEA and BOAC and shipping expenditure included in the British Rail accounts.<sup>8</sup> On the basis that the public sector in this category may represent below half of the purchases made, this category has been excluded. Including this category would only make a significant impact on purchases from the mineral oil refining industry, which would be increased by a further 25%. Interestingly, including this category does not make any impact on purchases of from the aircraft industry. No explanation is presented here for this anomaly, except to re-state that these findings should be interpreted as orders of magnitude.

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<sup>8</sup> Board of Trade, Input-Output 1963, p.18

Table A1.1 Input-Output representation of Public Sector Purchases from Private Industry in 1948.<sup>i</sup>

	Coal	Gas and Water	Electricity	Rail	Road	Public Authority	Total (ex. capital formation)	Total Domestic Output	Public Sector Purchases as % of Domestic Output	Public Sector Capital formation <sup>ii</sup>	Total Public Sector as % of Domestic Output inc. capital formation)
Building materials		0.9	0.2	0.7	0.1	19.2	21.1	203	<b>10.39</b>		
Chemicals and Co.	9.6	2.5	1		2.5	20.6	36.2	218.2	<b>16.59</b>		
Soaps and polishes				1		4.4	5.4	103.7	<b>5.21</b>		
Oils and Greases	2.4	5.6	0.7	2.4	88.4	39.6	139.1	255.7	<b>54.40</b>		
Motor and cycles				0.3	68.5	15	83.8	340.9	<b>24.58</b>		
Aircraft						80	80	104.2	<b>76.78</b>		
Rail locomotives & rolling stock					19.5		2.8	22.3	128.6	<b>17.34</b>	
Shipbuilding & marine engineering							30	30	231.5	<b>12.96</b>	
<b>Vehicles, ships and aircraft</b>							216.1	805.2		55	<b>33.67</b>
Machine tools	10.3							10.3	105	<b>9.81</b>	
Constructional engineering	3	0.2		0.3	0.1		3.6	161.6	<b>2.23</b>		
Mechanical Engineering	0.3	0.1		7.2	6	13	26.6	419.5	<b>6.34</b>		
Electrical Engineering	0.3	0.1	19.8	1	3.5	5	29.7	353.3	<b>8.41</b>		
Radio & Telecommunications.		1	1.5	1.2	0.5	4.8	9	151.2	<b>5.95</b>		
Tools, wire and Co.	1.5	1	1	3	0.3	11.5	18.3	215.2	<b>8.50</b>		
Hardware and holloware	2.5	1.2	1	3	0.2	8.1	16	216.1	<b>7.40</b>		
Instruments and Co.						14.6	14.7	121.3	<b>12.12</b>		
Other plant and machinery <sup>iii</sup>	16	6.7	1.			3.1	26.8	991	<b>3.12</b>		
<b>Plant and Machinery</b>							155	2603.2		137	<b>11.22</b>
Wood and Cork	20.8	4.2	0.8	2.7	1.9	15.1	45.5	341.5	<b>13.32</b>		
Paper and Board					2.5	1.1	6.6	10.2	201.5	<b>5.06</b>	
Printing & Publishing					3.5	0.5	19	23	304.2	<b>7.56</b>	
Rubber		2	1	0.1	25	2.7	30.8	141.2	<b>21.81</b>		
Building and Contracting	2	1	1	1	4.5	80	89.5	1158	<b>7.73</b>	478	<b>49.01</b>

Table A1.2 Input-Output representation of Public Sector Purchases from Private Industry in 1963<sup>v</sup>

	Communication	Coal	Gas	Electric	Water	Road and Rail	Public Authority	Total Purchases (excl. capital formation)	Total Domestic Output	Total Public Sector's Purchases as % of Domestic Output	Public Sector Capital formation <sup>v</sup>	Total Public Sector as a % of Domestic Output incl. fixed capital formation
Mineral oil refining	1.4	1.9	19.7	19.6	0.8	41.3	19.1	103.8	406.8	25.52		
Pharmaceutical & toilet preps.		0.2		0.1		0.3	56.6	57.2	222.1	25.75		
Other chemical and allied ind.	0.1	5.5	1	1.5	1	6.1	64.1	79.3	772.5	10.27		
Agricultural machinery		0.1					0.4	0.5	43.3	1.15		
Machine tools		0.6	0.1	0.2	0.1	0.1	1.9	3	107.9	2.78		
Engineers' small tools		4	1.1	1.7	0.2	0.7	1.2	8.9	82.5	10.79		
Industrial engines		0.5	0.1	0.8	0.1	0.5	8	10	82.2	12.17		
Textile machinery		0.2					0.8	1.1	50.3	2.19		
Contractors' plant & equipment.		0.7	0.1	0.2		0.5	10	11.5	156.1	7.37		
Office machinery		0.1	0.2	0.1			0.6	1	38	2.63		
Other non-electrical machinery	0.1	18	0.4	1.2	1.4	1.1	16.8	39	462.2	8.44		
Industrial plant & steel work		1	1.5	1.3	0.2	0.3	11.8	16.1	304.4	5.29		
Other mechanical engineering		6.2	2.3	4.2	0.6	0.6	53.7	67.6	404.1	16.73		
Scientific instruments	0.2	0.3	0.2	0.3	0.1	0.9	54.4	56.4	156.8	35.97		
Electrical machinery	0.7	1.6	0.6	20.2	0.1	5.6	16.2	45	318.5	14.13		
Insulated wires & cables	1	8.6	0.1	25.1		0.8	10.3	45.9	182.1	25.21		
Radio and telecommunications	11.7	1.6	0.5	3	0.1	2.1	177.4	196.4	500.4	39.25		
Other electrical goods	1.5	2.2	0.4	6.5	0.2	21.2	19.6	51.6	361.3	14.28		
Other manufactured goods <sup>v1</sup>	1.4	1.9	19.7	19.6	6.8	36.9	19.1	105.4	2669.5	3.95		
<b>Plant and Machinery</b>								659.4	5919.6		771	24.16
Shipbuilding & marine eng.		0.3	0.1	0.2		0.3	133	133.9	313	42.78		
Motor vehicles	0.7	2.5	0.4	1.4	0.2	26.8	42.4	74.4	950.7	7.83		
Aircraft		0.2	0.1	0.1		0.2	298.2	298.8	375	79.68		
Other vehicles		0.8	0.7	1	0.4	60.3	4.7	67.9	161.2	42.12		
<b>Vehicles, ships and aircraft</b>								575	1799.9		110	38.06
Printing & Publishing	9.5		1.3	0.1		8.5	55.1	74.5	713.2	10.45		
Rubber	0.5	6.2	0.2	0.5	0.1	45	5	57.5	285.8	20.12		
Construction	5	18	1.6	2.3	0.5	13	291	331.4	3231.1	10.26	1251	48.97

<sup>i</sup> I.G. Stewart, Input-Output Table for the United Kingdom, The Times Review of Industry, December 1958, pp.vii-ix.

<sup>ii</sup> National Income and Expenditure Tables, 1955, table 5.

<sup>iii</sup> Including, Iron and steel smelting, iron and steel, tin and tube making, non-ferrous metals and leather and fur.

<sup>iv</sup> Sources: Board of Trade, Input-Output 1963, table D

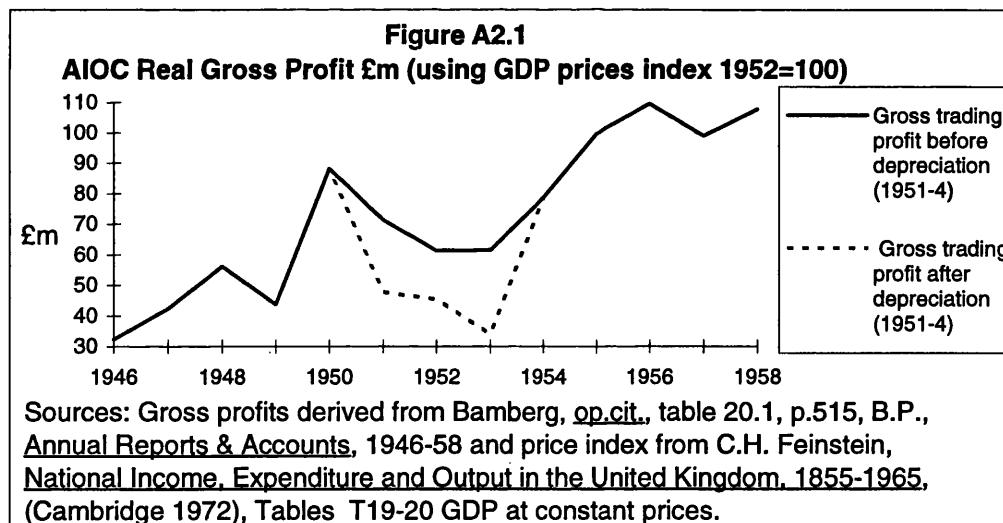
<sup>v</sup> National Income and Expenditure Tables for the United Kingdom, (1969), table 51 for gross fixed capital formation

<sup>vi</sup> Including Iron and steel, light metals, other non-ferrous metals, cans and metal boxes and other metal goods.

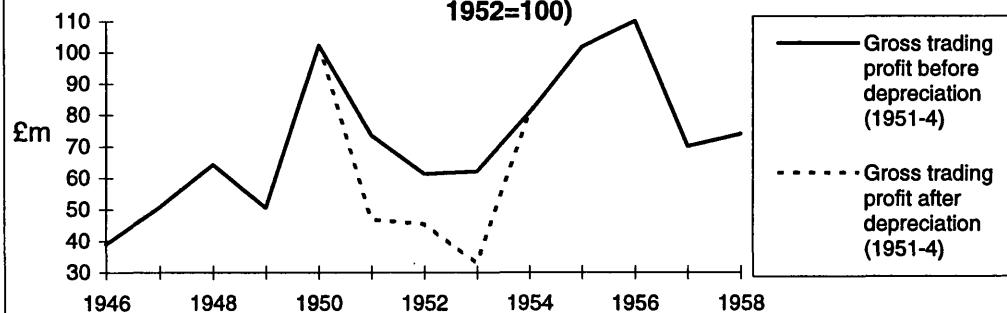
- **Appendix Two**

### **Alternative Estimates of Real Gross Profits for the Anglo Iranian Oil Co.**

Below are two further alternative analyses of Anglo Iranian Oil Co's real gross profits. Whether price indices for plant and machinery, gross domestic product or retail prices are used a similar picture emerges for the years 1946-55. The main difference occurs after 1956 when using a retail prices index gross profits are seen to decline rapidly. If a RPI index was considered a more reliable method of analysing real gross profits then this would reinforce the chapter's central finding, that the period from 1945 to the mid-1950s represents the high point for the oil majors' success in market governance.



**Figure A2.2**  
**AIOC Real Gross Profits £m (using Retail Price Index**  
**1952=100)**



Sources: As Figure A1.1 and B.R. Mitchell and H.G. Jones, Second Abstract of British Historical Statistics, (Cambridge 1971), Tables 4a-c for retail price index.

- Appendix Three

**Text of letter from Geoffrey Lloyd, Minister for Fuel and Power to Boards of all US owned oil companies operating in Britain.<sup>1</sup>**

4th December 1952

Dear Gentlemen,

Her Majesty's Government understands that in connection with proceedings under the Anti-Trust laws in the United States of America (which raise important questions relating to international comity you have been required by your holding company in pursuance of subpoenas issued to them to produce documents relating to your company's business.

Her Majesty's Government understands that this requirement relates to documents which effect a wide range of your company's activities and Her Majesty's Government consider that the disclosure of some of these documents relating to business outside the United States may prejudice or endanger the economic, strategic and political interests of Her Majesty's Government and Western Powers.

Her Majesty's Government therefore require you not to produce any documents which are not in the United States of America and which do not relate to business in the United States of America without the authority of Her Majesty's Government.

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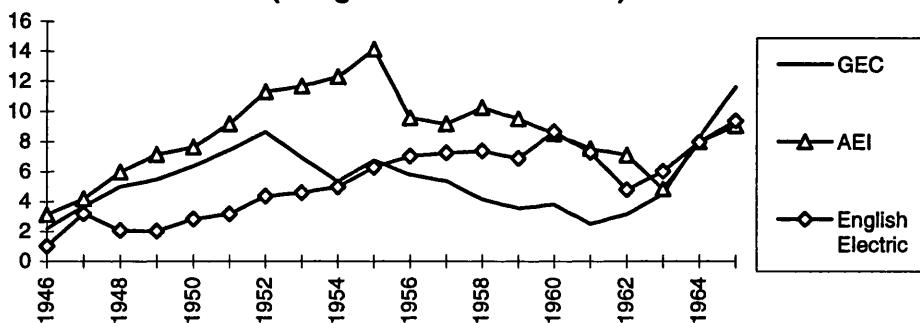
<sup>1</sup> PRO. POWE 33/1857, Geoffrey Lloyd, Minister for Fuel and Power to Boards of all US owned oil companies operating in Britain, 4th December 1952.

- Appendix Four

### Alternative Estimates of Real Gross Profits for AEI, English Electric and GEC

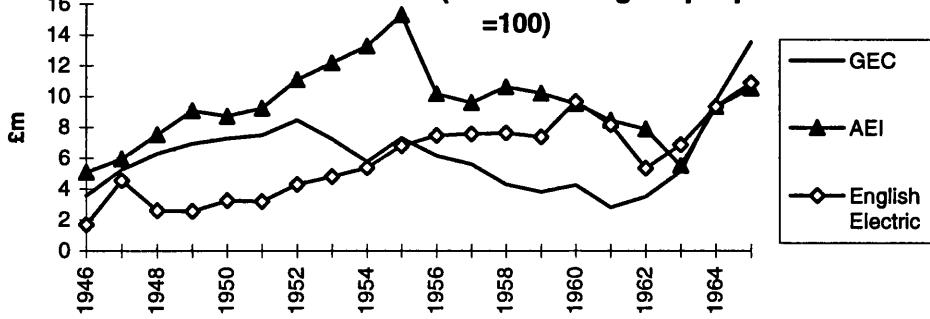
Below are two further estimates of real gross profits for the electrical engineering industry. Using a manufacturing output or GDP price index only alters the trend in real gross profits for English Electric. Whereas, using a retail price index gross profits peak in 1956 using GDP or wholesale output prices the peak occurs in 1960. The explanation for this may lie in English Electric's greater degree of specialisation in the capital goods sector, since its output was less influenced by changes within retail prices.

**Figure A4.1**  
**Real Gross Profits (using GDP index 1952=100)**



Sources: Annual Reports 1955-65 and C.H. Feinstein, National Income, Expenditure and Output Tables of the United Kingdom, 1855-1965, (Cambridge 1972), Tables 19-20 for GDP price index.

**Figure A4.2**  
**Real Gross Profits £m (Manufacturing Output prices 1954 =100)**



Sources: Annual Reports, 1955-65 and B.R. Mitchell and H.G. Jones, Second Abstract of British Historical Statistics, (Cambridge 1971), Tables A-C for manufacturing price index

- Appendix Five

**Reports from British Intelligence Objectives Sub-Committee, the Combined Intelligence Objectives Sub-Committee and the Field Intelligence Agency Technical, US Group, Classified List No.18.<sup>1</sup>**

Accumulators	16
Alternators, Generators and Rotary Converters	13
Cables and Cable Making Machinery	27
Condensers, Capacitors and Resistors	18
Dry Batteries	1
Electric Lamps and Radio Valves	26
Electric Meters, Measuring Testing and Research Apparatus	71
Electric Traction	3
Electric Welding	11
Frictional H.P. Motors	5
Industrial Research laboratories	14
Infra-Red Heating Apparatus	8
Insulating Material and Insulators	31
Lighting Electrical Equipment	11
Magnets and Magnetic Material	26
Motors (except Frictional H.P. Motors)	11
Radar	24
Radio Transmitters and Receivers	30
Rectifiers and Invertors	16
Switchgear	13
Telephone and Telegraph Apparatus	19
Television	10
Thermostats	3
Transformers	7
X-Ray Apparatus	16
<b>Total</b>	<b>430</b>

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<sup>1</sup> Source: British Electrical and Allied Manufacturers Association Archive, Reports from British Intelligence Objectives Sub-Committee, the Combined Intelligence Objectives Sub-Committee and the Field Intelligence Agency Technical, US Group, Classified List No.18, (March 1948)

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MSS 265 Engineering Employers Federation, West Midlands Association

MSS 272 Transport Development Group

MSS 200 The Confederation of British Industry Predecessor Archive

F/3/D3 Director General, Kipping papers

F/3/E1 Economic Directorate, Glenday papers

F/3/S1 FBI Secretaries, Walker papers

F/3/S2 FBI Secretaries, Gough papers

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MAF 99      Ministry of Food, Retail and Wholesale Distribution Division

MAF 128      Ministry of Food, Meat and Livestock Division

MAF 333      Ministry of Agriculture Fisheries and Food. Food Trade Economics  
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POWE 61      Ministry of Fuel and Power, Petroleum Department: Domestic Work of  
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T 230      Treasury Economic Advisory Section, Divisional Files - 1961

T 236      Treasury Economic Advisory Section, Overseas Finance Division  
1920-63

Sainsbury Archive, London

BL/3      Blackfriars files, buying policy, branch and property management

HIST/7      History files, anti-stamp campaign

SWAR2      War World Two

TRAN 1      Transport and Distribution

WAR 2      Rationing

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