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THE PROCESS OF NATIONAL INDUSTRIAL REGENERATION AND COMPETITIVENESS

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The paper reviews two streams of work on the issue of industrial regeneration and competitiveness—that from within the management research field, and that from economists, economic historians, and political scientists. It is argued that these streams have in the past been independent but there is much to be gained by sharing insights from each and applying them to the process within firms of generating competitiveness for that firm. By using insights from the newly emerging institutionalist school it is possible both to explain national differences in competitiveness and generate useful ideas for the managers of individual firms. The paper ends by setting out a research agenda, applying the insights from institutional analysis, for furthering our understanding of the strategic processes available to managers for regenerating and enhancing the competitiveness of the individual firm.

INTRODUCTION

Research into industrial regeneration and competitiveness has until recently been conducted along two parallel streams. Within the management research literature the focus has tended to be on the individual firm or industrial sector, for example Lawrence and Dyer (1983), Kanter (1983, 1989), Pettigrew (1985), Grinyer, Mayes, and McKiernan (1988), Pettigrew and Whipp (1991) and Baden-Fuller and Stopford (1992). Within economics, economic history and political science the focus has more usually been on national economic performances, for example Bacon and Eltis (1976), Beckerman (1979), Gwym and Rose (1980), Carter (1981), Wiener (1981), Williams, Williams, and Thomas (1983), Pollard, 1984, Coates and Hillard (1986, 1987). Elbaum and Lazonick (1986), and Hirst and Zeitlin (1989). Though firm level studies have sometimes taken into account the national context, for example Pettigrew and Whipp (1991), there has usually been no linkage between these two streams. Even when Parliaments (HMSO, 1985) or Presidents (U.S. GPO, 1985) have commissioned enquiries into national competitiveness the two have not been combined.

A research initiative into the competitiveness and regeneration of British industry, commissioned by the U.K. Economic and Social Research Council in 1985 and running until 1991, of which the author was the research coordinator, focused largely on the individual firm. This focus was deliberate, and the initiative funded a number of important studies (referenced below), but almost none of the work made an explicit link between the problems of national competitiveness *per se* and the performance of individual firms (see, for example, Francis and Tharakan, 1989). The separation of these two streams of work has been due in large measure to two factors. One is the difference in discipline base and focus of interest between management researchers on the one hand and economists, economic historians

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and political scientists on the other. The other is the lack of a theoretical framework and conceptual apparatus to make the linkage.

There seems now to be the possibility of convergence. This paper reviews some of the work in each of the two streams, concentrating rather more within the management research stream on work done within the ESRCs 'Competitiveness and Regeneration of British Industry' initiative. These results are discussed in the light of recent developments in organizational and economic theory, and the paper ends with suggestions for a new research agenda. The proposed agenda has three premises. It is based on the view that a significant part of the explanation of a nation's economic performance results from the behavior of the individual firm. It presumes that there are identifiable processes within firms that generate competitiveness within that firm. Thirdly it is based on the notion that these processes take place within specific institutional arrangements *within* firms, and that these institutions are generic to a particular nation. The suggested theoretical and conceptual linkages are those being developed by the so-called new institutionalists, see for example Matthews (1986), Teece (1987), Meyer and Zucker (1989), Best (1990), Powell and DiMaggio (1991), and Reed and Hughes (1992). It differs from the view taken by Porter (1990), in at least two ways. It implies that there *are* national differences in competitiveness and not just differences in where competitive advantage lies. Secondly it suggests that it is not demand and factor conditions within the nation, nor firm/industry structures which are of primary importance in explaining national differences, but the institutional arrangements within firms, many of which are shared by many firms within that one nation. Porter's most recent work (1992), concerned with the U.S. system of allocating investment capital, is more in line with the approach taken here.

We therefore propose a research agenda which focuses on processes within the firm itself, but which analyzes these at least partly in terms of the national context. The intention is to identify with greater precision the institutional characteristics that are relevant to the firm level processes of generating competitiveness. Moreover, the research should then go further and consider the process of institutional change, by both looking at the relationship between institutions and cognition processes and the interaction between institutional changes at the enterprise level and at the national level.

The bridge proposed here between national-level studies of competitiveness and studies at the level of the firm may also enable another divide to be spanned—that between the study of outcomes and the study of processes. Part of the argument advanced here is that the competitiveness of an individual firm results partly from its possession of a set of attributes, including institutional arrangements, which have been built up over a substantial period of time through the activities of its managers. Winning the competition is not simply a matter of having purchased the right mix of factors and making the most apposite strategic decisions; it is at least as much a matter of engaging in the process of building up the right resources over the long haul. To stretch an analogy, where Spender (1989) speaks of firms having particular strategic recipes we would add that firms also need skilled chefs and a *batterie de cuisine*. The skills (the intangible assets, if you will (Itami with Roehl, 1987)) and the *batterie* (the institutions) are only built up over a period of time and the process through which that is done should command our attention just as much as the measurement and comparison of outcomes. This last point has important implications for the field of strategic management more generally. Much of the work in strategic management has focused rather exclusively at the cognitive level. The problem addressed has been that of the knowledge required for, and conceptualization of, the strategic choice opportunities and the strategic decision. The strong implication of what is argued here is that attention should also be paid to the social processes which lead to firms having managerial capacity for appropriate strategic choice and action. Not only should the focus shift from only outcomes and instead include process; it should shift from looking only at cognition of the economic factors to include the process of building institutions founded upon social factors.

DO NATIONS MATTER?

Though to the management researcher it is the performance of the individual firm that is of central concern, from a national perspective it is clear that some economies have performed much better than others over the long haul. In the case of the U.K. there has been since the mid-nineteenth century a keen sense in some quarters that not all was right with British manufacturing industry. Prince Albert, with some knowledge of the growing strength of German industry, was instrumental in mounting the Great Exhibition of 1851 in the Crystal Palace, London in order to demonstrate to U.K. manufacturers the growing competitive challenge from overseas.

Albert's belief that this challenge was science and technology based led to much of the proceeds from this Exhibition being used to found what later became the Imperial College of Science and Technology, and to set up the South Kensington museums as an educational resource. It is perhaps ironic, and fuel for those who place Britain's industrial decline at the door of cultural factors, that the Victoria and Albert museum, now serving as a repository of the more decorative arts and frequented mostly by those with no industrial connections, was intended to be a place where artisans could see and be inspired by examples of the best artifacts of the day so that they might improve their own performance—a kind of industrial design showcase and technology transfer mechansism.

Disquiet over Britain's performance rumbled on during the last half of the last century, continuing to focus on the competitive challenge from Germany and the U.S.A. A Royal Commission on the Depression of Trade and Industry reported in the mid-1880s that the U.K. economy was beginning 'to feel the effect of foreign competition in quarters where our trade formerly enjoyed a practical monopoly' (quoted in Coates and Hillard, 1986: 146). A polemic entitled *Made in Germany* (Williams, 1896) described the new successes of German textiles, chemicals, printing, and musical instrument manufacture. Two quotes, reported in Collins and Robbins (1990: 94), give the flavor of the work and have a strongly contemporary ring. (This article is being written during the latest sterling crisis and the associated fracas between the U.K. government and the German Bundesbank). 'Roam the house over, and the fateful mark (giving nation of origin, as required by the 1887 Merchandise Marks Act—itself a statement of British fear of an invasion of foreign goods) will greet you at every turn, from the piano in your drawing room to the mug on the kitchen dresser, blazoned though it may be with the legend *A Present from Margate*.' 'Moreover, German antagonism is systematic, universal, deadly, and may be considered as a thing of evil and a thing apart.' Fears in the U.S. today about Japanese competition are sometimes expressed in similar terms.

Though Williams suggests German industrial competitiveness was due to a national culture 'madly in love with industrialism' it is worth noting that the particular industries to which he refers probably had a competitive advantage for nonprice reasons to do with German institutional arrangements. Textiles and chemicals gained advantage from Germany's lead in scientific and technological research. Printing and piano-making require high level artisan skills—themselves the product of well-developed institutions for vocational training.

There seem to be fewer references to discussion about national performance through the period of the First World War, the world-wide depression from 1926, and then the Second World War but by the 1950s economists in the U.K. were expressing concern about technological competitiveness, measured, for example, by the low technological content of U.K. exports compared to imports (Barna, 1962).

The debate sharpened in the 1970s as Britain's relative decline reached the point where once poorer nations were now better off in absolute terms. In the late 1970s the National Institute mounted a major exercise investigating the U.K.'s potential deindustrialization. Data generated then are cited below. By the early 1980s the debate had spread to the U.S. as the relative decline in its economic performance became more obvious. In the last 15 years there has been a deluge of analyses and recommendations about the need for, and ways to implement, the industrial regeneration of nations.

The performance of a nation's industry is a matter of concern for many reasons. It is of political importance as nations conduct their affairs on the international stage. It is a matter of national pride and morale and therefore of political significance within a country for the maintenance of public order and specifically to maintain the popularity of the political party in power. Economic growth can provide growing living standards for the citizenry and meet increasing demands for public expenditure on healthcare, education, and social security. It is therefore no surprise that the question of a nation's economic performance and competitiveness attracts such wide attention. It is equally no surprise that, given the political dimensions of the problem, some of the debate is conducted outside the rules generally accepted within academia about evidence, logic, and objectivity. This is even more the case when one country is being overtaken in economic performance by another with whom it has been engaged in the past in a shooting war. The language of battle once more comes into use.

Nevertheless, there are those who would argue, both for the U.S.A. and the U.K., evidence about comparative economic growth rates and balance of payments crises notwithstanding, that there is not a problem of national competitiveness. This argument takes three forms. One is that national economic performance is only the sum of the performance of individual firms and industries. In any one nation there are both good and bad firms; it is the mix of firms that determines whether a nation's GDP is high or low; and industrial regeneration is a matter for the individual firm. Baden-Fuller and Stopford (1992) come close to arguing this position though their argument is primarily with Porter (1980, 1985) and his contention that it is industry that matters. For Porter there are profitable and less-profitable industries, depending on the structural features of that industry. By inference a nation with a profile of intrinsically weak industries will have a poor national economic performance. In fact Porter (1990: 6) asserts that 'we must abandon the whole notion of a "competitive nation" as a term having much meaning for economic prosperity' though he does go on to say instead that 'the only meaningful concept of competitiveness at the national level is national productivity.'

Others arguing against the idea that 'nation' matters and that national competitiveness is not an issue suggest that both U.K. and U.S. relatively poor national performance can be accounted for either by weak demand or as an expression of national preference. Lawrence (1984) argues the former in the case of U.S. economic performance in the early 1980s. Nossiter (1978) seems to imply the latter in his appreciation of the civilized qualities of the British way of life that he wrote after a spell in the U.K. as a correspondent for the *Washington Post*.

The third form of the argument against there being a problem of national competitiveness is that the problem is better defined as one only of poor national performance or productivity. This idea is explored in more length below.

Each of these arguments has some merit and needs to be taken seriously and as a corrective to some of the most dismal of the Jeremiads about U.S. and U.K. economic decline.

Looking specifically at the U.K., for example, it is clear that much of its fall in share of world markets is due simply to a massive increase in the internationalization of trade. The U.K. has continued to export between 25–30 percent of its GDP over a very long period (incidentally a much higher proportion than very many of its major trading partners—the comparable figures for Japan and the U.S. being 12–15 percent and 7–10 percent respectively). Fall in market share over the long-term has to a large extent merely been the statistical result of other countries catching up with the U.K.'s high degree of internationalization of trade. Similarly the fall in manufacturing output is relative (over the long-run it is only the *share* in total GDP contributed by manufacturing that has fallen) and is partly the result of major expansion of the service sector brought about by economic growth. Moreover, at the level of the competitiveness of individual industries trade balances can be misleading. Balusabramanyam (forthcoming), for example, shows that while superficially the U.K. food and drink industry looks a poorer competitive performer in terms of the international trade balance than, for example, the computing industry. When one takes into account the inward flow of components and raw materials, food and drink begins to rank very much higher as a competitive industry in the U.K.

However, none of the above arguments denying there is a national problem is fully sustainable. The most thorough and systematic international comparative statistics on the long-run performance of various European national economies were compiled by the National Institute for their conference on deindustrialization (Blackaby, 1978). These showed low and slow-growing productivity in the U.K. compared to her major trading partners. Gross value-added per man-hour in manufacturing in the U.K. was up to 15 percent less than that in France, Germany, Belgium and the Netherlands as early as 1955. Slower productivity growth in the U.K. caused this to drop to 50 percent less than the European leaders over the next 20 years. Though productivity growth speeded up somewhat in the U.K. during the 1980s this was not enough to close the gap in any significant way between U.K. and European leaders. OECD data (Brittan, 1992: 23) show an annual percentage change in real GDP per capita in the U.K. of 2.0 percent compared to 1.7 percent for Europe overall. Hooper and Larin (1989), also quoted in the same article in the *Financial Times*, show that despite a growth rate in manufacturing productivity in the U.K., twice that of Germany and France between 1983 and 1988, output levels per hour were still over 40 percent higher in the latter countries.

Baumol and McLennan (1985) produced comparable data for the U.S. and included some Japanese data. These show that while the U.S. has had a high absolute level of productivity its growth has been slow compared to European countries and, especially, Japan. Whereas Japanese productivity in manufacturing lagged that in the U.S. in 1977 by over 25 percent it had caught up by 1981. France and Germany's productivity growth rates in the 1960s and 1970s were double those of the U.S. Japan's productivity growth rate in the same period was quadruple that of the U.S. and three times that of the U.K. Blackaby's summary of the findings from the National Institute conference (Blackaby, 1978: 265) was that in the U.K. 'there were very few industries which, on the basis of their past export and import figures, could claim to be fully competitive. Consequently the search was for general explanations, rather than for explanations specific to particular industries.' The performance of U.K. industry over the period since then has done nothing to undermine that judgement.

NATIONAL DECLINE—SUGGESTED CAUSES

Reasons suggested for a nation's low and slow-growing productivity are legion. Amongst those on offer are—the effect of government macro-economic policy; the effect of infrastructural and/or institutional arrangements peculiar to that particular nation, for example the nature of links between the financial community and industry, or the supply of trained workers and managers; the effect of cultural values specific to a nation; or, more subtly, the way firms are typically organized and managed within a particular nation, perhaps due to the path of industrialization taken in the history of that country.

Hobsbaum in *Industry and Empire* (1968) argued early industrialization as the main cause of Britain's subsequent relatively poor performance. A report by the Hudson Institute in 1974, secure in the then dominant position of American industry, warned the British that they needed a radial change in their national style. Bacon and Eltis (1976) blamed the U.K. government for having a high level of public expenditure that reduced tradable, and hence wealth-enhancing, economic activity. Much the same kind of music was played by Correlli Barnett (1986) though his theme was a set of cultural factors, which he termed New Jerusalemism, which resulted in the building of council houses and hospitals after the Second World War rather than rebuilding the manufacturing base. The Brookings Institution, (Caves and Krause, 1980), joined the Hudson Institute in giving advice from over the water, blaming trade union strength, regional location, and the lack of skilled managers. By the mid 1980s Parliaments and Presidents joined in with both a Select Committee of the U.K. House of Lords and a Commission of the U.S. President producing reports in 1985 (HMSO, 1985 and U.S. GPO, 1985).

The House of Lords Report focused on the decline in manufacturing output and argued that the nation's industry was almost hopelessly uncompetitive, in a vicious circle of deindustrialization, and in need of the strongest possible immediate Government help. Lord Kearton, a member of the Select Committee, speaking on British television following the publication of the Report, spoke of Britain being on a slippery slope, held back from the abyss only by the drag anchor of North Sea oil.

The House of Lords Select Committee, among others, paid considerable attention to national-level infrastructural and institutional arrangements. The relation between the financial institutions in the City of London and the manufacturing sector has been constantly under scrutiny, with the charge of short-termism by the City frequently hurled by the manufacturers and hurled back by financiers accusing manufacturers of failing to come up with financially sound investment opportunities. Many commentators compare unfavorably the way these things are arranged in the U.K. with Germany and Japan, the latter two countries having financial institutions much more closely involved in the firms they are funding. The role of the educational institutions in providing an adequately trained workforce and management is another example of an institutional factor at national level that has already been cited as a possible contributory factor to poor economic performance.

The argument that a nation's deep, underlying, culture contributes to its economic performance has enjoyed a great deal of prominence. Wiener's thesis that English culture is basically antipathetic to business and technology attracted much attention and support when it was published in 1981 in Britain, though much less was heard of it as the Thatcherite yuppie phenomenon peaked later in that decade. Other historians have not been quick to defend the thesis (Collins and Robbins, 1990) though at least one serious scholarly work supports this view—for example Lodge and Vogel (1987). On this view culture would have at least two effects—at the individual level in terms of attitude, motivation and orientation and at the societal level in terms of institutional arrangements and power structures. For example, if the cultural argument has any weight, at the attitudinal level one would find it affecting the career choices made by the most able young people on the basis of personal preference. One would also expect to see evidence of it embedded in institutions and power structures, particularly in the rewards of prestige, power and money obtained by those who had chosen the careers most valued in cultural terms by the community.

POOR PERFORMANCE OR LACK OF COMPETITIVENESS

Up to the 1950s there had been some degree of consensus both about the problem of poor national performance and about its causes. The problem was lack of competitiveness, and this was caused partly by other countries competing unfairly and partly by U.K. firms failing to copy the clever foreigners. In today's terminology the issue was one of non-price lack of competitiveness due to failures in innovation and new product development. More recent analyses have ranged more widely both in their definition of the problem and in the suggested causes. Some argue, like Porter (1990), that the problem should properly be considered one of lagging productivity rather than competitiveness. For others, competitiveness, either price or nonprice, is still the key issue.

Low and slow growth is not the same as lack of competitiveness. Baumol and McLennan (1985) argue that slow growth in and of itself can be coped with by exchange rate movements without loss of international competitiveness. The slow-growing country becomes relatively less well off and may well lose political power in world affairs but will not necessarily go into a vicious circle of absolute economic decline.

Lack of competitiveness is more serious. Price adjustments either at firm level or via devaluation cannot easily regenerate competitiveness. Eastern European cars illustrate the point. The price differential between a Lada or Skoda on the one hand and a Japanese car on the other has to be very substantial to persuade a consumer to buy the product with the outdated technology and lack of modern features. In economic terms the returns to an investment which updates product features would generate supernormal profits. This implies institutional barriers to the making of that investment.

However, while it is easy to demonstrate one nation's low and slow-growing productivity it is harder to measure lack of competitiveness. The data are much more contentious. Partly this is because it is much more difficult to define competitiveness than productivity. Whereas the performance of an economy can be measured in absolute terms (e.g., in terms of GDP per capita) competitiveness is a relative quality. Competitiveness implies the presence of a competition. It is a zero-sum game. Competitiveness can be defined as that quality of a competitor that determines its probability of winning the competition. This means that the competition has to be specified alongside the competitiveness. This can be done reasonably easily with regard to a particular race, or sale, but with much more difficulty at the aggregate level of the nation. We have already commented upon the difficulty of measuring national competitiveness by means of share of international markets or trade balances. One element of national competitiveness can be measured by looking at shifts in labor costs, adjusted for productivity and exchange rate movements. More difficult is to measure shifts in competitiveness due to lack of innovation or failure to keep up with the technological frontier. In both cases the fear is that a nation will slip into a vicious circle whereby a loss of national competitiveness leads to a reduction in the number of sales made by that nation's industry which in turn leads to a reduction in the nation's ability to invest in the means to keep up with those at the frontier and hence a further falling behind. A falling share in world trade beyond that accounted for by the growing internationalization of trade, and a continual fall in the exchange rate as the value of currency devalues to cope with decreased relative productivity would both be signs of a lack of national competitiveness. The data would seem to support this view. Moreover, a series of studies from Barna onwards, including five from within the ESRC program (Johne and Snelson, 1990; Francis and Winstanley, 1992; Potter, Lewis and Roy, 1988; Ray *et al.*, 1990; Swann and Taghavi, 1992) have identified nonprice factors causing lack of competitiveness. In each case these have been to do with product features and/or technological factors. The strong implication is that many U.K. firms have significant difficulties in new product development that put them at an international disadvantage. Not only is the current range of products produced relatively inefficiently (a performance problem), but the development of new products is badly done so that either they do not match the competition in features and/or quality or they reach the market later, or both (a competitiveness problem). These findings are consistent with those reported from two recent studies of the world automobile industry (Womack, Jones and Roos, 1990; Clark and Fujimoto, 1991) which each found that Japanese car producers could produce new car models significantly quicker and cheaper than U.S. or European producers, and, compared to U.S. producers, also of higher quality.

REASONS FOR LACK OF NATIONAL COMPETITIVENESS

Most of the explanations for poor national performance advanced so far imply that the individual firm simply responds passively to those external national-level forces and cultural values accounting for poor national performance. We would expect, on this basis, to find all firms in one country performing on average similarly badly compared to firms in other countries. Moreover, to the extent that the cultural hypothesis is true, we would expect firms to be stuck in a pattern of poor performance with very little hope for improvement. We know, though, that within any one country there are usually good firms as well as weak firms. The U.K., for example, contains a number of world-class firms in particular industrial sectors (Porter, 1990). We know, too, that, although it is difficult, some firms are rejuvenated and whole nations can experience dramatic improvements in economic performance—the post-war German economic miracle and a little later the development of the Japanese economy are two of the most obvious cases.

If it is the case both that individual firms and industries can buck the national trend and that nations as a whole can take a leap forward economically, what is there left to look for about national competitiveness?

The view taken by those setting up the ESRC initiative was that there was much to be learned from the study of individual firms. It was felt that much of the difficulty of attaining world-class performance was experienced at the level of the firm and was within management's prerogative. If lessons could be learned about how individual firms in the U.K. could improve their competitive position then more generalizable findings might be developed for use by British managers across the board.

In the event, over the 7–8 years from conception to conclusion of the program there were some remarkable developments in social science thought to which the findings of the ESRC program can be attached and which allow more significant generalizations to be made than could possibly have been hoped for when the program was conceived. These developments have been in the way in which social institutions have come to the fore in the attention paid to firms by a variety of social scientists, including economists.

THE INSTITUTIONAL APPROACH

There is now increasing recognition that social factors play an important role in explaining economic performance. This has been recognized within organization theory almost since its inception but has come more to prominence in the last decade (Aldrich, 1992). The population ecology perspective (Hannan and Freeman, 1989) has now come of age and its emphasis on the inertia of organizational forms is highly relevant to the problem of a nation's competitiveness. These ideas were to some extent predated by Stinchcombe's celebrated argument (1959) that the way an organization was structured and operated owed a great deal to the date of foundation of the industry in which that organization was placed. Institutional arrangements for an industry, including those relating to the way work is organized in that industry, become established as the industry develops. They are a reflection of widespread social arrangements at the time the industry was founded, and become ossified within that industry. For example, many industries in the U.K. today still bear the marks of the craft-based organizational arrangements dominant at the time of their origins in Victorian times.

The institutional perspective has continued to be developed in recent years. Meyer and Zucker's *Permanently Failing Organizations* (1989) both develops the theoretical underpinnings of this approach and applies it to the subject matter under discussion here. Moreover they make connections between their own sociological discipline base and the important parallel developments within economics. Powell and DiMaggio (1991) is one of the most recent contributions to the theoretical development of the institutional perspective.

Perhaps the most significant, and surprising, development is that so many economists are now placing weight on social factors. The Williamsonian transaction cost perspective is the best developed of these (Williamson, 1975, 1985, 1990) but there is now a broader interest within the profession in institutional issues (Matthews, 1986). Both Matthews (1986) and Lazonick (1990) argue that national characteristics are likely to influence the institutions used within firms and that institutional change is likely to be more difficult than technical change. Therefore we are likely to find that technologies get transferred rather easily across organizational and national boundaries so that firms and nations are not so very differentiated technologically. However, institutional arrangements have much more inertia and so social innovations in institutions do not get transferred so easily, thus differentiating firms and nations.

This implies both an explanation for national differences in economic performance and a set of solutions in the hands of individual management teams for improving the performance of their own firms.

One particular school (*vide* Best, 1990) has constructed a periodization of the industrialization process. This suggests three major epochs in the industrial age. The first is that immediately following the industrial revolution, characterized by a multiplicity of small craft-based firms. The second is that of the early twentieth century, characterized by the 'American System' of manufacture—large firms, mass production, standardized techniques. The third is that of the 'New Competition,' the elements of which are sketched out below. They argue that the transition across epochs within any one country is particularly difficult and important. Within this view the U.K. failed to adopt successfully the American System of manufacture and the U.S. has failed to adapt to 'the New Competition,' a competitive form exemplified by Japanese companies and Italian industrial districts such as Emilia-Romagna. Best identifies four dimensions of the New Competition. Firms are organized as collective entrepreneurs rather than on a command-and-control basis. The production chain is organized neither in a hierarchic-bureaucratic fashion nor by market relations between autonomous independent firms. Instead there is consultation-cooperation amongst mutually interdependent firms. Industrial sectors are characterized by a substantial amount of 'extra-firm infrastructure' (Piore and Sabel, 1984), and fourthly there is a carefully crafted industrial policy. This is not industrial policy of the 1960s-style corporate state but one which shapes rather than plans the market, concentrates on production rather than distribution issues, has a strategic focus, and is sensitive to sector issues. It is clear that this New Competition requires some major institutional innovations at firm, regional, and national level.

Whereas Porter's work has drawn strongly from Bain's industrial organization paradigm (Bain, 1956) and draws attention to the management of the firm's environment, the New Competition paradigm has explicitly acknowledged roots in Penrose's theory of the firm (1959), an approach that has much in common with the current interest in intangible assets and core competencies (Itami with Roehl, 1987; Prahalad and Hamel, 1990), and draws attention to the building up of managerial and other expertise of strategic significance within the firm.

SOME POINTERS ABOUT MANAGING THE PROCESS OF REGENERATION AND COMPETITIVENESS

Many of the individual research projects within the ESRC research program focused on issues which, with hindsight, could be seen to fit within this institutional perspective. The results, taken as a whole, could be summed up in terms of four strong and significant findings. Firstly, regeneration is possible. It does seem possible for managers to engage in a process within the firm that reestablishes the competitiveness of that firm. Secondly, that although the content of the firm's strategy is important, what is of at least equal importance is the process of rebuilding the social institutions in and of the firm so that the new strategies can be implemented. Thirdly, the managerial expertise to manage that process is a crucial factor. In terms of the analogy mentioned earlier, (Spender 1989), the strategic recipes are important, but it may be even more important to have chefs with the right skills, and to have the correct equipment to do the job. Fourthly, although it is important to compete, and to succeed in the competition, it is probably just as important to cooperate and collaborate. Long-term success is a judicious and expertly blended mix of competition and cooperation.

Regeneration is possible and strategic recipes are important

Research within the competitiveness initiative shows convincingly that firms can improve their performance by exercising strategic choice. It is firms and not industries that matter. Pettigrew and Whipp's (1991) study of firms in the four mature industrial sectors of automobiles, publishing, insurance and merchant banking powerfully illustrates this point. Pettigrew and Whipp's approach was to take pairs of firms in each of the four industries, all the firms having exhibited varying and contrasting performances over time. Irrespective of the maturity of the industrial sector they found firms which had been able to rejuvenate. Within their sample were some striking examples of rejuvenation—the U.K. Peugeot Talbot operation in the U.K., Longmans in international publishing, and Prudential in the life assurance business. Though Pettigrew and Whipp's main focus was on the management of the changes that brought about these successes they were able to identify the strategic recipes developed by the successfully rejuvenating firms and the managerial processes they undertook to develop the intangible assets making it possible successfully to implement those strategies.

Similarly Baden-Fuller and Stopford (1992), reporting their research within the ESRC initiative, showed that mature businesses can be rejuvenated. They argue that maturity is just a state of mind. In line with the view first developed by Abernathy, Clark, and Kantrow (1981) they demonstrate that mature businesses have many opportunities for innovating their strategies and their structure. Individual firms are not bound to a future of graceful decline just because they happen to be in a mature industry. Baden Fuller and Stopford's assertions are backed up with hard evidence from case studies from the engineering, white goods, knitwear and other industries in Europe and they too provide recipes for successful rejuvenation.

One strong lesson to be learned about the content of these successful strategic decisions is that they are not necessarily innovative strategies but in many cases they are strategies for innovation. Competitive success, for many of the firms in these studies, came not only from making products cheaper and better but also from developing better products. Many of the research projects yielded examples of this. Metcalfe *et al.*'s study of technical innovations (see Ray *et al.*, 1989) concluded that although the attainment of high productivity was important and although firms needed to be fit in the sense of having the ability of growth, a key to high performance was their creative ability, their ability to improve their performance characteristics through engaging in activities which enhanced their knowledge base. Johne and Snelson's study of new product development (1990), Roy *et al.*'s study of the use made by small firms of design consultants (see Potter *et al.*, 1988), Swann and Taghavi's study of comparative product specifications from competing firms (1992), and Francis and Winstanley's study (1992) of the new product development process in the engineering industry, all contributed to, and emphasized the importance of, an understanding of the process of innovating.

In many cases the one big strategic move was to get away from the old strategic paradigm of trying to produce high volume of a standard good at a low price and move towards the new paradigm of delivering variety, quality and/or fashion, but also at low cost—to take part in the New Competition, in other words. To do this firms had to innovate in their organizational arrangements by, for example, rebalancing the power of different functions within the firm, creating new forms of coordination between different departments, and changing the nature and span of control of the various functions.

If these examples of rejuvenation are typical they demonstrate the importance both of institutional arrangements and of the need for management skilled in the process of reestablishing competitiveness.

Why, then, do not all firms adopt innovative strategies and enjoy high performance? Two sorts of reasons suggest themselves: either they fail to develop good strategic ideas or, despite having the good ideas, they are unable successfully to implement them. As it were, successful baking requires not just good recipes but the right cooking equipment and expertise to use it.

There is enough evidence from the research that many firms had not even reached the point of realizing that there were strategic options open. There is an education and promulgation job to be done in making senior management teams more aware of strategic opportunities. It is clear that market mechanisms alone are not enough either to ensure that it is the most entrepreneurial who make strategic decisions in business enterprises or to provide adequate signals to firms so that it is obvious what their strategic positioning should be. However, even when the recipes are known there is a major managerial task to be done in providing the means whereby they can be implemented.

Changing the institutions

One of the strongest findings from the initiative is that implementation of strategic change is the key process. It is a process that has to be carefully managed and takes a long time.

Partly the process of strategic implementation is one of development and persuasion. No firm has an authority structure where ideas developed at the top can simply be turned into orders which are immediately and unquestioningly obeyed. Ideas for strategic change come from around the organization and people need to be persuaded to change what they do. In terms of our culinary analogy part of the problem of strategic implementation is that of persuading the person who normally does the cooking to try a new recipe, or for the head chef to persuade the pastry cook to make the dough with a different kind of flour. No organization has a power structure which can ensure decisions from the top are implemented lower down without some social process of persuasion.

However, the more profound problem of strategic implementation is that of changing the social institutions within the firm to enable the new strategies to be operated. Within the kitchen analogy, the pastry cook not only has to be persuaded to try the new flour he needs new equipment to use it.

The management literature has begun to tackle this issue by talking about organizational cultures and how to change them. However, definitions of culture are notoriously vague—'how we do things around here' being one which is frequently cited. A more precise and useful approach is that developed by Matthews (1986) who suggests four categories of institutions which may need to be changed to promote economic growth. They translate rather easily into current management language.

His first category is that of institutions concerned with systems of property rights. This seems directly equivalent to the question of 'ownership' often spoken of by managers: 'who owns the problem?,' 'who owns the solution?.' The institutional change many companies are currently trying to make is that of changing a system of property rights, in Matthews' terms, from one in which the firm is seen to belong, if not to the shareholders, to senior management with other employees simply employed to carry out orders, to one in which all employees have a stake in the enterprise and in which each stakeholder feels ownership of the set of responsibilities to which they have been assigned. This is a major institutional change.

Matthew's second category he terms the conventions or norms of economic behavior. This is underdeveloped by Matthews but if he means the same as Etzioni then we have available from the latter (1988) a very helpful framework for analyzing this category of institutional change within the firm. In brief the idea is that an individual's behavior with regard to a particular decision lies somewhere on a continuum between that of rational calculation in attempting to maximize one's utility function and that of doing what one considers to be the 'right' thing to do, what Etzioni refers to as being guided by normative-affective considerations. Put into the language of management writers we are seeing the distinction between individualistic short-termism self-seeking behavior of the person who works within an organization wholly for what he or she can get out of it for themselves and the person who becomes highly committed to the firm and to the team in which he or she is working, whose behavior is influenced by doing what is best for the long-term success of the project on which they are working. Again, the tendency within the more progressive firms is to attempt institutional change towards this latter direction.

Matthew's latter two categories both shade into each other and into the first two categories above. He distinguishes between different types of contract in use and he also comments on the particular case of contracts about authority. For example, if someone is employed under a contract by which they are paid by the hour, rather than on a life-time employment basis, they are less likely to feel ownership of anything to do with the employer and more likely to engage in rational-economic rather than normative-affective economic behavior. However, Matthew's emphasis on types of contract does alert us to two trends in institutional change within firms. One is the switch from hierarchies to markets as means of coordination—the former implying an authority contract and the latter involving a contract about money for product. The other is the movement away from payment by results towards a more Japanese-like employment contract.

The important point to note is that these institutional changes are social and not just cognitive processes. We are not just talking about the rational design and implemenation of new structures, or architectures as some economists e.g., Kay (1991), are now calling them. We are talking about individuals, groups, even in some sense societies, changing their norms and values. This requires more than just thought. People change their typical patterns of behavior only under certain kinds of conditions. Social change of this kind is difficult enough when engaged in as a process of adjustment by groups acting under their own initiative. It is that much harder when steered by managers seeking corporate objectives.

Many of the studies in the initiative identified the issue of institutional arrangements as a crucial factor in explaining firm performance. Easton *et al.* focused in their study at least as much on the cooperative arrangements within and between firms as on the process of competition (Easton *et al.*, 1993). Storey *et al.* (1991) identified crucially different institutional arrangements in the career progression of managers between U.K. and Japanese firms. Fox and McLeay (1992) were able to show a statistically significant relationship between the institutions and practices within companies associated with human resource management and the performance of firms. Casson (1991) found that the management of intracorporate R&D networks was an important success factor and Buckley, Pass and Prescott (1992) examined the importance of various market servicing arrangements. Francis and Winstanley (1992) discovered that a lack of institutional change had been a very significant barrier to many of the engineering firms in their sample adopting what they believed to be best practice in the management of new product development.

Moreover these institutional changes took a great deal of time. Both Pettigrew and Whipp (1991) and Baden-Fuller and Stopford (1992) found that the process of change typically took perhaps 10 years, and involved both radical and incremental moves.

Developing managerial expertise

A third important finding from the research program was the central role of management expertise. Rejuvenation, as we have implied, is not simply a cognitive rational-linear process. One definition of strategic management is that it is

> the match an organization makes between its own resources and the threats or risks and opportunities created by the external environment in which it operates (Bowman and Asch, 1987: 4).

While this is true, the strategic management task is much more than that of sitting down to analyze resources, threats and opportunities, deciding upon a strategy that matches them up and then, in command and control mode, issuing directives from the directors' suite which will ensure that the organizational ship smoothly turns in the intended direction.

The process requires much more than just cognition and the ability to make rational calculations. It requires much more than just the ability to issue instructions. The case study reports from the various research projects provide much evidence that the strategic management process requires social and political skills of a high order, and, moreover is neither rational nor linear. Successful management of this process requires high level cognitive ability, it is true, but also a set of more tacit skills developed over a significant period of time. This is not just competence, it is expertise, well defined by Johnson (1988: 210), quoted by Buchanan and Boddy (1992), who says:

> There are many characteristics we associate with expertise: quick, confident judgements made under pressure, a reassuring manner, and an eye for the unusual or rare variable. However, one consideration seems tantamount: that experts make better—that is, more accurate—judgements than do untrained novices. In other words, expertise should provide both superior decision processes and superior performance.

The Mangham and Pye study (1991) captures *par excellence* the development and practice of this expertise in strategic management, not just within individuals but even more so as a characteristic of management teams. Pettigrew and Whipp (1991) and Baden-Fuller and Stopford (1992) provide further examples. The studies by Fox and McLeay (1992) and by Storey *et al.* (1991) on human resource management practices in firms can be seen as providing strong evidence that there are managerial processes within firms which are conducive to the development of this kind of expertise by individuals and by teams. Those firms which manage their management development processes in ways which encourage the development of this expertise do better than those which do not pay attention to these processes.

Cooperation is as important as competition

It may be, ironically, that one of the institutions prevalent within the U.K. that is antipathetic to world-class economic performance is an overdue emphasis on competition.

Together with the U.S. it seems that the U.K. shares both a mind-set and a set of institutions that see the economic world in terms of individual firms struggling with each other for competitive advantage, with high levels of productivity and growth resulting from competitive gains. In both the U.S. and the U.K. there is the fear that local firms are losing out to rivals in other countries in the competition. It is less clear what the competition is over. In competitions there is a goal and only one winner. In the market-place there is interdependent trade and, as Adam Smith pointed out long ago, the benefits of trade in allowing specialization mean an overall increase in prosperity. While it is true that there are distribution issues to do with this prosperity, and that in the market-place there is bargaining over these gains from trade, the fundamental issue is that of promoting economic growth. Trade can promote this growth, trade takes place in market-places and market-places usually contain multiple buyers and sellers competing over individual deals. There is one winner on each side for each deal and in this sense firms must remain competitive so that they can win individual deals. However, the fundamental task of generating economic growth involves a range of economic institutions, including markets, internal forms of managerial organization, and networks of collaborative relations between firms. It is not only a question of how effectively can a firm compete in a market, the more general question is that of what bundle of economic institutions is most appropriate for promoting economic growth. Put this way, one can begin to see that an exclusive focus on competition and competitiveness can be misleading and dangerous. It leads one to ignore other, cooperative, processes going on within and between firms, and demotes their importance.

In fact, a number of the studies in the initiative were able to bring into their focus this wider process of cooperation. Indeed this was the specific focus of the work by Easton *et al.* (1993). As a result they were able to model the changing pattern of relationships between firms within industries over the life cycle of those industries, showing some of the complex patterns of interaction between the processes of competition and collaboration between those firms. It is clear that part of strategic management expertise is the ability to handle the complexity of those different types of relationship. This finding has relevance for government policy, for management practice, for what is taught within the business schools, and for management research which should seek to be discovering the efficiency of these various arrangements under particular conditions.

CONCLUSIONS, RECOMMENDATIONS, AND SUGGESTIONS FOR FUTURE RESEARCH

Within this paper we have set out a framework which attempts to link national competitiveness and individual enterprise performance. We have also reviewed a number of studies which have addressed the question of corporate regeneration. Many of these studies were conducted within a national research initiative into the competitiveness and regeneration of that nation's industry—that of the U.K. To a considerable extent the results from this research program serve as a paradigm case for other countries experiencing slow growth and problems with competitiveness. To this extent the U.K. results may be of general interest. They are summarized below in the form of ten stylized facts:

1. Though there are firms, and industries, within the U.K. that are world-class, the level of output of the firms in the U.K. is on average, and in comparison with its major trading partners, low and slow-growing.
2. Though the industrial infrastructure in the U.K., and government economic policies, may be partly to blame for this poor economic performance, a significant part of the reason for this low and slow-growing output is attributable to the behavior of firms themselves.
3. Due to its early industrialization the U.K. may have a higher proportion than other countries of firms in mature industries. Many of these firms have failed to adapt to changes in the competitive environment and have not been aware of the possibilities for rejuvenation.
4. The 1979–81 recession gave many U.K. firms a major economic shock and a number responded positively by attempting to change their strategies, structures and procedures. Some succeeded, showing it to be possible for firms to develop strategies for rejuvenation. Firms and not just industries matter.
5. However, simply knowing about how things might be done differently is not enough to ensure it is done. Nor is it enough to change what is done. Changes are also necessary in how things are done. In other words changes need to be made in cognitions, behavior, and institutions.
6. These changes are necessary not just to improve the productivity of the production process but, at least as importantly, to improve the capacity of the company to produce products that are competitive in the market-place in terms of their quality and the features they possess.
7. Social and political institutions and relationships are as important as economic institutions and relationships in the behavior and economic performance of firms. Institutions are as important as strategies.
8. The development of expertise is an important constituent of success-expertise to develop the right strategy; expertise to know what institutional change is necessary; expertise to handle that change. This expertise takes a considerable time to build up, perhaps 10 years.
9. Expert top teams develop strategies in an iterative and somewhat intuitive fashion, evolving strategies in response to, and in enactment of, the world as they find and make it, using intuition as much as cognition. Strategy formulation is not a rational-linear process.

10. Collaboration is at least as important as competition in building up world-class performance.

However, virtually all of the U.K. research was focused at the level of the enterprise and did not explicitly recognize the effects of national institutional arrangements on enterprise performance. In the light of the theoretical material reviewed in this paper we therefore go on to make a series of recommendations for further research on national competitiveness that focuses on the process of corporate regeneration at the level of the firm in a way that pays explicit attention to the institutional arrangements and context of that firm.

Both the theory and the research reported here affirm that much of the effort at increasing national competitiveness has to be made at the level of the firm and within the enterprise. What goes on within firms is crucial.

Much of the discussion about falling level of national competitiveness, both in the U.K. and in the U.S.A., has been about the superior strategies and operating routines of firms in the more successful countries, especially, of course, Japan. Though having the right strategies and operating routines is vital this is only part, perhaps less than half, the story. The processual issues lying behind this are the greater part of the story. These processual issues include:

(a) The fact that there is no destination. It is not a question of finding the right strategy and operating routines and getting to the point where these are fully implemented. Strategies and routines need to develop on a continuous basis. The management of that process of development, whereby strategies and routines continue to develop to meet changing market and technological requirements, is a key managerial task. Research questions relating to this task include:
   (i) how can management teams avoid stasis? Mechanistic methods of long-range planning with annual review cycles can simply legitimate the perceived *status quo*. Scenario planning on a regular basis, with input from external sources, is one alternative. It is suggested (Kanter 1983) that managers should subject themselves to multiple sources of information, more relationships, more angles on the problem, more complexity. But managers have cognitive limits. What is the right balance in particular circumstances?
   (ii) How much involvement, and of what kind, from stakeholders at different levels of the organization should be encouraged and what mechanisms are effective for eliciting effective involvement?
   (iii) What is the most effective balance to strike between bottom-up participative strategy formulation processes and top-down directive approaches, recognizing that strategy formulation is a political affair which involves multiple stakeholders with competing objectives; and how does this balance vary according to the circumstances of the firm?
   (iv) If one does adopt the kind of contingency perspective implied in (iii) above, what is the best way of conceptualizing these varying enterprise circumstances in the development of such a contingency theory?

(b) The process of moving an enterprise from where it was to where it should be. An important part of the argument within this paper is that organizational inertia is a major force to be overcome. Most organizations operate with outdated institutional arrangements. This makes it difficult both to develop appropriate cognitions about the right strategies and routines for the present and future conditions (see Douglas, 1987), and also to implement new strategies and routines, once it has been decided what they are. The processes involved in recognition and implementation are crucial to the improvement of competitiveness. The research questions noted in (a) above are equally relevant here. In addition, it is also important to research the triggers and sources of energy that lead to organizational inertia being overcome. For example, on the basis that it is likely that there is a U-curve relationship between external pressure on effective organizational response, with too little pressure being ineffective and too much pressure being counterproductive, how might one conceptualize (and measure?) that relationship?

However, there are also country-specific issues of competitiveness at the level of the firm. Following Lazonick and others we are suggesting that there are institutional arrangements, specific to particular countries which operate within individual enterprises and impact on the performance of those enterprises. Lazonick, Best and others characterize these institutional arrangements into three types and associated historical periods. They do not provide an agenda for research into the process of institutional change whereby lagging countries move into the most recent period. Nor is it likely that their periodization and typology is adequate as a basis for managerial action. The 'new competition' paradigm is useful as a broad-brush explanation for national differences in economic performance and in pointing to the root causes of those differences. It serves as the stimulus for, but not the substance of, a research agenda into the specifics of institutional arrangements and the possibilities of change. There is now an urgent need to work out and implement that agenda. It seems likely that such an agenda would include at least the following:

(a) a more detailed institutional analysis at the national level of both the major institutional characteristics of that country and the relationships between those institutional arrangements and enterprise behavior. This should reveal a more complex pattern than that sketched out within the 'new competition' school.
(b) continuation of the studies of corporate change of the kind reported here but extended to include deeper consideration of (i) the relationship between institutions and cognition processes and (ii) the processes of institutional change at the level of the enterprise, and how these interact with institutional changes at the national level. (For example, many of the corporate changes documented by, for example, Pettigrew and Whipp (1991) and Baden-Fuller and Stopford (1992) took place in the U.K. in the 1980s at a time of apparently substantial institutional change at the national level under the Thatcher government).
(c) given that there are costs associated with overcoming inertia in order to generate change, then the alternative of simply starting again should be on the managerial agenda. Much more research needs to be done into both the costs and benefits of these alternatives and into the choice process leading up to the decision either to reengineer or scrap. There is the suspicion of a systematic bias here, both in the managerial behavior and academic interest, towards the reengineering rather than scrap scenario. Individual managers are likely to have much less to lose, and much more to gain, from attempting to change existing enterprises. Scrapping an enterprise and starting again on a green- or brown-field site is more likely to mean the redundancy of the local management. Similarly, many management academics are likely to be more interested in the complex process of corporate change than in the process of structural change brought about by closure and new births.

In summary this adds up to four recommendations: Firstly, there is an urgent need for research which will help firms discover innovative strategies and structures for rejuvenation. The research reported here has been able to go little further than report *post hoc* successful rejuvenation strategies invented by the firms themselves.

Secondly, a very strong implication of the findings reported here, taken alongside other recent writing on this topic, is that institutions influencing strategy formulation are likely to be nation-specific and rather harder change and renew than technology. There is urgent need for further research to identify rather more precisely the institutional barriers within and between firms which slow down the development and/or transfer of new technologies and to develop novel ways of helping those in organizations to change those institutions which they find a constraint to their development. Such research needs to go beyond issues of organizational change conceptualized merely as a process of persuasion and to go beyond notions of the learning organization which are rooted only in rather simple applications of systems theory (Senge, 1990).

Thirdly, those of us concerned with management education need to remember that management expertise is a matter not just of formal knowledge and cognition but of tacit/intuitive cognitive, social and political skills, developed over a period of many years on the job. This means that managers need class-room training in analytical techniques but also well-managed career paths within organizations and time spent learning management skills within the enterprise. More research should be done on what constitutes an appropriate mix of these various inputs.

Fourthly, we need to shift our perspective from competitiveness *per se* to output and growth in output. We need to pay much more attention in our research to the variety of organizational arrangements through which economic activity is coordinated—markets and more cooperative relations between and within firms—and take as our focus the managerial processes involved in managing that coordination in both competitive and collaborative contexts.

All this adds up to an exciting and challenging research agenda which will require researchers to adopt many of the same skills as those managers who are successfully developing innovative strategies. That is, it will require us to combine our various skills and disciplines in economics, sociology, organization theory and corporate strategy and engage in team working over the long haul. If management teams need 10 years successfully to rejuvenate business enterprises it is unlikely that we will be able to develop our own expertise in depth in a much shorter period.

REFERENCES

Abernathy, W. J., K. Clark and A. Kantrow (September–October, 1981). 'The new industrial competition', *Harvard Business Review*, pp. 69–81.

Aldrich, H. E. (1992). 'Incommensurable paradigms? Vital signs from three perspectives'. In M. Reed and M. Hughes (eds.), *Rethinking Organization: New Directions in Organization Theory and Analysis*. Sage Publications, Ltd., London.

Bacon, R. and W. A. Eltis (1976). *Britain's Economic Problem: Too Few Producers*. Macmillan, London.

Baden-Fuller, C. and J. Stopford (1992). *Rejuvenating the Mature Business*. Routledge, London.

Bain, J. S. (1959). *Industrial Organization*. Wiley, New York.

Balasubramanyam, V. N. (Forthcoming). 'Entrepreneurship and the growth of the firm: The case of the food and drink industry'. In M. Rose and J. Brown (eds.), *Entrepreneurship and the Growth of the Firm*. Macmillan, London.

Barna, T. (1962). *Investment and Growth Policies in British Industrial Firms*. National Institute for Economic and Social Research, Cambridge.

Barnett, C. (1986). *The Audit of War*. Macmillan, London.

Baumol, W. J. and K. McLennan (1985). *Productivity Growth and US Competitiveness*. Oxford University Press, New York.

Beckerman, W. (1979). *Slow Growth in Britain: Causes and Consequences*. Oxford University Press, New York.

Best, M. H. (1990). *The New Competition: Institutions of Industrial Restructuring*. Polity Press, Cambridge.

Blackaby, F. (1978). *De-Industrialisation*. Heinemann Educational Books Ltd., London.

Bowman, C. and D. Asch (1978). *Strategic Management*. Macmillan, Basingstoke.

Brittan, S. (19 Nov., 1992). 'Tour of world economy after the Berlin Wall', *Financial Times*, p. 23.

Buchanan, D. and D. Boddy (1992). *The Expertise of the Change Agent*. Prentice Hall, Hemel Hempstead.

Buckley, P., C. Pass and K. Prescott (1992). *Servicing International Markets: Competitive Strategies of Firms*. Basil Blackwell, Oxford.

Carter, C. (1981). *Industrial Policy and Innovation*. Heinemann Educational Books Ltd., Suffolk.

Casson, M. (ed.) (1991). *Global Research Strategy and International Competitiveness*. Basil Blackwell, Oxford.

Caves, R. and L. Krause (1980). *Britain's Economic Performance*. Brookings Institution, Washington, DC.

Clark, K. B. and T. Fujimoto (1991). *Product Development Performance: Strategy, Organization, and Management in the World Auto Industry*. Harvard Business School Press, Boston, MA.

Coates, D. and J. Hillard (1986). *The Economic Decline of Modern Britain: The Debate Between Left and Right*. Wheatsheaf Books Ltd., Sussex.

Coates, D. and J. Hillard (1987). *The Economic Revival of Modern Britain: The Debate between Left and Right*. Edward Elgar Publishing Limited, Hants.

Collins, B. and K. Robbins (1990). *Debates in Modern History: British Culture and Economic Decline*. George Weidenfeld and Nicolson Ltd., London.

Douglas, M. (1987). *How Institutions Think*. Routledge, London.

Easton, G., G. Burrell, R. Rothschild and C. Shearman (1993). *Managers and Competition*. Basil Blackwell, Oxford.

Elbaum, B. and W. Lazonick (1986). *The Decline of* *the British Economy: An Institutional Perspective*. Oxford University Press, New York.

Etzioni, A. (1988). *The Moral Dimension: Toward a New Economics*. Free Press, New York.

Fox, S. and S. McLeay (1992). 'An approach to researching managerial labour markets: Human resource management, corporate strategy and financial performance in UK manufacturing', *International Journal of Human Resource Management*, **3**(3), pp. 523–554.

Francis, A. and P. K. M. Tharakan (1989). *The Competitiveness of European Industry*. Routledge, London.

Francis, A. and D. Winstanley (1992). 'The organization and management of engineering design in the UK'. In G. Susman (ed.), *Designing for Manufacture*. Oxford University Press, New York.

Grinyer, P., D. Mayes and P. McKiernan (1988). *Sharpbenders: The Secrets of Unleasing Corporate Potential*. Basil Blackwell, Oxford.

Gwyn, W. B. and R. Rose (1980). *Britain: Progress and Decline*. Macmillan Press Ltd., London.

Hannan, M. T. and J. H. Freeman (1989). *Organizational Ecology*. Harvard University Press, Cambridge, MA.

Hirst, P. and J. Zeitlin (1989). *Reversing Industrial Decline?: Industrial Structure and Policy in Britain and her Competitors*. Berg Publishers Ltd., Oxford.

HMSO (1985). *Report from the Select Committee of the House of Lords on Overseas Trade, (the Aldington Report)*. London.

Hobsbaum, E. (1968). *Industry and Empire*. Penguin, Harmondsworth.

Hooper, P. and K. A. Larin (1989). 'International comparisons of labour costs in manufacturing', *The Review of Income and Wealth*, Series 35, No. 4.

Itami, H. with T. W. Roehl (1987). *Mobilizing Invisible Assets*. Harvard University Press, Cambridge, MA.

Johne, A. and P. Snelson (1990). *Successful Product Development*. Basil Blackwell, Oxford.

Johnson, E. J. (1988). 'Expertise and decision under uncertainty: Performance and process'. In M. T. H. Chi, R. Glaser and M. J. Farr (eds.), *The Nature of Expertise*. Lawrence Erlbaum, Hillsdale, NJ, pp. 209–228.

Kanter, R. M. (1983). *The Change Masters*. Simon and Schuster, New York.

Kanter, R. M. (1989). *When Giants Learn to Dance*. Simon and Schuster, New York.

Kay, J. (September 1991). 'Innovation in corporate strategy', *NEDO Policy Seminar 'Stimulating Innovation in Industry'*. All Souls, Oxford.

Lawrence, P. and D. Dyer (1983). *Renewing American Industry*. Free Press, New York.

Lawrence, R. Z. (1984). *Can America Compete*? The Brookings Institution, Washington DC.

Lazonick, W. (1990). *Competitive Advantage on the Shop Floor*. Harvard University Press, Cambridge, MA.

Lodge, G. C. and E. Vogel (1987). *Ideology and National Competitiveness: An Analysis of Nine Countries*. Harvard Business School Press, Boston, MA.

Mangham, I. and A. Pye (1991). *The Doing of Managing*. Basil Blackwell, Oxford.

Matthews, R. C. O. (December 1986). 'The economics of institutions and the sources of growth', *The Economic Journal*, pp. 903–918.

Meyer, M. W. and L. G. Zucker (1989). *Permanently Failing Organizations*. Sage Publications, Beverly Hills, CA.

Nossiter, B. D. (1978). *Britain: A Future that Works*. Andre Deutsch, London.

Penrose, E. (1959). *The Theory of the Growth of the Firm*. Basil Blackwell, Oxford.

Pettigrew, A. (1985). *The Awakening Giant*. Basil Blackwell, Oxford.

Pettigrew, A. and R. Whipp (1991). *Managing Change for Competitive Success*. Basil Blackwell, Oxford.

Piore, M. and C. F. Sabel (1984). *The Second Industrial Divide*. Basic Books, New York.

Pollard, Sidney (1984). *The Wasting of the British Economy*. Croom Helm, Kent.

Porter, M. E. (1980). *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. Free Press, New York.

Porter, M. E. (1985). *Competitive Strategy: Creating and Sustaining Superior Performance*. Free Press, New York.

Porter, M. E. (1990). *The Competitive Advantage of Nations*. Macmillan Press Ltd, London.

Porter, M. E. (1992). *Capital Choices: Changing the Way America Invests in Industry*. Council on Competitiveness, Washington DC.

Potter, S., J. Lewis and R. Roy (Dec. 12–14, 1988). 'The commercial impacts of design: The effects of subsidised design input on the competitiveness of small and medium sized firms'. *Proceedings of the 2nd International Congress of Industrial Engineering 'Competivity of the Business Enterprise'*, Nancy, France, Pt II, pp. 837–846.

Powell, W. W. and P. J. DiMaggio (1991). *The New Institutionalism in Organizational Analysis*. University of Chicago Press, Chicago, IL.

Prahalad, C. K. and G. Hamel. (May–June 1990). 'The core competence of the corporation', *Harvard Business Review*, pp. 79–91.

Ray, T., J. Evans, M. Boden and J. S. Metcalfe (1989). 'Competition and the momentum of technical change'. In A. Francis and P. K. M. Tharakan, *The Competitiveness of European Industry*. Routledge, London. pp. 165–199.

Reed, M. and M. Hughes (1992). *Rethinking Organization: New Directions in Organization Theory and Analysis*. Sage Publications Ltd., London.

Senge, P. (1990). *The Fifth Discipline: The Art and Practice of the Learning Organization*. Century Business, London.

Spender, J.-C. (1989). *Industry Recipes*. Basil Blackwell, Oxford.

Stinchcombe, A. (1959). 'Bureaucratic and craft administration of production: A comparative study', *Administrative Science Quarterly*, **4**, pp. 168–187.

Storey, J., L. Ward, I. Gow, P. K. Edwards and K. Sisson (Spring 1991). 'Managerial careers and management development: A comparative analysis of Britain and Japan', *Human Resources Journal*, **1**(3), pp. 33–57.

Swann, P. and M. Taghavi (1992). *Measuring Price and Quality Competitiveness*. Avebury, Aldershot.

Teece, D. J. (1987). *The Competitive Challenge: Strategies for Industrial Innovation and Renewal.* Harper and Row, New York.

US GPO. (1985). *The Report of the President's Commission on Industrial Competitiveness*: Vol. II Global Competition: The New Reality. US Government Printing Office, Washington DC.

Wiener, M. J. (1981). *English Culture and the Decline of the Industrial Spirit, 1850–1980.* Cambridge University Press, Cambridge.

Williams, E. E. (1896). *Made in Germany*, quoted in Collins and Robbins, op.cit.

Williams, K., J. Williams and D. Thomas (1983). *Why Are the British Bad at Manufacturing?* Routledge & Kegan Paul Plc, London.

Williamson, O. E. (1975). *Markets and Hierarchies: Analysis and Antitrust Implications*. Free Press, New York.

Williamson, O. E. (1985). *The Economic Institutions of Capitalism*. Free Press, New York.

Williamson, O. E. (ed.) (1990). *Organization Theory from Chester Barnard to the Present and Beyond*. Oxford University Press, New York.

Womack, J. P., D. T. Jones and D. Roos (1990). *The Machine that Changed the World.* Rawson Associates, New York.