

**SWP 69/91 OWNERSHIP, MANAGERIAL CHANGES
AND PERFORMANCE**

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Section 1: Introduction

The 1970s saw a resurgence of the notion that transferring assets from the public sector to private enterprise would raise both allocative and technical efficiency, leading to greater economic well-being. The intellectual argument in support of this idea linked performance to ownership: "...privatization involves more than the simple transfer of ownership. It involves the transfer and redefinition of a complex bundle of property rights which creates a whole new penalty-reward system which will alter the incentives in the firm and ultimately its performance" (Veljanovsky, 1987, pp.77-78).

This resurgence in turn led in the UK and elsewhere to privatisation and the transferring of remaining state activities from departments to separate governmental agencies. In the UK over £40bn. of state assets have been sold since 1979 and currently huge chunks of the civil service are being hived-off to agencies with the objective of "commercial management" (HMSO, 1988). However, the point was made in the mid-1980s that the case for such policies was strong on a *priori* theorising but relatively weak in empirical confirmation (Parker, 1985). Studies in various countries of the comparative efficiency of public and private enterprises have produced mixed results, but certainly no overwhelming support for the notion that private enterprise is always superior to public enterprise. In monopolistic industries such as gas, water and electricity, there is even some suggestion

of lower cost production under public ownership. This may result from inefficiencies introduced in private firms where there is a need for continued state regulation of prices or profits (Millward and Parker, 1983; Parker, 1989). Bishop and Kay (1989) in a survey of early post-privatisation data for the UK have suggested that there is no real evidence of major efficiency gains. Lynk (1991) points to the paucity of econometric analysis of production and cost functions prevailing in privatised industries.

There is clearly a need for more studies of the effect of changes in organisational status, including moving functions into government agencies and transferring them across the public-private divide (privatisation and nationalisation). This paper summarises some of the results of a major research programme based at the University of York, which has been concerned with the validity of public choice and related theories¹. A number of organisations which underwent relevant status changes in the post-war period were studied. The research was divided into two, albeit related, parts. The first part tested for performance changes at around the time of the status change. Was there any evidence of improved or deteriorating performance? The second part was concerned with the attempting to identify the cause of performance changes observed or not observed. It explored where in the organisation performance changes originated. What went on within the organisations which led to changed performance? What were the mechanisms of change? This part of the research

is currently being completed and only general observations are reported in this paper.

The structure of the paper is as follows. In Section 2 the hypothesis on organisational status change and performance is formally set out. The performance measures used are explained and the main results are reported in summary form with comment. Part 3 of the paper discusses the nature of the incompleting research into internal mechanisms. Section 4 provides some general conclusions and outlines the policy implications.

Section 2: Testing for Performance Changes

The analytical framework used for assessing the effect of organisational status on performance has been presented elsewhere (Dunsire et.al., 1988), hence it is outlined here only briefly. It is summarised in Figure 1. On the west-to-east axis are positioned certain organisational forms intended to represent the main types of ownership in the public and private sectors, namely government departments, governmental agencies (eg. trading funds), public corporations, hybrids (eg. private sector firms highly dependent on government contracts, or cooperatives, charities etc.), private sector PLCs and owner managed firms.

Drawing on the conclusions of property rights and public choice theorists (Parker, 1985, Mitchell, 1988), the central

hypothesis is that as organisations in the public sector move away from political control and Exchequer financing towards more independent management their economic and financial performance improve. This should show up particularly when an organisation is privatised, but should also be evident when organisations remain in the public sector and achieve an "arm's length" relationship from government. Quasi-governmental agencies and public corporations were created precisely to reduce political intervention and to introduce more commercially orientated management. Also, the schema suggests that organisational changes can be expected to have their most profound effect on performance the further east organisations travel.²

(Figure 1 here.)

According to standard economic theory, performance is also affected by the degree of competition in the product market. While high efficiency is necessary for survival in competitive markets, monopoly provides opportunity for managers and workers to pursue on-the-job leisure and discretionary expenditures leading to organisational "slack". In Figure 1 changes in the level of competition are represented by movements on the north-to-south axis. Efficiency is expected to rise if firms move southwards but decline with northward moves.

Combining the effects of the product market (north-to-south axis) and the capital market (west-to-east axis) leads to the

conclusion that there should be large efficiency gains if organisations move south-eastward and large efficiency reductions if they move north-westwards. The effect of a movement between south-west and north-east is less easy to isolate because the product market and capital market constraints conflict.

Ten organisations were selected for study on the basis that they had undergone relevant status changes. The sample includes all the movements within the public sector and between the public and private sectors set out in Figure 1. The organisations studied were the postal and telecommunications services; Her Majesty's Stationery Office (HMSO); Rolls Royce (aero and marine engines); British Aerospace; the National Freight Corporation (NFC); London Transport; the Royal Mint; the Royal Ordnance Factories; and British Airways. Because the research began in 1986/87, privatisations from the mid-1980s were not studied. However, British Airways was included to test for "anticipation effects". Although it was not privatised until 1987, a formal timetable for privatisation was agreed in 1980. The organisations, the status changes studied, the dates of the status changes, and the direction of the expected change in efficiency are summarised in Table 1. Only three of the organisations studied had identifiable changes in product market competition which might also have impacted on performance in the periods studied - British Aerospace 1977 (the nationalisation of three airframe manufacturers to form British Aerospace reduced competition), London Transport 1984

(tendering for a quarter of London's bus services was introduced) and the HMSO 1982 (loss of the monopoly as supplier of stationery to government departments). In all other cases, efficiency changes can be more readily related to the change in organisational status.

(Table 1 here.)

Figure 2 shows the movements of each of the ten organisations at around the time of the status change using the schema of Figure 1. Since Rolls Royce and British Aerospace were dependent to a significant degree on government contracts and "launch aid", the dotted line between the hybrid and PLC categories is intended to reflect the ambiguity about their precise status change. Two of the organisations - London Transport and British Aerospace - went through two status changes during the period considered. Hence, in total, 12 status changes were studied.

(Figure 2 here.)

The study was concerned only with identifying changes in production efficiency, wider social welfare effects were ignored, including the implications for efficiency in competing firms (for an insight into this problem see De Fraja, 1991). Moreover, because none of the organisations provided data to assess the quality of services before and after the status change, it was not possible to test whether

economic and financial performance improvements occurred at the expense of service quality.

Three broad measures were used to identify changes in production efficiency - an employment function, productivity measures, and a set of financial ratios.

(a) *Employment function*

An attempt was made to capture the longer-term effects of a change in organisational status by including a binary (dummy) variable in a standard employment function. Various employment functions were tested (Parker and Hartley, 1991) but the one that provided the most satisfactory fit was based on the function suggested by Ball and StCyr (1966) and took the general form:

$$L_t = C + b_i V_i + C_i X V_i + DV + m_t$$

where L is employment; C is a constant; V is a vector of variables, notably output, a time trend and a lagged dependent variable; X is a slope shift dummy variable for the status change applied to V ; and DV is an intercept shift dummy. A negative relationship was predicted for the intercept shift dummy where a west-to-east organisational status change occurred. The dummy variable was used in its slope shift form to estimate any favourable performance effects of status change on output, productivity trends, and on the speed with which employment adjusted to output.

(b) *Productivity*

Both labour and total factor productivity were estimated for the four years before the status change and were compared with the figures for the four years after. Four year periods were selected to capture "leads and lags" in performance changes associated with the status change. The effect of changes in macroeconomic factors on productivity was removed by comparing the figures with changes in productivity in the UK economy, UK manufacturing and the public corporation sector.

In the absence of information about hours worked, labour productivity was assessed by calculating the change in each organisation's volume of output in relation to changes in the labour input. Total factor productivity was estimated on the basis of the rate of growth of output minus a weighted average of input growth rates, where the weights are the share of each input in total cost (for a more detailed explanation of the procedure and its underlying assumptions see Millward and Parker, 1983, pp.225-229 or Parker, 1990; and for its precise application in this research, Hartley, Parker and Martin, 1991).

(c) *Financial ratios*

This part of the study was concerned with changes in the trends of financial ratios associated with an organisational change.³ The specific financial ratios studied were intended to reflect the quality of management in terms of the efficient use of working capital, labour, fixed assets and profitability. The data came from each organisation's annual

reports and accounts, supplemented where necessary with information from internal accounts and papers.

Six ratios were used:

- (1) Profitability: percentage return on capital employed (ROCE).
- (2) Turnover to average net fixed assets employed.
- (3) Stocks (including work in progress) to turnover.
- (4) Debtors to turnover.
- (5) Labour's share in expenditure.
- (6) Value added per employee.⁴

It might be argued that profitability should be taken as the key measure of financial performance and that the other ratios are subsidiary. However, all of the organisations spent some time in the public sector where other goals may have been more important than profitability. Performance measured simply in terms of the rate of return on capital could, therefore, reflect changes in objectives. Nonetheless, in five of the ten cases profitability improved (although for Rolls Royce, contrary to expectation) and in no cases did it decline following the status change.

The ratios were studied by taking four year averages for before and after the status change and were tested using a simple covariance model of the following form:

$$V_{it} = a + bt_i + DV + m_{it}$$

where V_{it} is a vector of performance measures; t is time: DV is a binary variable for the status change applied in slope and intercept shift forms; and m_{it} is a normally distributed error term. Other factors affecting performance over time are captured in the time trend, t (see Kmenta, 1971, pp.409-430).

The full statistical results using each of the three measures are given in Parker and Hartley, 1991a and 1991b, and Hartley, Parker and Martin, 1991. Table 2 therefore provides only a brief summary of the results.⁵

(Table 2 here.)

On the basis of the sample, west-to-east movements (Figure 1) appear to have led to improved performance in 5 of the 12 status changes studied, ie. the Royal Mint, London Transport (1984), British Aerospace (1981), British Airways and the National Freight Corporation. This includes all three of the organisations which were privatised. In a further six cases the performance measures produced conflicting results and hence status change had uncertain effects, ie. London Transport (1970), the postal and telecommunications services, the ROF, the nationalisation of British Aerospace and the HMSO. In one of these cases, however, London Transport, there was clear evidence of a major loss of efficiency in the late 1970s and early 1980s, which might imply a delayed effect consistent with the central hypothesis. Only one case appeared completely contrary to expectation - the performance of Rolls

Royce improved after nationalisation. However, this result might well be explained by the "shock effect" of bankruptcy in 1971, which led to the government takeover. In support of this view, study of performance in later years show a marked deterioration in all three performance measures from the mid-1970s. In other words, by the mid-1970s nationalisation was having the effect on performance that the central hypothesis predicts.

It appears, therefore, that west-to-east status changes can be expected to lead to improved performance, though this performance improvement is not guaranteed. Also, one of the cases which clearly supported the central hypothesis was also associated with a change in competition - London Transport(1984) - and the possibility that the change in the product market had an effect on this result cannot be ignored. The fact that *all* of the privatisation cases were associated with improved performance supports the view that performance improvements are most likely the further eastwards the change in status.

Section 3: Exploring the Internal Environment

The statement that "ownership" effects performance says nothing about how the effect is achieved. In what ways do organisations change when their ownership status alters and what causes/prevents changes in performance? "The underlying model assumes some stimulus/response mechanism, some form of ecological adaptation" (Woodward, 1988), but what is it? To shed light on this requires looking inside organisations, in other words, prising open the economist's "black box". An attempt can then be made to observe how the organisation adapts to a new external environment. An external environment in which changes in the capital market (and product market where relevant) introduces new threats, while politically imposed constraints (eg. limits on pricing and investment) are removed.

In the subject area of privatisation it appears that the least research has been undertaken in this area, which makes it potentially most fertile. If the sources of efficiency gains or the reasons why efficiency did not improve can be identified, this has obvious value to policy makers, government departments selected for agency status and the managements of firms yet to privatise (in the UK, especially London Transport and the coal and rail industries).

An attempt has been made to relate the above findings on organisational status changes and performance to a set of variables, detailed below and collectively referred to as the

"internal environment". The working hypothesis is that where performance improvement was not found, or where there was ambiguity about the effect on performance, there will be fewer changes in the internal environment than where efficiency clearly increased.

There are special difficulties in undertaking this type of research. What the research is trying to identify in its most general sense is a change in the organisation's "culture" (the organisation's meanings, beliefs and values) which impacts on performance. But this requires identifying a number of factors which might reflect or provide some evidence of a cultural change, while bearing in mind the analytical distinction between structures, policies, processes and strategies and the "cultural system" (Allaire and Firsirotu, 1984). Also, it is important to recognise that changes in the internal environment may result from other factors. For example, in the 1980s the "Thatcher factor" is known to have led to a greater commercialisation of the public services independent of changes in their formal status.⁶

According to Peters (1980) performance is associated with management clearly signalling the right priorities and providing consistent guidance. Figure 3 provides a simple schema linking management, goals, human resources and organisational structure to a firm's performance. The quality and behaviour of management influences performance and is linked to the goals of the firm (dotted line). The management determines the goals the firm pursues (subject to the capital

market and product market constraints detailed earlier) and these goals then impinge on performance. At its simplest, a non-profit making goal can be expected to lead to low profitability! Research suggests that the "organisational fit" between the organisation and its external environment can have an important effect on a firm's performance, while structure is itself linked to management through reporting systems or the effectiveness of the management's "span of control". In addition, the organisational structure is linked to the firm's resources both capital and labour, which in turn impact on performance. For example, the organisational structure may be reflected in the type of human resource policy pursued and the quantity and quality (reliability, skills and education) of the firm's labour force.

(Figure 3 here.)

Therefore, the following variables appear to capture the important changes in the internal environment which might be expected where there is significant cultural change in an organisation:

1. *Organisational Structure*

According to the organisational theory literature (especially contingency theory), there is no single structure or mode of control which is optimal for all organisations (optimal here means the form which is best suited to maximising performance as measured earlier). The optimal form varies with circumstances and is likely, therefore, to change over time

(Pugh and Hickson, 1976; Clegg and Dunkerley, 1977). However, the adoption of a mode of control incongruent with an enterprise's position, internal or external, will lead to reduced performance. Insofar as public ownership is associated with non-optimal structures, changes would be expected whenever movements along the west-east axis in Figure 1 occur. Also, changes in organisational form will be associated with changes in the product market (adaptation to the external environment), ie. with north-south movements.

Figure 4 illustrates the expectation regarding the direction of change in mode of control associated with west-to-east shifts in organisational status. It relates an organisation's structure to whether it is predominantly command or results orientated. The state sector is popularly perceived as rule bound and bureaucratic, burdened with the "alienation, avarice and a lowered sense of autonomy" said to be associated with bureaucracy (Ouchi, 1981, p.84). Although this is no doubt an unfair caricature (at least for some parts of the state), a west-east organisational status change is likely to lead to a change in managerial goals away from "doing it right" (procedures) to results - from a primary concern with "inputs" to "outputs", including an emphasis upon the quantity and quality of the output. A movement away from Burns and Stalker's (1962) "mechanistic" mode of management.

The schema builds on ideas from managerial economics and the strategic management literature (eg. Williamson, 1970, 1975; Johnson and Scholes, 1988). Point A is highly command

orientated. It is associated with a hierarchical organisation and top down orders, and is closest to the rule bound bureaucracy which is supposed to exist in government. B is characterised by a large HQ with centralised finance, marketing, personnel, planning, R&D, etc, functions. This represents a managerial form broadly corresponding to the "staff and line" pattern of classic scientific management, to Chandler's (1962) "centralised" and Williamson's (1970) "unified" form. By contrast, point C is associated with the idea of cost or profit centres. The HQ is relatively small and "facilitates" the operations of the divisions and monitors their performance individually. This broadly corresponds with Chandler's multidivisional or "decentralised" structure or Williamson's "M-form". Point D is archetypal entrepreneurial firm, output orientated with a flattened managerial structure. Therefore, as an organisation moves away from an emphasis on "how things are done" towards "concern with the outcomes" the expectation is that this will be reflected in a change in organisational structure consistent, in terms of Figure 4, with a movement along the curve A-to-E. A change in structure from a hierarchical to a more devolved form of management (or in Williamson's terms from "M-form" to "U-form").

(Figure 4 here.)

A weaker hypothesis would directly address the uncertainty in the organisational theory literature regarding the optimal mode of control. Based on the notion that politically controlled bodies are likely to have non-optimal structures,

the expectation would be that there will be a change of mode of control in any direction as the organisation's status changes. In other words, organisational status changes will be associated with some kind of change in structure or mode of control.

2. *Goals*

Related to the change of mode of control will be a change in goals. Although profits are not sufficient for assessing performance, they do provide a concrete objective which may be missing in politically controlled activities. Here goals are more likely to be multifarious and less tangible, concerned more with achieving some vague notion of the "public interest". Hence, we might expect west-to-east movements to be associated with more concern with the bottom line. This also implies more stress on meeting the needs of the consumer.

3. *Mission and Strategy*

Insofar as the goals of the organisation becomes clearer with west-east movements, this should reflect itself in the organisation's strategy for converting the set of objectives into performance. As Drucker comments, strategy exploits opportunity, the right moment - or what Greek theologians call *Kairos*, the point where the new is received (Drucker, 1990, p.77). Changes in organisational status are points of *Kairos*, which, the expectation is, management will exploit. This should be reflected in clear changes of strategy and perhaps even of changes in "mission".

4. Management

Changes in organisational status which lead to discernible performance improvements might be expected to be associated with changes in management. This might be in the form of new managers (entrepreneurs rather than bureaucrats, to use the populist descriptions), changed titles (in the civil service top managers are known as permanent secretaries, in private enterprise as chief executives) and new employment contracts (perhaps linking pay and tenure more closely to performance). Civil servants have jobs for life and the pay of public sector managers is rarely related to performance in any meaningful way.

Also, many state enterprises began in government departments and departmental culture takes a long-time to change. Managerial behaviour may therefore have an engineering or technical bias and consumer orientation may be weak. A reflection of a change would be the sweeping away of "controllers" and the establishment of a Marketing Department. As Ramanadham (1988, p.3) observes succinctly: "Analytically, if the essence of public enterprise is that it rests on some kind and degree of de-marketisation of enterprise operations, privatisation implies some kind and degree of re-marketisation." Serving "the public" converts to serving "the consumer".

5. Labour

A change in organisational status might also be reflected in human resource policy. There might be a reduction in the

labour force (switching from labour to capital and reducing over-manning) and a change in labour relations, labour employment contracts and staff training.

The public sector has a tradition of "collective bargaining". Post-war nationalisation legislation included a statutory commitment to "good labour relations practices" and the civil service recognises unions and has a well-developed tradition of employee consultation through the Whitley Councils. Insofar as the public sector is more sympathetic to unionisation, collective bargaining and employee participation, a Figure 1 west-to-east shift is likely to be associated with some change in human resource policy to create a more "flexible" (compliant, docile?) labour force. Certainly the unions have anticipated that privatisation will lead to major redundancies and worse pay and conditions. As the TUC has commented (TUC, 1986): "there is every indication that it is one of the Government's deliberate objectives; privatisation is *supposed* to undermine workers' conditions. That is one of the ways to make companies more profitable for their new owners."⁷

6. Reporting Systems

Management success in achieving its goals requires effective reporting systems. Hence, organisational status changes might be expected to be associated with the introduction of new reporting structures, including new accounting systems. What senior management want to know may change as may the way in which lower ranks of management are controlled. Also, a change

in the capital market may require changes to the type of published accounts and annual reports.⁸

7 Nature and Location of the Business

Finally, public enterprises tend to be heavily restricted by political and administrative constraints (departmental boundaries or geographical areas in the case of local authorities), or, in the case of nationalised industries, by their founding statutes. By contrast, private enterprise is much freer to develop new lines of business (eg. new export markets or sourcing overseas), invest in new locations (including overseas), divest, diversify, and become involved in mergers and takeovers. As Drucker comments:

"Non-profit organizations have no 'bottom line'. They are prone to consider everything they do to be righteous and moral and to serve a cause, so they are not willing to say, if it doesn't produce results then maybe we should direct our resources elsewhere. Non-profit organizations need the discipline of organized abandonment perhaps even more than a business does. They need to face up to critical choices." (Drucker, 1990, p.8)⁹

A Figure 1 west-east shift might therefore be expected to lead to changes in the nature of the markets served or the sale of some lines of business and the acquisition of others.

The Results to Date

To date a series of in-depth case studies of the history of eight of the ten organisations studied have been written based on interviews, published reports and internal data (Dunsire, 1991). From these studies an attempt is underway to identify changes in the internal environment under the headings outlined above. Unfortunately, this work is incomplete and hence the following is only a series of general (and tentative) observations on each of the organisations. These notes do, however, provide an indication of the general extent to which the organisations changed with their status change.

1. *Royal Mint*

The Royal Mint began with a functional structure of management and there was little discernible change throughout the period studied. Nor did accounting practices, remuneration or employment conditions appear to alter in a way that was likely to spark a performance change. The source of the performance improvement after the introduction of trading fund status, as discovered in the first part of the research programme, cannot be readily associated with any of the changes in the internal environment outlined above. Instead, a likely cause was technological improvements in the production process related to the movement of the Mint from crowded conditions in London to a new, purpose built plant in South Wales. This sheds doubt on whether the status change was necessary to the improved performance. If it was not, then the Royal Mint ceases to be supportive of the central hypothesis.

2. Royal Ordnance Factories

The ROF were organised on a functional basis but with profit centres. However, in 1973, a year before trading fund status, the structure became more functional and Director Generals were appointed for production, procurement and administration and finance. In 1974 a marketing co-ordinator was brought in from outside. Hence, there were significant changes in some of the internal environment variables. But the ROF did not support the central hypothesis, performance declined after the introduction of trading fund status. How might this be explained? One possibility is that the organisation became over centralised. The mode of control moved more towards point B in Figure 4, which may not have been the optimal structure for an organisation wanting to become more commercial and profit orientated. Interestingly, in 1984, immediately before privatisation of the ROF, consultants recommended the establishment of four separate operating companies.

3. Postal Service

The movement from government department to public corporation status in 1969 was preceded from the early 1960s by some reorganisation and a clearer separation of the postal and telecommunications businesses of the Post Office in 1967. However, the postal service management structure continued to be highly functional. Only in the 1980s were separate companies formed for each of the main areas of the postal business. In other words, only in the 1980s was there a significant change in mode of control towards profit centres.

This in turn led to long-overdue changes in working practices and a new, more commercially orientated management style. Thus, although its legal status altered in 1969, the Post Office retained its government department culture and structure for a further decade. The "Thatcher factor" proved more important in rejuvenating the organisation than the move to public corporation status.

4. Telecommunications

Post Office telecommunications had separate accounts from the postal (and later, Giro) businesses and its own staffing and management below board level. However, it never really got to grips with defining and managing its various activities. The Post Office's acquisition of public corporation status had no apparently significant effects on the internal environmental variables outlined above. Also, there is evidence of continuing frictions between "management" and "technical" staffs. In 1979, ten years after the introduction of the status change, the centre did not trust its field workers (Beesley and Laidlaw 1989, p.21).

In 1981 telecommunications became a completely separate corporation from the Post Office and three years later the corporation was privatised. The act of privatisation, subsequent prodding by OFTEL, and the threat from more competition in the equipment market and in business and long-distance calls (provided by Mercury Communications), provoked a more aggressively commercial management style. There was a new interest in the "consumer" and associated marketing of

services. However, one less desirable product of privatisation was BT's decision to stop publishing quality of service indicators (as required under the 1978 Nationalised Industries White Paper) on the grounds that such information was "commercially sensitive". Also, it has taken BT some time to tackle over-manning, especially at management levels. Only after 1989 were large scale redundancies announced, while at the time of writing the search continues for the optimal organisational structure.

5. *Rolls Royce*

The movement of Rolls Royce into the state sector was associated with major managerial failures, particularly relating to the RB211 project. The DTI inspectors' report details major weaknesses in the way the company was being run, particularly in the divisional and corporate accounting function (MacCrindle and Godfrey, 1973). Based on a multidivisional "profit centres" structure, the main board (overweighted with engineers and long-serving executive members) did not receive the information it needed to keep track of the financial drain coming from aero engines. Following bankruptcy and the state takeover, not surprisingly there were major redundancies and management changes with a completely new board appointed. In the mid-1970s performance began to deteriorate badly again and it may be significant that just before overall profitability was restored, the company restructured towards a more functional form with management of production and design centralised. This implies that the mode of control under nationalisation had remained

inadequate to maintain cost control in the various activities of Rolls Royce.

6. *British Aerospace*

Surprisingly, the nationalisation of three firms in the aerospace industry to form BAe led to relatively few organisational changes. Below the new corporation board, the old companies were retained as a multi-divisional structure. Nor did there appear to be significant changes in employment terms and conditions, although, in tune with the times, annual reports contained long and enthusiastic commitments to good labour relations.

Privatisation in 1981 was followed in 1983 by the appointment of a new managing director and major internal change focused upon centralising the structure. A whole tier of management was abolished and marketing, research etc. functions were unified as management attempted to pull together and rationalise the activities of the founder companies. By 1986 the board of BAe was highly functional in nature. Yet in 1987 a new chairman oversaw a reverse process as activities were de-centralised and separate limited companies for divisions were established. Within a year BAe had adopted a "holding company" form.

Hence, the history of BAe can be broken into three broad periods. The first from 1977 to 1983 contained the short period of state control and was associated with a relatively loose affiliation of operations inherited from the

nationalised companies. From 1983 to 1987 the management of BAe centralised to take control (and stock?) of its disparate activities. After 1987 the decision was taken that the optimal structural form lay in separate operating companies. One impetus for this came from the need to assimilate new acquisitions, notably the ROF and Rover cars. But it may also have reflected the fashion in the management literature for "flattening" the management pyramid and sweeping away tiers of middle management.

7. London Transport

The introduction of local government control over LT in 1970 does not appear to have been associated with any significant changes in the internal environment. LT retained a highly centralised and functional board structure. Although bus and rail operations were gathered and given to separate board members in 1971, neither had control of planning, engineering supply/stores, personnel, industrial relations, or finance. Only in 1978, in the face of a deteriorating financial situation, did a major reorganisation take place. A new chairman and deputy were appointed from outside and established two businesses (profit centres), which absorbed most of the engineering and supply functions. Also, management was decentralised within them into smaller units, each with budgeting and personnel powers. Performance measures were introduced for management at all levels. This trend continued in 1984 when LT became directly accountable once more to central government. Subsidiary companies were formed to manage the bus and underground businesses and the strategy was

subsequently extended to most of LT's activities. By 1988 a small central HQ confined itself to corporate planning and financial oversight and was surrounded by subsidiary companies and "business boards". A number of profit centres, such as computing and architects, charged for their services in order to instil financial discipline.

Broadly, the source of LT's performance improvement after 1984 appears to lie in the reorganisation and new management style introduced from 1978.

8. HMSO

Throughout the 1970s there was an on-going "commercialisation" of the HMSO, which began well before the decision was taken to establish a trading fund. The creation of a trading fund can therefore be seen as a product of, rather than the cause of, the greater commercialisation. In accordance with expectation, the move to trading fund status was associated with a switch from a functional to a profit centre structure during the 1970s. There were also changes in reporting systems with a new management accounting system introduced in 1972. However, there was no input of new senior management and the labour force remained civil servants, with the normal civil service terms and conditions.

Conclusions on the Internal Environment

The results for this part of the research programme are incomplete. Yet, already it is apparent that when completed they are likely to be even less clear cut than the statistical results reported earlier. At this stage, it appears that:

- Some organisations underwent changes in their internal environment as predicted, but some did not.

- Changes in the internal environment in many cases occurred independently of, or at least well in advance of or after the status change, which makes the identification of causation difficult. This also implies that in testing for performance changes associated with status change, the "leads and lags" may have to be longer than the periods used in the first part of this paper.

- Turning specifically to modes of control, no examples of pure hierarchy were found amongst the ten organisations studied (though several were perhaps nearer A than B in Figure 4 at the outset) and only one clear case of a "holding company" was identified (BAe from 1987). Most organisations could be placed around points B or C. But in any case it is not always easy to associate performance changes with changes in the internal environment. Four of the organisations underwent a clear control-mode shift (Figure 2) - HMSO and LT towards "profit centres" and BAe (privatisation) and ROF towards

a centralised, "functional form - but only two of these, BAe and LT in the 1980s, showed a clear improvement in performance. In the other cases, performance seems to have improved independently of a change in control mode.

Section 4: Overall Conclusions

The research has been concerned with (1) testing the hypothesis that a change in organisational status leads to a change in performance and with (2) attempting to identify the relationship between performance and the organisation's internal environment.

The results confirm that a Figure 1 west-to-east (political to private) shift is associated with improved performance, but that this performance improvement is not guaranteed. There was no definite relationship between enterprise performance and status change, change in competition, or change in control mode, singly or in combination. Thus the link between organisational status and performance is apparently much more complex than many commentators (notably politicians) have assumed. The results appear to be congruent with aspects of the organisation literature, especially contingency theory, which suggest that performance is the product of many and often subtle forces (Perry and Rainey, 1988).

The findings suggest that further research is needed to address the factors that determine performance. What other

changes should be instituted at the time of the organisational change - perhaps more competition, new management or incentive-type employment contracts? if we are truly to understand the determinants of organisational performance, there is a need for more research into what happens *within* organisations when their status changes.

Notes

1. The research was funded by the Economic and Social Research Council as part of its Management in Government Initiative (Project no. E0925006). Other members of the research team included Professors Keith Hartley and Andrew Dunsire. The usual disclaimer applies.

2. Stephen Littlechild warns in relation to organisations which retain some government ownership, that: "... as long as ultimate control lies with government, one cannot realistically hope to avoid all the problems..." (Littlechild, 1981, p.14).

3. Owing to the major changes in the Royal Mint's financial records around the time of the status change, it was not possible to produce reliable financial ratios for this organisation.

4. In the absence of detailed information on purchases, this was approximated as $(P+I+W)/N$ where P = profit before tax, I = capital charges in the form of interest on long-term loans, and W = employee wages. P, I and W were expressed in real terms.

5. "Unclear" in Table 2 means that the results of the test varied depending upon the precise dates, price deflators or national comparisons used.

6. Research suggests that firms need periodic "cultural change" and that this occurs at discrete intervals rather than as smooth adaptations to changes in the external environment. Firms also appear to suffer adaptation "inertia", which events such as privatisation may overcome. However, it is important in this line of research to beware of a "Hawthorn effect" (Roethlisberger and Dickson, 1939) - that any organisational change creates a shock effect which leads to a questioning of existing practices and beliefs, leading in turn to improved performance (at the same time, of course, major change risks disruption costs which could depress performance). Such an improvement is not likely to be long maintained in the absence of a further "shock". An example of this may well be Rolls Royce, where bankruptcy in 1971 led to improved efficiency, but the improvement was not sustained into the second half of the decade.

7. Many privatised organisations reduced their labour force as part of their economic restructuring ahead of privatisation, eg. BSC and British Airways.

8. In an earlier paper (Dunsire *et.al.*, 1988) reference was made to the possibility of inferring from the kind of information passed up and down the organisation the type of management which exists. Did the information primarily consist of "controls" or "news"? Was the information primarily input or output orientated? Unfortunately, it has proved too

difficult to obtain the kind of internal data (access to memoranda etc.) to proceed far with this line of enquiry. However, it is potentially a fertile area for research where data permit.

9. Drucker's comment was directed at non-profit organisations like charities and non-profit schools and hospitals. However, it appears applicable to all organisational forms where the profit goal is attenuated.

10. Although the research did not address the effect of changes of status *within the private sector*, the method outlined in this paper can be adapted to assessing the effects of MBOs, divestments, takeovers, "going public" and "going private", etc..

9. References

- Ball, R.J. and St Cyr, E.B.A., 1966, "Short-run employment functions in British manufacturing industry", *Review of Economic Studies*, vol.33, pp.179-207.
- Beesley, M.E. and Laidlaw, B., 1989, *The Future of Telecommunications*, IEA Research Monographs No.42, Institute for Economic Affairs, London.
- Bishop, M. and Kay, J., 1989, *Does Privatization Work? Lessons from the UK*, London Business School, London.
- Burns, T. and Stalker, G.M., 1961, *The Management of Innovation*, Tavistock, London.
- Clegg, S. and Dúnkerley, D., (eds.), 1977, *Critical Issues in Organisations*, Routledge and Kegan Paul, London.
- De Fraja, G., 1991, "Efficiency and Privatisation in Imperfectly Competitive Industries", *Journal of Industrial Economics*, vol.xxxix, no.3, March, pp. 311-321.
- Drucker, P.F., 1990, *Managing the Non-Profit Organization*, Butterworth-Heinemann, Oxford.
- Dunsire, A., Hartley, K., Parker, D. and Dimitriou, B., 1988, "Organisational Status and Performance: a conceptual framework for testing public choice theories", *Public Administration*, vol.66, no.4, winter, pp.363-388.
- Dunsire, A., 1991, "Organisational Status Change and Performance: The Significance of Internal Structure", in ed. Ott, A., and Hartley, K., *Privatization and Economic Efficiency*, Edward Elgar, Aldershot.
- Hartley, K., Parker, D., and Martin, S., 1991, "Organisational Status, Ownership and Productivity", *Fiscal Studies*, vol.12, no.2, May, pp.46-60.
- HMSO, 1988, *Civil Service Management Reform: the Next Steps*, Cmnd.524, London.
- Kmenta, J., 1971, *Elements of Econometrics*, Macmillan, London.
- Littlechild, S.C., 1981, "Ten Steps to Denationalisation", *Journal of Economic Affairs*, vol.2, no.1, pp.11-19.
- Lynk, E.L., 1991, "Telecommunications divestiture in the UK: a crossed line", *Applied Economics*, vol.23, no.2, February, pp.379-384.
- MacCrindle, R.A. and Godfrey, P., 1973, *Rolls-Royce Limited: investigation under section 165(a)(i) of the Companies Act 1948. Report of the Inspectors appointed by the Department of Trade and Industry*, HMSO, London.

Millward, R. and Parker, D., 1983, "Public and Private Enterprise: comparative behaviour and relative efficiency", in Millward, R., Parker, D., Rosenthal, L., Sumner, M.T. and Topham, N., *Public Sector Economics*, Longman, London.

Mitchell, W.C., 1988, *Government As It Is*, Hobart Paper 109, Institute of Economic Affairs, London.

Parker, D., 1990, "Measuring Changes in Organisational Performance", *Graduate Management Research*, vol.5, no.3, winter.

Parker, D., 1985, "Is the Private Sector More Efficient? A study in the public v. private debate", *Public Administration Bulletin*, vol.48, pp.2-23.

Parker, ., 1989, "Public Control of Natural Monopoly in the United Kingdom: Is Regulation the Answer?", in ed. Campbell, M, Hardy, M. and Healey, N., *Controversy in Applied Economics*, Harvester-Wheatsheaf, London.

Parker, D. and Hartley, K., 1991a, "Organizational Status and Performance: the effects on employment", *Applied Economics*, vol.23, no.2, February, pp.403-416.

Parker, D. and Hartley, K., 1991b, "Do Changes in Organisational Status affect Financial Performance?", *Strategic Management Journal* (forthcoming).

Perry, J.L, and Rainey, H.G., 1988, "The Public-Private Distinction in Organization Theory: a Critique and Research Agenda", *Academy of Management Review*, vol.3, no.2, pp.182-201.

Pugh, D.S. and Hickson, D.J., 1976, *Organisational Structure in its Context: the Aston Programme*, Saxon House, Farnborough.

Ramanadham, V.V., (ed.) 1988, *Privatisation in the UK*, Routledge, London.

Roethlisberger, F.J. and Dickson, W.J., 1939, *Management and the Worker*, Harvard UP, Cambridge Mass..

TUC, 1986, *Bargaining in Privatised Companies*, Trades Union Congress, London.

Woodward, N., 1988, "'Managing' Cultural Change on Privatisation", in Ramanadham, V.V., (ed.), *Privatisation in the UK*.

Table 1 Organisational Status Changes

Organisation	Type of change	Date	Predicted Change in efficiency
Post Office postal	Government department to public corporation	April 1969	Improvement
Post Office telecommunications	Government department to public corporation	April 1969	Improvement
London Transport	Public corporation to (local) government department ¹	Jan 1970	Deterioration
London Transport	(local) government department to public corporation	June 1984	Improvement
British Aerospace	Public limited companies to public corporation	April 1977	Deterioration
British Aerospace	Public corporation to public limited company	Feb 1981 ²	Improvement
National Freight	Public corporation to limited company ³	1981	Improvement
HMSO	Government department to trading fund	April 1975	Improvement
Royal Mint	Government department to trading fund	April Feb	Improvement
Rolls Royce	Public limited company to state owned company ⁴	Feb 1971	Deterioration
Royal Ordnance Factories	Government department to trading fund	July 1974	Improvement
British Airways	Public corporation - anticipation effect	1980 ⁵	Improvement

Table 2: PERFORMANCE RESULTS

Organisation	Employment Function	Labour Productivity	Total Factor Productivity	Financial Ratios
Royal Mint	Confirmed	Confirmed	Confirmed	N/A
London Transport (1970 change)	Not confirmed	Not confirmed	Confirmed	Not confirmed
London Transport (1984 change)	Mainly confirmed	Confirmed	Confirmed	Confirmed
British Airways	Confirmed	Confirmed	Confirmed	Confirmed
British Aerospace (nationalisation)	Mainly confirmed	Confirmed	Unclear	Not confirmed
British Aerospace (privatisation)	Confirmed	Confirmed	Unclear	Confirmed
National Freight	Confirmed	Confirmed	Confirmed	Confirmed
Post Office Postal	Not confirmed	Confirmed	Unclear	Confirmed
Post Office Telecommunications	Mainly confirmed	Confirmed	Unclear	Unclear
HMSO	Confirmed	Unclear	Not confirmed	Confirmed
Royal Ordnance Factories	Not confirmed	Not confirmed	Unclear	Confirmed
Rolls Royce	Not confirmed	Not confirmed	Not confirmed	Not confirmed

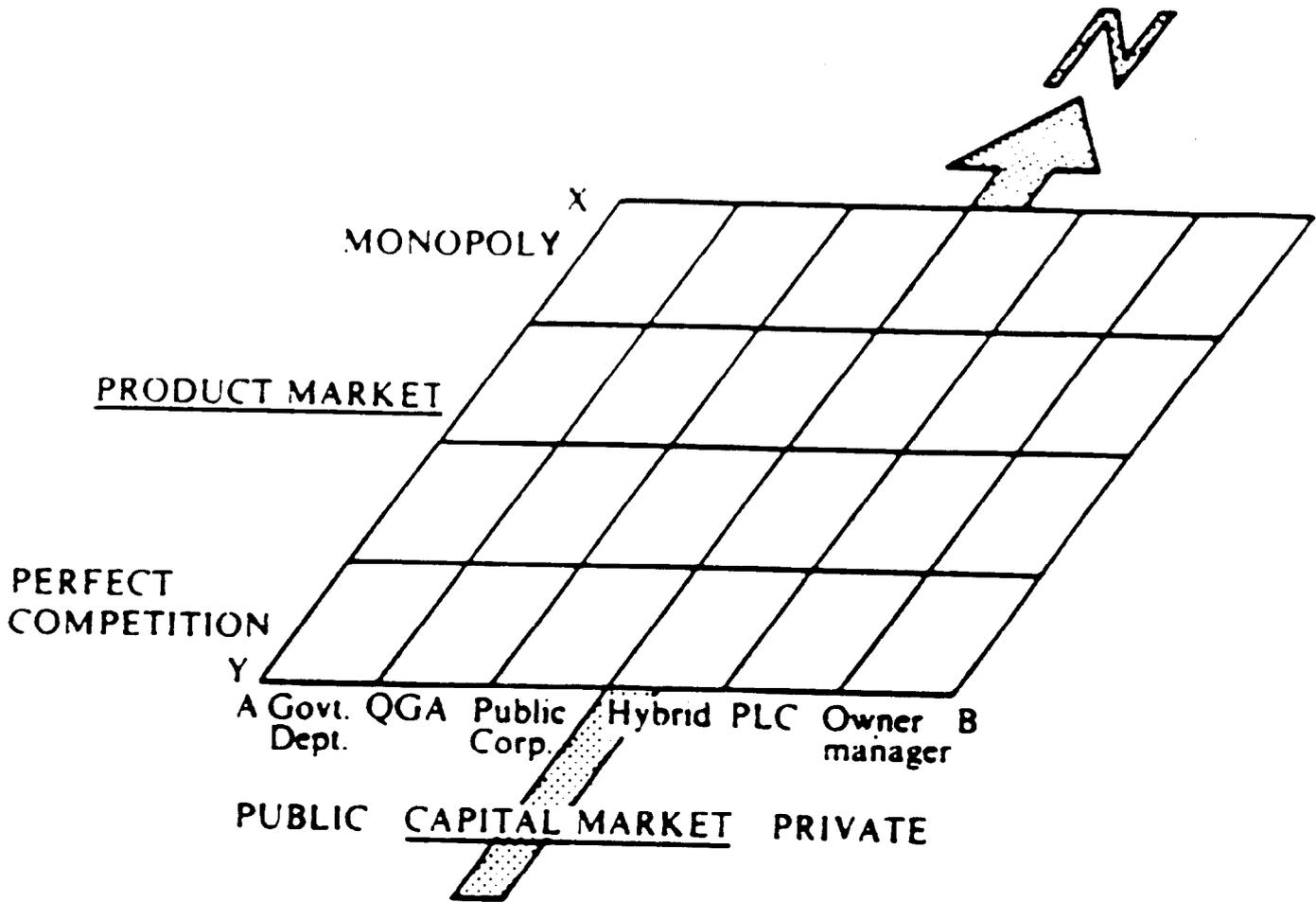
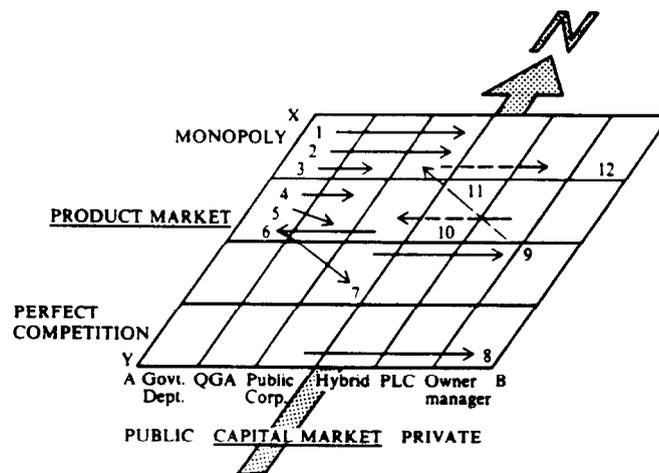


Figure 2



- Notes*
- 1 = PO Telecom 1969
 - 2 = PO Postal 1969
 - 3 = Royal Mint 1975
 - 4 = ROF 1974
 - 5 = HMSO 1980
 - 6 = LT 1970
 - 7 = LT 1984
 - 8 = NFC 1982

Figure 3

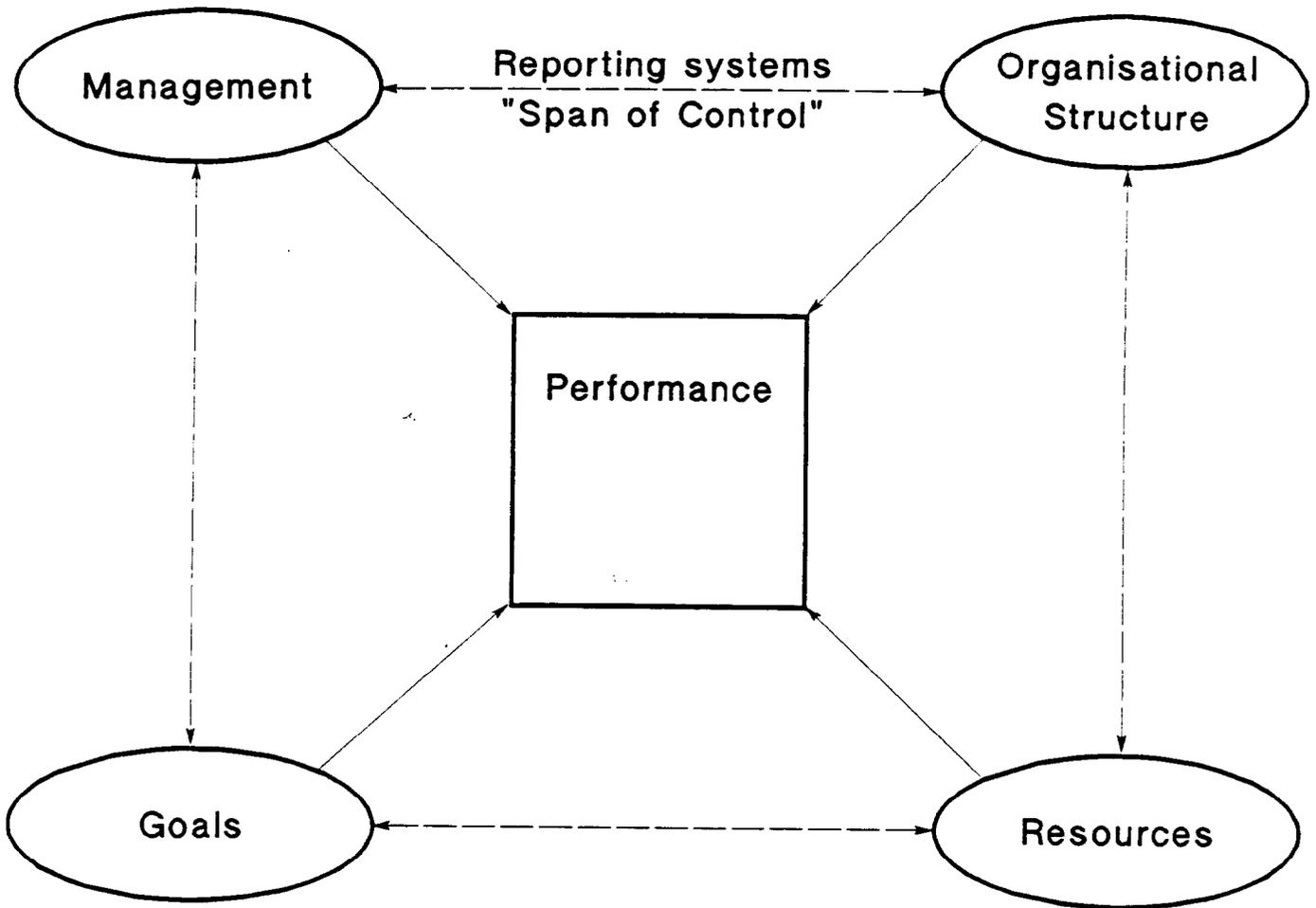


Figure 4

Modes of control

