The Separation Thesis and Capital Market Constraints

in Large U.K. and U.S. Firms

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Consultation and Copying

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Abstract

Managerial theories of the firm rest on the assumption of the separation of ownership from control. The ordinary shareholders legally own the firm but corporate management, who rarely own more than a very small proportion of the equity, controls the strategic decision making process. This separation introduces the possibility of conflict between the owners who seek to maximise company profits and managers who seek an alternative goal not consistent with profit maximisation. With the profit maximising principle undermined in this way it has been argued for a long time that the capitalist system is being replaced by a new form of economic organisation.

In this study it is argued that the management of a management controlled firm is not necessarily free to pursue its own discretionary behaviour because the decisions it takes may be subject to capital market forces that operate inside and outside the firm. The external capital market (the market for corporate control) is associated with takeover and the fear of takeover while the internal capital market is at work in those firms that have adopted the multidivisional form of organisation. The effective operation of either market will limit the amount of discretionary behaviour in management controlled firms thereby helping to restore efficiency to the capitalist system.

Data are collected for various samples of large firms in the U.K. and the U.S. Using discriminant analysis and regression analysis an empirical investigation is carried out into the operation of internal capital markets in U.K. firms and the external capital market in U.S. firms. In each case it is found that significant capital market discipline is exercised and it is concluded that the neoclassical model contributes to our understanding of the way in which the capitalist system operates in these countries.

Chapter 1.   The Separation Thesis

1.1 Introduction

The beginnings of the modern corporate sector in Britain are to be found in laws passed in the middle of the nineteenth century. In 1841 a committee was set up to investigate joint stock companies and its report led to the passage of the Registration Act of 1844 in which a joint stock company could be established by registration rather than by the lengthy and expensive process of obtaining a royal charter. A few years later the principle of limited liability was sanctioned by Parliament by the passage of the Limited Liability Act in 1856. To a large extent it is the historical evolution of these two principles which have determined the changing character of the British corporate sector.

In early Victorian times the general form of corporate government that prevailed is best described as being direct democracy. A small group of shareholders who owned the firm also controlled the overall strategic and daily operational decisions necessary for its operation. Because the shareholders and the managers were synonymous the functions of risk bearing (ownership) and risk taking (control) were carried out by the same people. As companies grew in size in the latter half of the nineteenth century direct democracy gave way to representative democracy in which the owners elected corporate management to run the company on their behalf. So long as owners were effectively able to control the selection of the management team they remained in control of the affairs of the company. However, as the ownership of vote carrying shares

became more dispersed amongst a growing body of owners the ability to control the selection process was progressively undermined. Alfred Marshall noted as early as 1890 that "the great body of shareholders of a joint stock company are, save in a few exceptional instances, almost powerless; though a few of the larger shareholders often exert themselves to find out what is going on; and are thus able to exercise an effective and wise control over the general management of the business." (Marshall, 1920 p. 253).

By the turn of the century ownership and control were still in general carried out by the same people but the process noted by Marshall continued with share ownership becoming increasingly dispersed amongst the largest companies. This resulted in the alleged separation of ownership from control. Hannah identifies the 1930's as the approximate watershed. "Many of the features that distinguish the modern corporate economy from the Victorian economy of small firms were, then, firmly established in Britain by the early 1930's.....Typically the large corporations were quoted companies and their shareholdings were widely dispersed beyond the entrepreneurial families to which most of them owed their Victorian origins." (Hannah, 1976 a p.142-3).

This separation of ownership and control is the focal point of the present study. In this chapter the main themes, implications and criticisms of this separation are outlined. In the next two sections the Berle and Means version of this separation are outlined, followed in section four by a general

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critique of their analysis. In section five it is argued
that it is necessary to distinguish between control and
constraint and that there are various constraints that may
restrict the independent control of managers. In particular
there are capital market constraints both external and
internal to the firm. The former constraint is elaborated
in section six while the latter is elaborated in section
seven. Section eight summaries the chapter and gives a
preview of subsequent material.

1.2 Capitalism or Socialism

The origin of what I shall call the separation thesis[1]
can be traced back to Adam Smith. In'Wealth of Nations'(1776)
he argued with passion against the joint stock companies that
depended upon royal patronage in order to compete successfully
with owner dominated firms.[2] Others including Veblen, Marx and
Keynes not only recognised the separation of ownership from
control but made the initial suggestion of what later became
the satisficing theory of the firm associated with Simon and
also Cyert and March.[3] But it was left to Berle and Means to
produce the work that can truly be called the progenitor of a
long and ever growing literature. In 'The Modern Corporation
and Private Property' (1932; revised edition 1968) following a
detailed investigation into the dispersion of the ownership
of vote carrying shares in the U.S. economy in general (Book
1, chapter 2) and for the largest 200 non banking U.S. Corp-
orations in particular (Book 1, chapter 3) they produced
their now classic definition of the separation of ownership
and control: "As the ownership of corporate wealth has
become more widely dispersed, ownership of that wealth and
control over it have come to lie less and less in the same
hands....Ownership of wealth without appreciable control and
control of wealth without appreciable ownership appear to be
the logical outcome of corporate development", (Berle and
Means, 1968, p.66).

With hindsight it can be seen that in their pioneering
work Berle and Means provided a catalyst that generated a

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continuing area of debate, analysis and controversy. On
the basis of their initiative the separation thesis is seen
as an important issue in many different though related
disciplines including Law,[4,5] Sociology,[6] Political Science,[7]
Management Science[8] and Business History[9] as well as
Economics. In the case of Economics it has acquired the
status of being part of the conventional wisdom of mainstream
industrial economics and is the starting point for a number
of modern theories of the firm including those of Marris (1974)
Monsen and Downs (1965) and Mueller (1972). There are of
course dissenters. In a symposium entitled 'Corporate Control
and Capitalism' Peterson presented the case "for viewing
corporate behaviour in a quite traditional light" in which
"production by large corporations appears to be motivated
and guided in the traditional way" where "the distributive
position of shareholders seems, on quite traditional grounds,
to be reasonably secure" (Peterson, 1965 p. 2, 24). Neverthe-
less the majority view is expressed by Mason: "Almost
everyone now agrees that in the large corporation, the owner
is, in general, a passive recipient; that, typically control
is in the hands of management; and that management normally
selects its own replacement." (1970 p. 4).

The pervasive effect of the Berle and Means thesis
stems from the fact that it raises questions about such
fundamental issues as the nature of property, and the organ-
isation of the economic system leading to the conclusion
that the collective capitalism of twentieth century North
America (and, by implication, of Western society in general)
is as far removed from the individual capitalism of the late
eighteenth and early nineteenth centuries as the latter is

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from the feudal system that preceded it. In his Preface
to the book Berle writes: "the translation of perhaps two
thirds of the industrial wealth of the country from individual
ownership to ownership by the large, publicly financed
corporations vitally changes the lives of property owners,
the lives of workers and the methods of property tenure. The
divorce of ownership from control consequent on that process
almost necessarily involves a new form of economic organisation
of society." In short, a revolution has occurred within
capitalism which has produced an economic system whose
essential properties are at variance with the private enter-
prise system of Adam Smith.

Under individual, private enterprise capitalism[10] the
typical unit of production is centred around the single
entrepreneur who as the owner provides the capital and as
manager exercises control. The functions of ownership (risk
bearing) and exercising control (risk taking) are therefore
combined in the same person. Moreover, the entrepreneur's
individual self interest combined with the institution of
private property (in which he is legally entitled to the
fruits of its use) are seen as being sufficient to ensure
the efficient working of the economic system. But as the
size of the units of production increases with individual
firms going public and the consequent dispersion of stock
ownership the stockholders cease to exercise control. The
old atom of ownership is split into its component parts of
beneficial ownership and control with individual shareholders
continuing to be the beneficial owners but at the same time
forfeiting control which is now in the hands of corporate
management. Although corporate management, like the

individual entrepreneur, can be assumed to pursue its own
self interest there is good reason to believe that this may
not by synonymous with the self interest of the owners and
the efficiency of the resulting system is brought into question.
Thus the changed nature of property has brought about the
replacement of an individual capitalism, based on private
initiative and subject to competitive forces in which each
owner reaps the full benefits of his property rights, by a
corporate capitalism which is self perpetuating, based on the
separation of ownership from control in which managerial
discretion leads to the attentuation of the property rights
of the owners.[11]

Such a provocative analysis is not likely to go un-
challenged and the responses to it have come from a broad
range on the political spectrum from the Marxist left to the
Conservative right. When discussing these responses it is
convenient to classify them into three separate groups which
will be called the rejectionist group, the reformist group
and the apologist group.

The rejectionist group includes Milton Friedman
representing the Conservative right and Zeitlin representing
the Marxist left. In each case it is denied that ownership
and control have been separated and it therefore follows that
the analytical structure which is built on this separation
falls to the ground. Friedman argues as follows: "A major
complaint made frequently against modern business is that it
involves the separation of ownership and control — that the
corporation has become a social institution that is a law

unto itself, with irresponsible executives who do not serve the interests of their stockholders. This charge is not true" (Friedman, 1962 p. 135).[12] To Zeitlin "the separation of ownership and control may well be one of those rather critical, widely accepted pseudofacts with which all sciences occasionally have found themselves burdened and bedevilled" (Zeitlin, 1974 p. 1107). Clearly to each of these authors the separation if true, would be a considerable embarassment. To Friedman it represents a diminution of personal freedom and undermines "the basic nature and character of our society. It is a step away from the individualistic society and toward the corporate state." (Ibid. p. 136). To Zeitlin it questions the need to investigate society in terms of class structure for if the owners of capital are replaced by managerial functionaries who are propertyless the very concept of class conflict begins to dissolve. After establishing the separation of ownership and control as 'pseudofact' he is therefore able to conclude: "News of the demise of capitalist classes, particularly in the United States, is, I suspect, somewhat premature." (Ibid. p. 1107).[13]

Within the apologist group are those who accept and defend the separation and use it as a foundation in the building of their own economic theories which tend to represent differing brands of socialism. Crosland (1963) and Drucker (1976) are members of this group. Drucker recognises the increasing dispersion of direct personal share ownership in the U.S. highlighted by Berle and Means but at the same time notes the increased share of equity ownership held by financial institutions, particularly pension funds. If direct

personal ownership is subject to a centrifugal force insti-
tutional ownership has been subject to a centripetal force.
But, he argues, the ultimate beneficiaries of the pension
funds are the U.S. workers. By the mid 1970's the employees
of private and public enterprise in the U.S. owned approx-
imately one third of all equity capital through their pension
funds which are part of the wages fund of the economy since
they represent deferred compensation. With all the enthusiasm
of a mid-West old time revivalist preacher he declares: 'If
"socialism" is defined as "ownership of the means of production
by the workers" - and this is both the orthodox and the only
rigorous definition - then the United States is the first truly
"Socialist" country......the American system has actually
become the "decentralised market socialism" which all the
Marxist church fathers, saints, and apostles before Lenin had
been preaching and promising, from Engels to Bebel and Kautsky,
from Viktor Adler to Rosa Luxemburg, Jaurès, and Eugene Debs.'
(Drucker 1976 p. 1, 4).

The Crosland Analysis is peculiar to the British scene.
In the early chapters of 'The Future of Socialism' he outlines
the main factors which have led to the twentieth century
transfer of economic power away from the property owning
business class. These include the growth of State control which
has been the result of nationalisation and the growing involve-
ment of government in economic planning and policy; and the
growth of labour power that has resulted from full employment
and the increasing contribution made by organised labour to
management and labour relations. To these two factors which
are external to the business class is added a third which is

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internal to it, namely, the fragmentation of share ownership
that has resulted from the continued expansion of the joint
stock principle. Power is being increasingly concentrated
in the hands of top management who are paid by salary and
whose pecuniary reward is not geared to the profit perfor-
mance of the company. With "the divorce between ownership
and management, the role of profit has undergone a subtle
change which leads to a consequential change both in the
distribution of profit and in the intensity with which
maximum profits are pursued."[14] He therefore concludes that
Britain can no longer be viewed as being a capitalist society
though he refuses to attach a label describing the kind of
Socialism which has been achieved.

In the reformist group I include those who accept the
separation of ownership and control as a starting point but
who withdraw from the possible revolutionary implications of
such a thesis in favour of a more moderate position. Marris
(1974) for example accepts management control as his starting
point and in his model is able to replace the profit maximi-
sation preference of the owners by the growth maximisation
preference of management as the main motivating force of the
corporation. But the pursuit of growth maximisation is
subject to a constraint imposed by the capital market. An
unqualified pursuit of growth will result in a company becoming
ripe for a takeover bid resulting in the replacement of
existing management. Growth subject to a valuation ratio
sufficient to discourage a take over bid is therefore the
essential element in the utility function of a management
controlled firm. Thus we have a reformist rather than a

revolutionary model of managerial capitalism where the unit
of production can be defined as managerial but the system
remains essentially capitalist in nature.[15]

Another managerial model which falls within the reformist
group is that of Williamson (1970, 1971, 1972). For Williamson
the dispersion of stock ownership introduces the situation in
which managerial discretion becomes possible, that is to say,
the managers who control the corporation are able to substitute
their own goals for those of the owners knowing that their
actions will not be constrained by an external capital market
which is inefficient. But at the same time that managerial
discretion became possible in large corporations another
revolutionary feature of the corporate sector was beginning to
emerge, namely, the replacement of the single product (U form)
firm in which production is arranged in terms of the separate
processes involved by the multidivision (M form) highly
diversified firm in which operating divisions are organised
in terms of the separate products produced. The firms
organised along M form lines contain various features which
collectively operate to form an internal capital market which
allocates funds on the basis of relative profit performance
across divisions. For such firms an inefficient external
capital market, necessary for the successful exercise of
managerial discretion, is replaced by an efficient internal
capital market. Thus, although the details of the Williamson
model differ from those of the Marris model it is nevertheless
one in which managerial discretion is subject to certain
internal capital market constraints which, in the final analysis,

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restore efficiency to the capitalist system and profits to
the owner.

It can be seen that the issues at stake go beyond
establishing whether or not ownership and control have become
separate functions performed by different people. If this
separation has not occurred we are left with the status quo
of capitalism albeit of a mixed variety to a greater or
lesser extent. The actors may be different and the set may
have changed but it is still the same play being performed.
On the other hand if the separation has occurred the way is
open to develop an analysis of society which in the extreme
reaches the seemingly preposterous conclusion of Drucker
that the U.S. has become the world's first truly socialist
state. In order to pursue this matter further we need to
look more closely at the argument presented by Berle and
Means and at the data used to support it.[16]

1.3 The Separation Thesis of Berle and Means

In order to develop their theory it was necessary for Berle and Means to define and give empirical content to the concept of corporate control. Since the fortunes and affairs of a corporation are legally in the handsof the board of directors control is said to reside in the hands of those who have the right to select the directors of the company, that is to say, the ordinary shareholders. Corporate control is therefore related to the distribution of share ownership[17] on the basis of which five main types of control are introduced, namely private control, majority control, minority control, legal device control and management control.

With private control a single individual owns almost all of the vote carrying shares and is therefore able to fully determine the selection of the members of the board. As owner- ship begins to be dispersed we move to a position of majority control where an individual or an identifiable group of individuals own at least 50% of the shares and therefore have a majority which again means that the selection of members of the board is secured. Minority Control is a situation where a group of shareholders own less than the 51% required to guarantee the selection of the directors but because of their control of proxy votes and the wide distribution of the remaining stock their holdings are sufficient to ensure that in practise they exercise control. The lower limit of owner- ship chosen by Berle and Means for this form of control was 20%. Further dilution of share ownership leads to a situation of management control where there is no individual or group

of individuals with ownership interests large enough to exercise any power or discipline over management. In such a situation while legal control is in the hands of share- holders factual control is in the hands of management who collectively may own as little as a fraction of one per cent of the total voting stock. Finally, control may be exercised through a legal device such as pyramidding, the issue of non-vote carrying stock and the introduction of voting trusts.[18] In each case de facto control becomes increasingly located in the hands of those who have at most very limited ownership interests.

With this taxonomy Berle and Means investigated the type of control in each of the 42 railroads, 52 public utilities, and 106 industrials which collectively formed the largest 200 U.S. companies at the beginning of 1930. The results are presented in table 1.1. Since ownership is the

	By Number (%)	By Wealth (%)
Management Control (<20%)	44	58
Legal Device	21	22
Minority Control	23	14
Majority Ownership 50%+	5	2
Private Ownership	6	4
In hands of receiver	1	0
	100	100

Table 1.1 Control Type in the Largest 200 U.S. Companies, 1929

Source: Berle and Means (1968 p. 109)

basis for control in a privately controlled or majority controlled company groups four and five can be combined to show that for 11% of the firms representing 6% of the wealth ownership and control are in unison. But ownership is not the basis for control in a company controlled by management and it can be seen that for 65% of the firms representing 80% of the wealth of the entire sample ownership and control have become separated. Moreover, this measure of the separation is likely to be biased downwards since at least some firms in the minority control group will be such that de facto control will be removed from the owners. A further breakdown of the results also shows that this separation has progressed most in the railroad sector (62% by number 79% by wealth) and least in the industrials sector (54% by number, 57% by wealth). In summary the authors conclude: "Formerly assumed to be merely a function of ownership, control now appears as a separate, separable factor" (Passim, p.111).

In one respect the analysis contained in 'Modern Corporation and Private Property' soon became dated. Since the 1930's in both the U.K. and U.S. there has been considerable change in the pattern of share ownership. In particular, the proportion of equity owned by individuals has decreased while the proportion owned by fiduciary institutions (insurance companies, mutual funds and pension funds) has increased. Berle was not slow to recognise this and in 'Power Without Property' (1959) he updated his analysis to accommodate this change. He estimated that between 1947 and 1956 the proportion of equity capital provided by these institutions amounted to approximately 10-15% of total equity

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which in turn represents approximately 35% of externally
provided funds.

Although the fiduciary institutions differ in the
services rendered there is a common thread to their activity
in that through their substantial ownership of shares the
institution, be it insurance company, mutual fund or pension
fund, becomes the stockholder who is legally entitled to
vote but the financial benefits attached to the stock have
by contract been directed to the individual beneficiaries
under the pension trust, fund arrangement or insurance
policy.

According to Berle the implications of this for the
separation thesis are twofold. The first concerns the effect
of this change on voting behaviour. A fiduciary institution
can be viewed as being a means of organising a large number
of disparate votes and if a number of such institutions were
to collude the situation arises in which a few large institu-
tions can easily amass a sufficient number of votes to
successfully challenge the policies pursued by the management
of a company. But if, as is often claimed, these institutions
would rather sell their shares than get involved in a proxy
fight and if they have a strong prediliction in favour of
existing management the insulation of the latter from voter
control is enhanced. The fission of voting power which
ultimately made the management control of corporations possible
is being replaced by the fusion of voting power resulting from
the increase in equity investment by relatively few fiduciary
institutions. And the irony is that far from reversing the

trend towards management control the fusion of voting power
has in fact established it yet more firmly.

The second implication of the rise of institutional
vote holding in the Berle thesis concerns the nature of
property. With the joint stock principle the individual
stockholder is entitled not only to the flow of financial
rewards provided by the assets of the company but, because
of his right to vote, he is also entitled to a say in the
control of the company. As share ownership became increas-
ingly dispersed his right to a say in the running of the
company meant little in practice because of the excessive
cost and time required to mobilise the voteholders in order
to challenge incumbent management. Nevertheless the oppor-
tunity existed for anyone with the necessary means and desire
to pursue such a course of action. With the rise of the
institutional investors such opportunity is disappearing.
The right to receive financial returns and to vote are now
parting company with the former in the hands of the individual
beneficiary and the latter in the hands of the fiduciary
institutions. For the personal investor the divorce between
the control over the assets yielding a profit and the profits
themselves has been made absolute by the rise of the fiduciary
institutions. The dispersal of share ownership meant that for
the personal investor the atom of property had been divided
in practice into its component parts of beneficial ownership
and control with the latter in the hands of management. The
rise of the fiduciary institutions means that this separation
is now complete in principle.

1.4 Critique of Berle and Means

Given that Berle by training was a lawyer and that a
major theme of his work with Means centres around private
property and its role in the economic system it is not sur-
prising that they chose to define control in legal terms.
Nor is it surprising that they chose the distribution of
share ownership as the best single measure of control. Yet,
it is precisely at this point of their investigation that
most of the criticism has been aimed. To understand these
criticisms we need to differentiate between two separate
issues, namely, the measurement of the _degree_ of control in
a corporation and the identification of the _locus_ of control.
With this distinction we can pose two important questions.
First, given that the distribution of share ownership in
principle can be used as an adequate measure of the _degree_
of control, how accurate is the Berle and Means analysis?
Second, can the distribution of share ownership be considered
adequate in principle as a means of identifying the _locus_ of
control?

With regard to the former question the first obvious
problem that arises concerns the cut-off point chosen to
differentiate between minority control and management control.
The figure of 20% chosen by Berle and Means like any other
single figure is quite arbitrary. The relevant figure will
depend in large part on the dispersion of the remaining shares
and this will differ markedly across companies and across time.
While the majority of subsequent studies have used cut-off
points which have ignored the variation across companies most

have attempted to allow for increasing dispersion over time
by introducing a figure lower than 20%. Although Sargant
Florence (1961) maintained the original figure some have opted
for 10% (Palmer 1972 c, 1973 a; Larner 1966, 1970; Scott
and Hughes 1976; Sheehan 1967; Temporary National Economic
Committee, 1940) while others have chosen the more popular 5%
(Channon 1973; Chevalier 1969; Burch 1972; Herman 1981;
McEachern 1975, 1978; Patman Committee 1968; Nyman and
Silberston 1978; Villarejo 1961). The only study that has
used a flexible cut-off point is that by de Vroey (1975) but
no indication is given as to the range employed.

The considerable discussion which has been generated
concerning the cut-off point along with the original emphasis
that ownership and control are either integrated or separated
has led in practise to the original scheme given in Table 1.1
being replaced by one based on a binary classification in which
a company is classified as being either owner controlled or
management controlled. This has led some to argue that such
a classification is not rich enough to explore the variety of
control types that exist in the corporate sector. This has been
suggested by Nyman and Silberston (1978) and investigated by
McEachern (1975, 1976, 1978) for the U.S. McEachern argues
that the previous dichotomy should be replaced by a trichotomy
in which a firm is either management controlled, owner-manager
controlled or non owner-manager controlled and reports
significant performance differences across groups.[19]

A further source of criticism is that the data available

at the time though useful and the best available were far
from adequate for measuring the degree of corporate control.[20]
A study carried out only eight years later by the Temporary
National Economic Committee (TNEC) cast doubt on the validity
of the Berle and Means results. Because of its official
government status this committee had access to information
which had not previously been available to the public. In
particular data were available relating to the amount of stock
owned by the officers, directors and 20 largest shareholders
of the 200 largest non financial corporations in the U.S. in
1937. It was therefore possible to identify elements of
family and non-familial control previously overlooked. This
analysis has been brought up to date by Burch (1972) who
searched publicly available information in an attempt to find
identifiable group interests based on share ownership amongst
the top 500 industrial, 50 merchandising, 50 transportation
companies and 50 commercial banks. Just as the TNEC reported
considerable underestimation of owner control in the original
Berle and Means study, so Burch showed similar underestimation
of owner control in the updated version of the study provided
by Larner (1966) for 1963. This was later confirmed by Pedersen
and Tabb (1972) for 1970 who were able to take advantage of the
change in the SEC insider disclosure rules which made available
data held by the immediate family, officers and directors of a
corporation.

There is a final criticism to be noted concerning the
measurement of the degree of control. The use of a cut-off
point to classify companies, based on the percentage of vote
carrying shares owned by an identifiable group, makes use of

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only a limited amount of information compared with that
available for the entire distribution of shares. Two recent
attempts have been made to overcome this problem. The first
is by Collett and Yarrow (1976). Starting from the familiar
observation that the distribution of share ownership is
heavily skewed to the right they successfully fit Pareto
distributions to their data and are consequently able to use
appropriate parameters of the Pareto distribution as measures
of share dispersion.[21] Alternatively it is possible to
develop a probabilistic model which generates its own measure
of dispersion. This is the approach followed by Cubbin and
Leach (1983 a, b) who see control as being a continuous not
a discrete variable with each company being assigned a value
between 0 and 1, the upper value being associated with private
control.

The discussion so far has been concerned with the accuracy
of measurement of the degree of control but the second question
posed above, namely 'can the distribution of share ownership
be considered adequate in principle as a means of identifying
the locus of control?' is far more fundamental. It has been
argued by some that the distribution of share ownership in
various situations is not able to locate de facto control.
Consider for example the three types of control introduced so
far, that is to say, owner control, management control and
financial control (that is control by fiduciary institutions).
The basis of owner control is the ownership of vote carrying
shares and the consequent ability to determine the constitution
of the Board of Directors. The basis of management control is

the strategic position of top management particularly its

occupancy of senior executive posts at board level. The basis

of financial control may not be command over votes but the

ability of an outside company to influence boardroom decisions

by any one of various means at its disposal, for example by

virtue of being a prime supplier of finance. While the

investigation of share ownership may be able to locate owner

control or its absence, it cannot distinguish between manage-

ment control and financial control. In short we have an

identification problem that can only be solved by introducing

further information concerning the different ways in which

control can be exercised and the rest of this section is

devoted to a discussion of this issue.

Our first major consideration concerns the role of

exceptionally gifted leaders in corporate management and is

sometimes referred to as the "great man" theory of corporate

development. This was a major theme in the Oxford Growth of

Firms project (Silberston (1979), Nyman and Silberston (1978),

and Francis (1980 b)) and one of a number of simultaneously

developed themes in Boswell's (1983) recent study of the

history of three large steelmaking companies.[22] While control

is legally located in the board as a whole it often happens

that through the possession of exceptional managerial ability

a particular individual, maybe the chairman or managing

director, is able to exercise influence over the fortunes

of a company which far exceeds that exercised by any of his

colleagues. This is not only true of owner managed firms such as

Ford, Tesco and Cartier where the individual concerned was the

founder of the company. It is also true of some management
controlled firms, such as Debenham's[23] and government control-
led firms such as British Leyland.[24]

· Where the individual concerned is also a major share-
holder or is part of a concerted bloc of holdings the share
register may well provide information which enables the
accurate assessment of the location of control. In other
cases this may not be so. A member of a family firm may find
himself in a position whereby he owns a very small proportion
of the shares of the firm and yet has a considerable influence
over policy decisions taken by the board. This is the position
in the case of Federated Department Stores in the U.S. It is
generally accepted that Ralph Lazarus is the key decision
maker on the board even though the Lazarus family holdings had
fallen to only 0.8% of the total by 1980.[25] Alternatively, a
charismatic non share owning chief executive officer could
conceivably shape the fortunes of a company where passive
financial institutions own a considerable minority controlling
bloc of the shares. In each of these two cases control defacto
requires information about the role of a particular member of
the board which the share register cannot provide. In each
case the distribution of share ownership is the wrong basis
on which to assess the location of control.

A further important factor in the investigation of the
locus of control concerns the role of interlocking director-
ships. Since such inter-corporate ties were made illegal in

the U.S. by the Clayton Act of 1914 and branded by Louis D. Brandeis as "the root of many evils (being offensive to) laws human and divine....(creating a)....vicious circle of control"[26] many empirical investigations have been made into the nature and extent of the company relationships established in this way. Such directorships are viewed with alarm because they may provide the means of collusive communication between competitors, or be used to exercise pressure and even control of one company over another or result in the establishment of a community of interest in which a relatively small number of top company executives wield considerableinfluence over a significant portion of the entire corporate sector.[27]

The most comprehensive U.K. study on interlocking directorships is that of Stanworth and Giddens (1975) who mapped the linkages between the top 50 quoted companies and a number of major clearing banks and merchant banks for each of the years 1906, 1930, 1946, 1952, 1960 and 1970. They found a marked increase in the number of directoral links over the period and that this increase closely accompanied the increase in concentration over the same period previously recorded by other observers.[28] Moreover, there was a particularly large increase in the number of links between the manufacturing sector and the City. This latter feature is also highlighted by Whitley (1973) in his study of ruling elites in Britain and by Utton (1979) in his study of diversification. Scott and Hughes (1980) in their investigation of the Scottish business system show that the significant English ownership of major Scottish companies must be understood against a background of a growing number of interlocking directorships

filled predominantly by Scotsmen who form a relatively autonomous network of interests within the corporate sector.

Similar conclusions have been reported in a range of U.S. studies. Bunting [29] found a continuing decline in the number of interlocks amongst 167 very large companies after the Clayton Act until the mid 1970's though Dooley (1969) found that more of the top 250 corporations were interlocked in 1965 than in 1935. The studies by Dooley (1969) and Warner, et alia (1967) found interest groups located within major U.S. cities notably New York, Chicago and San Francisco with Banks or life insurance companies forming the central core of the group in each case. The importance of financial companies was also confirmed by Smith and Desfosses (1972) who found that the use of sociomatrix analysis revealed the existence of a considerable communications network established by a large number of indirect interlocks. [30]

Clearly the existence of interlocking directorships is a pervasive and important feature of the corporate sector in the U.K. and the U.S. but it is far from clear how significant they are in the determination of the location of control. An interlock in itself is not a source of power. Rather it is a means of establishing a community of interest and of making possible communication between firms. How far these contribute to the final policy decisions taken by a firm is difficult to assess. One interlock might involve a director who represents a company with minimal holdings. Or, one interlocking director might be able to exercise no more than an advisory role while another might be an officer of the company able to exercise

an executive role. A close investigation of each company is
required before a final assessment of the role of board rep-
resentation can be made. One attempt at such an investigation
was made by Kotz (1978) for the 200 largest non financial
companies in the U.S. He found that even amongst those companies
under financial control (where the role of interlocking director-
ships is likely to be greatest) board representation was found
to be a significant means of control in only 6 out of 57 cases.[31]
It seems then that the role of board representation in exer-
cising control is likely to be limited. Nevertheless, we have
to recognise that to assess the location of corporate control
solely on the basis of share ownership ignores the role of
common directors and may therefore introduce a bias into the
final assessment of control type.

Our final consideration in the analysis of the location
of control concerns the role of the institutional investor.
We have already seen that Berle updated his analysis of the
1930's to include the growing importance of the ownership of
vote carrying stock by financial companies but concluded that
these companies were not interested in controlling the companies
whose stock they owned. Their consequent passivity means that
they tend to readily accept the policies of incumbent managers
who therefore became even more insulated from stock holder
discipline. In order to assess the validity of this conclusion
it is necessary to consider the options open to financial insti-
tutions if they wish to bring influence to bear on managers and
to briefly report on the research which has investigated the
extent to which they have used them.

The most obvious source of power possessed by the
institutional investor is the same as with any other investor,
namely the ability to vote in relation to its own appreciation

of managerial performance. This is particularly important in the light of the post war rise in the U.S. and U.K. institutional shareholding in general and of a few large banking and insurance companies in particular.[32] But are they really passive respondents to the issue of control who buy and sell shares strictly and solely on the basis of investment criteria? Limited evidence available to date suggests that this is not so. An enquiry carried out by the Securities and Exchange Commission presents evidence on the extent to which 151 different types of U.S. institutional investors voted against existing management over the period January 1967 to September 1969. Opposition was most common amongst banks: 57% voted against management at least once over the period with opposition recorded on 351 occasions. The corresponding figures for investment advisors and life insurance companies were 20% (143 occasions) and 38% (62 occasions). Only 18% of banks, 20% of investment advisors and 31% of life insurance companies pursued policies of automatically voting with the management or returning blank ballots.[33] Further evidence, published by the Trust and Investment Division of Morgan Guarantee Trust makes it clear that while its investment decisions are made predominantly on the basis of sound investment criteria there were eight occasions in 1971 and four in 1970 when the company used its voting power in opposition to management. It seems then that though financial companies in the U.S. may be somewhat reticent to use their voting rights against existing management they will do so if in their judgment the need arises.[34]

A further option sometimes open to financial institutions

is to sell the common stock they own. Such an action could have significant adverse effects on the price of the common stock thus undermining the authority of management and possibly paving the way for a subsequent takeover. Evidence on this for U.S. companies is very limited. For British firms Minns (1982) has recently documented evidence concerning the spate of dawn raids and sudden death takeovers in 1980/81 suggesting that one of the factors behind the success of many of the bids was the concentration of large percentages of common stock in the hands of a limited number of institutions which made quick, concerted action possible.[35] There are, however, two reasons why this kind of action is likely to be limited. The first is that because financial institutions have such a large volume of funds to invest they tend to invest in the larger non financial companies and it is not always easy to find a buyer for such large volumes of stock. Secondly, their actions could have serious repercussions. If their attempt to sell a large volume of stock is not quickly successful they may be left with the stock but at a significantly reduced price.

As an alternative to selling stock the financial institution may be able to bring pressure to bear in various informal ways. In the U.S. the Securities and Exchange Commission asked a sample of large institutional investors how often they expressed their views concerning the policy pursued by the management of companies whose stock they owned. Approximately 20% of the banks and financial institutions in the sample admitted participating in company affairs in this way on at least one occasion between January 1966 and September 1969. Given the sensitive nature of the issue this is likely

to be an under-estimate of this kind of informal involve-
ment. Moreover, the difficulty of measuring the extent of
such involvement is more than matched by the difficulty of
measuring its effect. In many cases it may be impossible to
do so. Nevertheless, the same general conclusion emerges:
the accurate assessment of the location of corporate control
may require the use of information which the share register
alone cannot provide.

In the light of these considerations it can be seen
that the use of the proportion of shares owned by an indi-
vidual or a clearly identified group of individuals may not
be sufficient for the classification of companies by control
type. In addition to this information data is also required
on at least some of the following: the identification of the
main shareholders (personal, corporate, institutional, etc.);
the extent of intercorporate ties via interlocking director-
ships; the degree of share ownership by company directors;
the presence on the board of the founding member of the firm
and his relatives; and the extent to which informal pressure
can be exercised by financial institutions. The extent to
which this additional information is introduced in the samples
of firms used in this study is explained in the next chapter.

1.5 Control and Constraint

Having established the existence of the separation
of ownership from control in their sample of U.S. firms
Berle and Means proceed to ask if there "is any justi-
fication for assuming that those in control of a modern
corporation will also choose to operate it in the interest
of the owners?." In other words, will the managers who are
in control continue to ensure maximum returns for the owners
or will they indulge in discretionary behaviour maximising
their own, not the owners, interests? Their answer is that
it depends in part "on the checks on the use of power which
may be established by political, economic or social condi-
tions." (1968, p. 113-4). But no attempt is made in 'The
Modern Corporation' to say what these checks on the use of
power might be. Later Berle suggests that these checks
may be provided by "the force of public opinion, which may
translate itself into political action in a great variety of
ways - and which therefore is heeded before it (i.e. dis-
cretionary behaviour) has so translated itself." (1954, p.54).

Although this possibility is recognised the argument
is not developed further and neither Berle nor Means seem to
realise that such reasoning could seriously undermine the
separation thesis. Could it be that these "checks on the use
of power" may effectively act as a constraining force on the
activity of managers causing them to act as if they were more
traditional owner managers? If so, what are these constraints
and how do they operate? It is these questions that provide
our point of departure in this study. In order to answer them

we have to begin by defining what we mean by control and constraint and how they relate to each other.

When speaking of control we refer to the exercise of power over the central strategic decisions to be taken by the firm. These decisions will include, for example, which goods to produce, how to produce them, how much investment to make, which technology to use and which markets to sell in. Each of these will be influenced by groups within the firm such as shareholders, workers, unions and management and by forces outside it such as capital markets, consumer groups, customers, other companies and governments both local and national. Since there is no single locus of power and since the different loci will vary in importance it is difficult in practice to say exactly who exercises this control in any given situation. Indeed those who exercise it may well vary across companies and across time in any single company.

Given the range and the complexity of the locus of control in the modern corporation we need to simplify our analysis of the exercise of power. To do this we introduce the distinction between control and constraint.

We have previously defined control as being the authority to take the central strategic decisions of the firm. To this we now add our definition of constraint which is the power to limit the range of options open to those who make these central strategic decisions. Constraint can be thought of as a form of control and the difference between them is one of degree. In general we will restrict our use of the term control to mean

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the exercise of power over a wide range of issues affecting
the firm while constraint refers to the exercise of power
over an individual issue. For practical purposes we will
say that control is in the hands of the board of directors
(or a few top inside managers) while constraint can be
exercised by any of the groups, internal or external to
the firm, listed above. We are saying therefore that
central strategic decisions of the firm are taken by the
board of directors but with respect to any particular issue
their range of options may be curtailed by constraint
brought to bear by shareholders, unions, governments, etc.

A few examples will illustrate this distinction. While
the central pricing policies of the firm are in the hands of
the directors their final decision concerning prices will
take into account the price of labour and will therefore
reflect the outcome of the bargaining process involving
both management and trade unions. Also, decisions concerning
the amount of investment undertaken and the way in which it
is financed may be taken against a background of changing
government tax policy or the presence on the board of a
director from an influential merchant bank or issue house.
Again, it is the board that decides what proportion of profits
is ploughed back and what proportion is distributed and in
reaching its decision it would be unwise if it were to wholly
ignore the wishes of the shareholders. In each of these
examples there is a common theme: though the final decision
is taken by the board it cannot ignore the interests of others
who relate to the firm. The board exercises control but
it is constrained in its actions to a greater or lesser extent

by groups who are able to bring pressure to bear upon its activities. The situation is akin to a constrained maximisation problem (for example, a linear programming problem) in which an objective function has to be maximised subject to certain well defined constraints.

Having introduced our concept of constraint we now need to recognise that this constraint may be active or latent. As with the difference between control and constraint, the difference between active constraint and latent constraint is one of degree but while active constraint is visible for all to see latent constraint is not. The effects on the firm of government policy, union negotiations or even a takeover bid are readily observable even though they may be hard to measure. Shareholders can exert pressure at an annual general meeting which may be recorded and open to public scrutiny. In each case we have a pressure group actively seeking to curtail managerial action. But such groups may also limit the choice open to management without any overt action on their part. Management may decide to locate a new factory at B rather than A because location at A would cause a public outcry. Or it may grant a wage increase to workers in order to avoid possible strike action called by the union. Again, in each case we have a common theme: managerial decisions are taken in an attempt to pre-empt possible action by pressure groups. It is the very existence of these groups which is limiting the choice open to management rather than direct action. Their constraining influence can therefore be described as latent rather than active.

Of particular interest for our purposes is the extent

to which decision making in management controlled firms is constrained by capital market forces. Since firms are dependent upon funds generated internally and supplied externally capital market forces may operate inside the firm (the internal capital market) and outside the firm (the external capital market). Moreover, in the external capital market the constraint exercised may be active or latent. Active constraint is exercised by the external capital market whenever an unwanted takeover bid is successful. Decision making by incumbent management is nullified and new management is installed. Latent constraint is associated with the fear of takeover. It is exercised whenever a decision is taken by management which is designed to avoid being taken over or to pre-empt a takeover bid. In each situation, whether constraint is active or latent the range of choice open to management is narrowed by the external capital market which is therefore exercising some form of control over the managers. The combined operation of active and latent control exercised by the external capital market will be referred to as the market for corporate control. Since both the external and internal capital markets are crucial in the argument being developed they are discussed more fully in the following two sections.

1.6 External Capital Market Constraints

The external capital market is able to influence corporate activity in two ways. First, via the markets for new securities which collectively form one of the means by which firms obtain funds to finance growth. Second, via the takeover mechanism. While the Berle and Means analysis discusses the role of each of these factors it minimises their importance for the separation thesis.[36] In particular it fails to recognise that the capital market may well be the means whereby corporate management is constrained to pursue policies designed to maximise the utility of owners. Our discussion in this section begins by considering how dependent firms are on the issue of new securities as a source of finance.

For British companies the issue of new securities is a valuable source of funds and one whose importance has increased over the period 1949-73. Whittington (1971) found that from 1948-54 32% of all continuing quoted companies raised finance externally. The companies in his sample came from 21 different SIC groups and the percentage of companies raising finance in this way ranged from 7.8% (Entertainment and Sport) to 51.8% (Electrical Engineering).[37] Amongst the largest companies for the period 1949-53 approximately 53% issued new securities (Henderson, 1959, p. 69)[38] and Prais has estimated that over the following 20 years the annual rate of new issues amongst the largest 100 firms doubled. (Prais, 1976, p. 129 and footnote 92). The most revealing information of all is also provided by Prais. For the period

1949-73 new issues of share capital and debentures for
cash for all quoted industrial and commercial companies grew
at the rate of 2.2% of net assets per year compared with a
figure of 3.0% for net retentions. Thus 40% of net new
resources were financed externally. For the very large firms
in the economy the proportion is even higher. For the 100
largest companies in 1970 it was found that the three main
components of a firms total sources of funds (retentions,
security issues for cash, security issues for acquisitions)
contributed equally to the growth of net assets for the year.
Prais concludes: "compared with net retentions....new cash
issues must be reckoned as being significant." (p. 129).

    The evidence for U.S. firms is less convincing but
points in the same direction. Baumol (1965 p. 69) reports
the results of a study by Donaldson who investigated 20 large
manufacturing firms over the period 1939-50. Throughout this
twenty year period 3 firms made no use at all of the long term
capital market while 4 made intensive use of it. Of the 20
firms in the sample 17 generated internal funds amounting to
at least 80% of their long term capital requirements. Further,
more comprehensive, evidence is reported in Lintner (1959) for
all non financial corporations for a period extending from the
1920's to the 1950's. From the data he provides it is cal-
culated that throughout this period the issue of common and
preferred stock fell approximately from 22% to 15% of total
assets.[39] This suggests a clear secular decline in the
relative importance of new issues as a source of funds. How-
ever, despite this decline in relative importance, new issues
still constituted a significant proportion of total funds

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available. There was also throughout this period a close
correlation between the ratio of new share issues over new
debenture issues and the relative costs of these two forms
of external capital, a feature to be expected if capital
market forces are in operation. Clearly, new issues are
still an important source of finance "and any assertion
that corporations are no longer dependent upon them.....is
sheer exaggeration" (Lintner, 1959, p. 185).

Any suggestion therefore that large firms in general
avoid making new security issues is clearly untrue. But what
of those few firms who fully meet their financial require-
ments internally and go for extensive periods without making
new issues? Can we conclude that the managers of these firms
are insulated from external capital market discipline? The
answer is almost certainly no and the reasons centre around
the importance to the firm of the price of its share capital.

Management will always be concerned with its own stock
price. Just as the currency of a country can be taken as an
indicator of the general economic health of a nation so the
price of its share capital can be taken as an indicator of the
well being of a company. It is in the management's own interest
to promote good public relations, keep shareholders happy,
and keep predator companies at bay by maintaining healthy
security prices. This concern with the evaluation by the market
of company shares "is by itself sufficient to empower the
market to oversee the behavior of management. If the business-
man is motivated to avoid reductions in the price of his firm's
securities and if, in fact, he hopes that those prices will

rise rather steadily and dependably with the passage of
time, he will be driven to adapt his decisions to this
purpose." (Baumol, 1965 p. 79). In short all firms with
a stock exchange quotation, whether they issue new share
capital or not, operate within the shadow of what Manne
calls the market for corporate control.

A central feature of the market for corporate control
as developed by Manne (1965, 1971) is that the control of
a corporation, which legally is embodied in the vote carry-
ing stock, is a valuable asset which exists independently
of any imperfections in the structure of the product market.
Moreover, the price of the vote carrying share capital is
closely and positively correlated with managerial efficiency.
As managerial efficiency declines, that is to say, as managers
pursue policies resulting in returns to owners being less than
they would be under alternative management, share price falls
relative to the prices of other firms in the industry. If the
market for corporate control is efficient, the resulting gap
between the price of a company's stock and the value of the
assets to which it relates will encourage a takeover bid from
someone who thinks he can run the company more efficiently.

If the takeover bid is successful the market for corporate
control is operating in its most extant form. Often, however,
the market operates so as to pre-empt a takeover bid and in so
doing is exercising control in a more passive way. This may
take the form of the owners replacing a firms president in order
to "redirect a companies policies in case the company should
cease to be a profitable object of investment." (Villarejo,

1962).[40] Or, it may take the form of 'negative voting'
where owners with a significant bloc of votes cast them against
the management slate in order to curtail its activity. In a
study carried out by the Securities and Exchange Commission
a few financial institutions who engaged in such activity
said: "even if negative voting did not result in the defeat
of a management proposal, it might have a broader impact in
terms of confining managerial discretion." (Quoted in Kotz,
1978, p. 126). In each case the market for corporate control
in its more passive form limits the independence of action open
to management and constrains it to pursue policies more in line
with the wishes of the owner.

When a takeover bid is successful we can say that
offending management is being punished for its inefficiency
and when the market operates in its more passive form it is
exercising correction. We can therefore speak of the pun-
itive discipline and the corrective discipline of the market
for corporate control. If the punitive and corrective
discipline in concert operate efficiently managerial dis-
cretion will be eliminated and the predictions of the Berle
and Means analysis, resulting from the increasing dispersal
of share ownership, will be incorrect. However, to the
extent that the market for corporate control is inefficient
there is room for the managers of those firms able to over-
come or evade the discipline of this market, to pursue policies
of their own choosing and in so doing divert profits away from
owners.

In the present work the main emphasis will be on the
corrective discipline of the market. The previous discussion

of the corrective discipline exercised by this market will be formally modelled so that we can empirically investigate the first of two major propositions to be tested in this thesis, namely: the profitability of owner controlled firms will be greater than the profitability of those management controlled firms that are not subject to the corrective discipline of the market for corporate control.

1.7 Internal Capital Market Constraints

The introduction and development of internal market mechanisms is a central theme in the historical analysis of Chandler (1969, 1977). In 'The Visible Hand' he documents the history of the U.S. corporate sector between 1840 and 1920 showing how the invisible hand of traditional market analysis was replaced by the visible hand of corporate management. "The theme propounded here is that modern business enterprise took the place of market mechanisms in coordinating the activities of the economy and allocating its resources. In many sectors of the economy the visible hand of management replaced what Adam Smith referred to as the invisible hand of market forces. The market remained the generator of demand for goods and services, but modern business enterprise took over the functions of coordinating flows of goods through existing processes of production and distribution and of allocating funds and personnel for future production and distribution." (p. 1).

Within the area of mainstream economics the idea of a growing firm internalising functions previously performed by Adam Smith's invisible hand was pioneered by Coase (1937). This was later developed and extended and has found its fullest expression in the work of O.E. Williamson (1970, 1971, 1972) and it is his analysis of corporate development and the role of internal capital markets that will be explored in the rest of this section.

Williamson begins with the firm of traditional economic

theory. The organisation of such a firm is based on the functions involved in the production process namely, finance, manufacturing, sales, marketing, etc. and is called the U form i.e. unitary form, of organisation. This form of organisation provides an efficient solution to the division of labour within a firm so long as it remains of small or medium size. But as it becomes increasingly large problems arise that put the U form of organisational structure under considerable strain.

First, there is a cumulative increase in control loss. Increasing size means there must be an increase in the number of hierarchical levels within the firm in order for infor- mation and orders to flow between top management and the employees. But the increase in the number of hierarchies means that the accuracy of information transferred and the efficiency with which instructions are carried out will almost necessarily decrease. Such control loss must eventually act as a brake on the development and operation of the firm.

Second, the overall strategic decisions and the routine operational decisions are no longer taken separately. As the firm expands the chief executive officer is no longer able to cope with the expanded capacity of his office and istherefore encouraged to seek executive help from the heads of the functional divisions under his authority. The result is that strategy and tactics become confused. Advice provided by the heads of divisions is likely to reflect their partisan interests at the expense of the needs of the firm as a whole and the efficiency of the overall coordinating policy of the firm is
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therefore impaired.

The third and final problem concerns the goals of
the firm. Because divisional heads are now contributing
to the overall strategy pursued by the firm the utility
function of the chief executive officer is expanded to
incorporate elements from the utility functions of the
heads of divisions. We have therefore what Williamson
refers to as "sub-goal pursuits." Moreover, in firms where
ownership and control are separated such discretionary
behaviour will go unpunished because of the inefficiency
of the external capital market. This inefficiency exists,
he argues, because of the non trivial costs involved in a
takeover and because the heavy dependence of firms on inter-
nally generated funds partially isolates them from capital
market discipline.

Capitalism's response to this unsatisfactory state
of affairs is the introduction of the multidivisional (M form)
organisation. A company organised along M form lines consists
of a number of quasi autonomous divisions. Each division
is akin to a separate firm which has full responsibility for
the entire production process of a given commodity. In this
way control loss is minimised and exists at most within
divisions but not across them. Also the chief executive
officer within the company takes on an elite staff to form
a general office whose responsibility it is to coordinate the
work of the divisions and to concentrate exclusively on over-
all company strategy. With operational decisions taken only
at divisional level strategy and tactics are kept apart.

Finally, and for our purposes crucially, the policing

function that should be performed by the invisible hand
of the external capital market is now embodied in the visible
hand of management in the general office. A major function
of the general office is the distribution of funds to the
separate, competing divisions and in performing this function
they are able to constrain the activity of decision makers
within divisions. It is helped in this by three factors.
First, the general office controls the top appointments made
at divisional level. Second, it is able to introduce audits
at divisional level which monitor the performance of each
division. Third, funds are then allocated on the basis of
current and expected profit performance. Thus the general
office has become, in effect, an institutionalised capital
market and the inefficient external capital market has been
replaced by an efficient internal capital market that con-
strains renegade behaviour.

We therefore come to the M form hypothesis which in
Williamson's words is as follows: "The organisation and oper-
ation of the large enterprise along the lines of the M form
favors goal-pursuit and least-cost behaviour more nearly
associated with the neo-classical profits-maximisation hypo-
thesis than does the U form alternative." (1971, p. 367).

The Williamson analysis has clear implications for the
separation thesis. If the internal capital market associated
with the multidivisional firm acts as a surrogate for the
external capital market the M form innovation can be viewed
as one of the checks referred to by Berle and Means. Discre-
tionary behaviour by management will be curtailed and the utility
of owners will be maximised. But the internal capital market

is a feature of M form firms only. It is not a feature of firms organised along more traditional lines. Moreover, for more traditional firms Williamson argues that the external capital market is an ineffective policing agent so that for these firms discretionary behaviour is applicable. In short, the separation thesis of Berle and Means and the associated discretionary behaviour of management applies much more to firms organised along U form lines. We arrive therefore at our second major proposition to be tested in this thesis namely: amongst those firms whose organisation structure is classified as being U form the profitability of owner controlled firms will be greater than the profitability of management controlled firms.

1.8 Summary and Preview

The assumption of the separation of ownership from control which is at the heart of the Berle and Means analysis of the corporate sector is a common feature of modern theories of the firm. The vote owning shareholders are the legal owners of the firm but control over the strategic policy decisions of the firm is exercised by a small group of managers who rarely own more than a minimal holding in the company's share capital. Since share ownership is widely dispersed shareholders have little control over the decisions taken by management who are able to pursue their own goals which are often at variance with those of the owners. Such discretionary behaviour on the part of the managers means that the profits received by the owners of management controlled firms are less than those received by the owners of firms where discretionary behaviour is absent.

It is argued in this study, however, that the degree of discretionary behaviour possible is subject to various kinds of constraints. In particular it is subject to constraints imposed by capital markets which are both internal and external to the firm.

The constraints imposed by the external capital market are related to corporate takeovers. If a takeover bid is the likely consequence of pursuing its own discretionary behaviour the management of a company has to decide whether or not to change its strategy in order to respond to the demands of the market. Failure to do so means it runs the risk of being

replaced as a result of an unwanted takeover bid. Modifications
of its behaviour will result if the external capital market
(the market for corporate control) is able to effectively
police the activities of management on behalf of the owners.
If the market fails to do this there is room for the discret-
ionary behaviour of management to go unpunished and for such
firms to return below normal profits. An empirical test of
the separation thesis should therefore compare the performance
of owner controlled firms with those management controlled
firms which are not subject to the discipline imposed by the
market for corporate control.

The operation of internal capital market constraints is
a central feature of the work of Williamson. He argues that
many of the large manufacturing companies in the industrialised
world have changed from a U (unitary) form of organisation,
where production is organised in terms of functions necessary
for the production process, to an M (multidivisional) form in
which each division within the firm is responsible for the
entire production of a given product. Within the newly
structured M form of organisation there also developed a
chief executive office whose main function is to monitor the
overall strategy of the firm and allocate funds to separate
divisions. This allocation of funds by the chief executive
office means that it operates as an internal capital market
and competition amongst divisions for these funds limits the
amount of managerial discretion that is possible. It follows
then that an empirical test of the separation thesis should

compare the performance of owner controlled firms with a U

form of organisation with the performance of management

controlled firms with a U form of organisation i.e. firms

whose behaviour is not affected by the discipline imposed by

internal capital market forces.

The results to be presented later are for large samples

of U.K. and U.S. firms. In the next chapter the source of

each sample and the data used are described in detail. Chapter

3 investigates the degree to which ownership and control have

parted company in the U.K. over the post war period and in the

U.S. from 1929 to 1970. Chapter 4 presents the first sub-

stantive results of the study. Discriminant analysis is used

to investigate the relationship between control type and

corporate performance for U.K. firms. These results are

extended in chapter 5 for a sample of U.S. firms when the

market for corporate control is explicitly brought into the

empirical analysis for the first time. In chapter 6 we return

again to U.K. firms to test for the effects of the internal

capital market on the relationship between control type and

company performance. Finally, in chapter 7 we present a

summary of the empirical results obtained followed by a brief

discussion of the conclusions reached.

1. The content of the separation thesis is often referred to
under such differing headings as 'corporate revolution'
(Means, 1968 p. xxix), 'collective capitalism' (Berle, 1968),
'corporate system' (Berle and Means, 1968 p. 66),
'managerialism' (Mason, 1958: Nichols, 1969), 'managerial
revolution' (Burnham, 1966), 'managerial capitalism'
(Chandler, 1977 p. 1) and 'separation of ownership from
control.' Although there are differences between them in
various respects, for present purposes they will be treated as
being alternative expressions of the same thing.

2. In Book $\overline{V}$, against the background of government expenditure
and the granting of royal privelige, Smith discusses the
joint stock principle and the performance of the big joint
stock companies of his day. Concerning the separation of
ownership from control and its consequences the following
quotes are typical. "The trade of a joint stock company is
always managed by a court of directors. The court, indeed,
is frequently subject, in many respects, to the controul (sic)
of a general court of proprietors (shareholders). But the
greater part of these proprietors seldom pretend to under-
stand anything of the business of the company; and when the
spirit of faction happens not to prevail among them, give
themselves no trouble about it but receive contentedly such
yearly or half yearly dividend, as the directors think proper
to make them.......The directors of such companies, however,
being the managers rather of other people's money than of
their own, it cannot well be expected, that they should watch
over it with the same anxious vigilance with which the
partners in a private copartnery frequently watch over their
own...Negligence and profusion, therefore, must always
prevail, more or less, in the management of the affairs of

such a company." Of the South Sea Company, he says:
"(the company) had an immense capital dividend among an
immense number of proprietors. It was naturally to be
expected, therefore, that folly, negligence and profusion
should prevail in the whole management of their affairs."
Indeed, "That a joint stock company should be able to carry
on successfuly any branch of foreign trade, when private
adventurers (i.e. one man businesses or partnerships) can
come into any sort of open and fair competition with them,
seems contrary to all experience." (Smith, 1976, v.i.e.,
especially paragraphs 15-27).

3. In his essay 'The End of Laissez Faire' (1972) Keynes argues
    against the free enterprise system and in favour of a return
    towards mediaeval conceptions of separate autonomies where
    the "ideal size for the unit of control and organisation
    lies somewhere between the individual and the modern state."
    p. 288-9. As examples of what he means he gives the Univ-
    ersities, the Bank of England and the Port of London Authority.
    "But more interesting than these is the trend of joint
    stock institutions.....One of the most interesting and
    unnoticed developments of recent decades has been the
    tendency of big enterprise to socialise itself.....A point
    arrives in the growth of a big institution.....at which the
    owners of the capital i.e. <u>the shareholders are almost</u>
    <u>entirely dissociated from the management with the result that</u>
    <u>the direct personal interest of the latter in the making</u>
    <u>of great profit becomes quite secondary</u>." p. 289. On the
    issue of making satisfactory profits Keynes statement that
    "The shareholders must be satisfied by conventionally

adequate dividends; but once this is secured, the direct
interest of the management often consists in avoiding
criticism from the public and from the customers of the
concern" (p. 289) is entirely consistent with that of Simon
(1959, 1962) who was the first to propose a fully developed
satisficing theory: "we must expect the firms goals to be
not maximising profits but attaining a certain level or rate
of profit holding a certain share of the market or a certain
level of sales. Firms would try to "satisfice" rather than
maximise." (p. 255).

4.   In fact Berle by training, was a lawyer and this is reflected
in the content of "The Modern Corporation and Private
Property" where Book II for example, is entitled 'Regrouping
of Rights: Relative Legal Position of Ownership and Control'.
This part of the book accounts for over one third of the
entire work. Moreover, it is largely in response to the
work of Berle that the legal profession has sought to develop
a philosophy of corporate control and has, in so doing,
built up a considerable body of case law. See for example
Berle (1958), Bayne (1963, 1966). Ironically 'The Modern
Corporation and Private Property' was presented to the
Harvard Law School in 1933 for recognition as one of the
better research projects of the year and was turned down for
not being in the field of law. See Berle (1970 p. XII).

5.   Some of the material in chapter 5 of this thesis was
previously published in The Journal of Industrial Economics,
1977. Since then I have received two requests to reproduce
the article. In each case the request was made by Professors
from U.S. law schools (Stanford Law School, George Wash-
ington University National Law Centre, Georgetown University
Law Centre) compiling books of readings for use in law school

courses.

6. In particular see Francis (1980), Scott (1976, 1979), Zeitlin (1974), and Villarejo (1961, 1962).

7. See Burnham (1966). His analysis of managerialism has not had the lasting impact which that of Berle and Means has had but it has contributed the expression 'The Managerial Revolution' to the debate.

8. The most significant contribution here is that of Drucker (1976) which will be discussed later.

9. See Chandler (1977). Although he is not directly interested in ownership and control Chandler is interested in the managerial revolution and in the way that the visible hand of corporate management replaces the invisible hand of the market. The separation of ownership and control though not explicitly a part of his analysis is nevertheless implicitly central to it. Evidence for this is provided by the fact that the essence of the Chandler thesis regarding strategy and structure is fully incorporated into the work of Williamson which is based on the separation of ownership from control. cf. Williamson (1971) and Chandler (1962, Introduction).

10. The economist tends to view capitalism in terms of the individual while the sociologist tends to view it in terms of the family. But there need be no conflict here if we realise that the former is a static approach while the latter is a dynamic approach. The initiative of a Steptoe (as an individual) might help to explain the nature of the capitalist system for a given generation but it is Steptoe and Son (as family) that explains the dynamic ongoing nature of the system. See particularly Bell (1965 b.) for a brief but enlightening discussion of family capitalism and its demise.

11. This transition from capitalist to hired manager is
    personified in the career of Sir Michael Edwardes, who
    writes (1983): "At twenty years of age I was an owner
    proprietor and very proud of it....In my own little
    business I made the decisions and I thrived or slumped -
    I took the profit but I took the risks, success or failure
    were both for my own account." After leaving BL he
    compares these heady student days in South Africa with
    his later career at headquarters of BL in London as
    follows: "There, I was a student with a tiny holiday
    business - the classic capitalist. Here, at Nuffield
    House, dealing in millions, even billions, I was in no
    sense a capitalist for I was a hired manager with no
    material stake in the enterprise." (selected quotes from
    'Back From The Brink' p. 22, 29, 14).

12. For Friedman the corporation is an instrument of the
    stockholders who own it and if the corporation is encou-
    raged to make tax deductable contributions to social and
    charitable institutions the stockholder is being denied
    the right to choose how to use the funds which are right-
    fully his. His fear is that government policy might
    bring about a separation of ownership and control. "But
    the direction in which policy is now moving, of permitting
    corporations to make contributions for charitable
    purposes and allowing deductions for income tax is a step
    in the direction of creating a true divorce between owner-
    ship and control" (Ibid. p. 136).

13. Although I have classified Zeitlin on the Marxist left
    he does not represent the Marxist left in its entirety.
    There are some Marxists who accept the fact that owner-
    ship and control have been separated and yet still

maintain class structure as central to their analysis.
Owners and managers are seen as different layers of the
same social class and corporations as a whole are seen
as units within a class controlled system. See, for
example, Nicholls (1969); c.f. Scott and Hughes (1976).

14. Crosland (1963 p. 16). In order to put this in perspective
in the Crosland analysis it is necessary to add that of
the three factors discussed above the separation of owner-
ship and control is probably the least important of the
three. It also needs to be added that he later argues
that the ownership of the means of production in itself
is becoming increasingly inadequate in determining the
essential character of a society. See particularly
chapter 2 section IV.

15. The Marris model is similar to the Mueller life cycle
model in that each begins with the separation of owner-
ship from control which introduces managerial discretion
allowing both authors to introduce growth rather than
profitability as the maximand. However, while the Marris
model is based on long run equilibrium the Mueller model
investigates growth over the whole life cycle of the firm.
In its infancy a firm seeks to maximise stockholder wel-
fare but as expansion follows an S shaped pattern growth
becomes the dominant motive in the mature firm as mana-
gement gains control. Such firms typically overinvest
with such over investment being financed internally
leading to high retention ratios. The results of an
empirical analysis based on long or short run performance
indicators will therefore be biased in relation to the
age structure of the firms in the sample. See Mueller
(1972).

16. It is not altogether clear how to classify Berle in terms of the above typology. While Williamson and Marris lean towards capitalism and Crosland and Drucker lean towards Socialism Berle seems rather loath to commit himself in these terms. When he does commit himself to describe in titular fashion the revolution that has occurred he refers to it as the corporate system. On one occasion he describes it rather tantilisingly as collective capitalism (Berle 1968, Preface to the revised edition).. In the light of this it is probably best to place him at the point which separates the apologist from the reformist.

17. In fact the authors recognised that in some situations the exercise of control might be independent of share ownership. For example, a bank to which a company is heavily indebted may be able to exert pressure and control management in a particular situation by virtue of its creditor status alone. This, however, is seen as an exception. (Passim p. 60).

18. Pyramiding is the practise of owning a majority of the equity of one company which in turn owns the majority of equity of another. If this process continues control at the apex, based on limited overall stock ownership, can be effectively exercised over companies at the base of the pyramid. The issue of non vote carrying stock became legal in the early years of the twentieth century in U.S. and made possible the massive disenfranchisement of new investors when directors were set on maintaining control. Finally, with voting trusts a group of trustees is set up with power to vote all stock placed in its care. This was a device which allowed the formal organisation

of power blocks designed to maintain control.

19. McEachern argues that amongst firms previously classed as owner controlled a distinction should be made between those where the dominant share holder is also the manager (owner managed: OM) and those where the dominant share-holder hires a manager rather than managing himself (externally controlled: EC). To these is added the familiar management controlled group (MC). The empirical results obtained show that the OM firms conformed to the classical risk taking entrepreneur while the EC firms were more risk averse than the OM firms. These two groups also showed significant differences in executive tenure and firm retention policy. Finally the firms with a dominant stockholder (OM and EC firms combined) had a higher rate of return than those without a dominant stockholder.

20. The sources used by Berle and Means were Standard's Corporation records, Moody's Manuals for 1930 and various issues of the New York Times and the Wall Street Journal for the period 1928-30. The authors readily concede the limitations of the data used and the fact that at times their conclusions are based on careful guesses (Passim p. 109) certain arbitrary judgements (p. 108) general 'street knowledge' (p. 108); that their newspaper reports were "not necessarily accurate in themselves" (p. 84) and that "many companies had to be classed as doubtful." (p. 85).

21. In the Collett and Yarrow study data were collected for each firm in the sample such that at least the largest 100 shareholdings were included. A maximum likelihood

estimator was then used to obtain estimates of the
parameters of a truncated Pareto distribution with the
approach being simplified by assuming that the point of
truncation was known. A Chi Square test was applied to
test the goodness of fit of the estimated distribution
and it was found that the results were sensitive to the
point of truncation chosen. When the top fifty share-
holdings were used the Pareto distribution provides a
statistically good fit in 85 of the 93 cases. When the
truncation takes place at the 100th shareholding the
number significant falls to 62 and when all data for
each firm is used it falls quite dramatically to 11. In
the last situation where all data collected are used an
attempt was made to fit a lognormal distribution as an
alternative: in 71 of the 93 cases the chi square test
rejected the null hypothesis that the distribution is
lognormal (at the 5% level).

22. Boswell argues "It is likely that even large businesses
are often dominated by a single individual, so it is his
biases which then probably prevail and set the tone."
(p. 14). He then traces the history of USC, Dorman Long
and Stewarts and Lloyd between 1914 and 1939, showing, in
chapter 4, how the development and performance of each
is associated with the personalities of the chairman or
other high ranking executives in each company. The main
individuals were John G. Stewart and Allan McDiarmid
(Stewarts and Lloyd); Sir Arthur Dorman ("Perhaps the
most important single clue to the evolution of Dorman
Long during this period, indeed up to 1931 is the fact
that its now aged chairman, Sir Arthur Dorman, continued

inexorably at the helm", p. 77) and Charles Mitchell in Dorman Long; and Harry Steel ("....Harry Steel was probably the dominant force both in the formation of USC and during its first two years" p. 48); Walter Benton Jones and Robert Hilton in USC.

23. Nyman and Silberston (1978 p. 95-6) report the case of Debenhams which "had passed from family to career management control in 1928" and document some of the subsequent fortunes of the company particularly under John Bedford who became chairman in 1956 and his successor Sir Anthony Burney who succeeded him in 1970. The company was far from successful under the former and its structure and performance were drastically changed for the better under the latter.

24. Few would question the fact that the renewed fortunes of BL over the period 1977-82 were directly associated with the chairmanship of Sir Michael Edwardes who successfully negotiated the required organisational changes with different unions, two different Prime Ministers (representing markedly different political philosophies) and three different Secretaries of State for Industry. His aim of decentralising the decision making process was so successful that he ultimately made himself redundant - the ultimate test of any leaders' desire to delegate authority. (see Edwardes, 1983).

25. Reported in Herman (1981 p. 28).

26. Quoted in Scott (1979).

27. It can also be argued of course that far from blunting the competitive edge of the economic system interlocking directorships sharpen it in the sense that they provide

knowledge and expertise that contribute to efficiency
in corporate decision making. These opposing views are
neatly summarised in the statement to members from the
Board of Directors of Nationwide Building Society in
advance of the 1983 AGM. Included with the statement is
a list of 23 resolutions to be moved by members at the
meeting along with the comments by the Board on each
resolution. Resolution number 2 and the accompanying
comment by the Board were as follows:

Resolution No. 2

That the members note with concern the coincidence of
other business interests amongst Board members, in part-
icular the presence on the Board of Y.J. Lovell (Holdings)
Ltd., of both Leonard Williams the present Chairman and
Sir Peter Trench, and regard this as unlikely to encourage
independent thought and attitudes within a Board of
Directors who should have the interest of members as their
first regard.

Comment by the Board of Directors

One of the attributes which members look for when voting
for candidates for Board membership is a wide ranging
knowledge of business and experience. On occasions there
will be an overlap of interests. Board members use their
knowledge and experience in other spheres in coming to
their decisions in the best interests of the Society.
Members are recommended to vote AGAINST this resolution.

28. Meacher (1982) also highlights the combined effect of
concentration and interlocking directorships. Along with
the interchange of top personnel in the Civil Service
and industry they have contributed towards the fusion of

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the state and big business to bring British capitalism
to a stage which he calls State capitalism. (see pages
18 and 20 and in particular footnote 8 on page 37).

29. Reported in Herman (1981 p. 200).

30. A direct interlock exists when a single director is on
the board of two companies. An indirect interlock exists
when a director from company A meets a director from
company B on the board of company C. In the former sit-
uation the director forging the link between the two
companies comes into direct contact with the entire board
of each company. Such a link is likely to create a
stronger relation than in the indirect interlock where
the link between companies A and B exists only in so far
as the two directors concerned come into contact with
each other.

31. Kotz investigated the extent to which financial companies
that controlled non financial companies through share
ownership also placed directors on the boards of these
companies. He found that financial companies owning
5-10% of a company's stock rarely used board represen-
tation as a means of control but financial companies
owning more than 10% of a company's stock very often did
use such representation as a means of control. The main
reason he suggests for this rather odd finding is that
because board representation has long been a sensitive
issue in the U.S. companies are keen to avoid the appear-
ance of being active in the corporate affairs of others.
When stock ownership exceeds 10% a company may feel that
its controlling interest is so obvious that it has nothing
to lose by having a director in common. On the other hand

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with a 5-10% stock holding where ownership is less obvious
there may be a significant public relations trade-off
resulting from non director representation.

32. The increase in U.K. institutional shareholding since
the 1950's is well summarised by Prais (1976 p. 113-124).
By the early 1970's approximately two thirds of insti-
tutions' assets were held in the form of various kinds of
corporate securities, the remainder being government and
other securities. Prais also documents the growing impor-
tance of equities held by these institutions. Between 1957
and 1972 the proportion of total assets held in the form
of ordinary shares increased from 33% to 57%. The
corresponding figures for pension funds over the same
period showed a particularly marked increase - from 21%
to 60%. The rise and role of pension funds is discussed
in more detail by Minns (1980).

33. Quoted in Kotz (1978 p. 127). The study, entitled
Institutional Investor Study Report, was based on a sample
of 49 Bank trust departments, 76 major investment advisors
and 26 life insurance companies.

34. Also reported in Kotz (1978 p. 127). In general the
financial companies tended to vote against management
whenever the latter attempted to extend its own power and
privileges at the expense of the shareholders. More
specifically the main issues listed that brought forth
antipathy towards management were: proposals to abolish
or limit pre-emptive rights of shareholders; proposals
to increase the percentage of shareholder votes needed to
approve a proposal; issue of additional stock; plans to
grant stock options, warrents or rights.

35. "In the dawn raid of Eagle Star Insurance Stockbrokers
Rowe and Pitman instructed 30 staff to make three phone
calls each to a total of 90 institutions. As a result
14.9% of the shares at a cost of £59.2 million was bought
in minutes." (Minns 1982 p. 6).

36. On the issue of new securities they write:

"Only one general protection beside the power of active
revolt remains to guarantee a measure of equitable
treatment to the several classes of security holders.
The enterprise may need new capital. The management
must, therefore, maintain a situation in which additional
capital is forthcoming." (1968 p. 247).

But in 'The Twentieth Century Capitalist Revolution'(1955)
Berle argues that large firms typically depend so heavily
on internal funds that managers are able to operate in
isolation of the new issues market.

With respect to the takeover mechanism 'The Modern
Corporation' recognises its existence and even give examples
of its operation but the authors finally minimise its
importance by concluding:

"More often control is quietly exercised over a period
of years without any active contest such as would
give the stock holders an opportunity to choose between
two contesting groups." (p. 83).

37. Table 5.8 in Whittington (1971) shows that the upper value
of the range is 57.1% for the Tobacco Industry but this
may not be a very accurate estimate for all industries as
it is based on a sample of only 7 firms. The next highest
value is 51.8% for the Electrical Engineering Industry.
Since this estimate is based on a sample of 85 firms it
was thought to be a more accurate value and has therefore

been used here.

38. The studies by Henderson and Whittington overlap to a
    considerable extent. Henderson covers the period 1949-53
    while Whittington covers the period 1948-54. The former
    includes 2549 continuing companies while the latter
    includes 1955. Since the raw data used by both studies
    are basically the same the conclusions drawn by one are
    likely to be applicable to the other. For example,
    Henderson found that 32% of the companies in his sample
    raised capital via new issues (p.66) while the figure
    for the Whittington sample was 32.5% (p. 127).

39. Figures reported by Lintner (p. 177/8, 186/7) are given
    below in columns 1 to 4. Since the dates given in columns
    1 and 3 do not correlate exactly, the figures in column 5
    (reported in the text) are approximate.

Period	External Finance as % of Total Assets	Period	New Stock Issues as % of External Finance	New Stock Issues as % of Total Assets. (Col. 4/100) X Col. 2.
1	2	3	4	5
late 1920's 1949-55	37-41 (Av.39) 44	1921-4 1946-57	57 25-43 (Av.34)	22 15

40. Villarejo illustrates his point with the case of Commercial
    Solvents Corporation. The unfortunate president was J.A.
    Woods with the Millbank family being the dominant share-
    holding interest that won the day.

41. After his extensive historical investigation into the organ-
    isational changes in Du Point, General Motors, Standard Oil
    of New Jersey and Sears, Chandler concludes: "The inherent
    weakness in the centralised, functionally departmentalised

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operating company.....became critical only when the
administrative load on the senior executives increased
to such an extent that they were unable to handle
their entrepreneurial responsibilities efficiently."
(1969 p. 369).

Chapter 2. Data Used In The Study

2.1 Introduction

It was argued in the previous chapter that the effect
of the separation of ownership and control on company behaviour
will depend on the extent to which the internal capital market
peculiar to multidivisional firms and the external capital
market for firms in general are able to discipline corporate
decision making. In order to test these hypotheses it is
necessary to introduce three groups of variables: those designed
to measure control type, those used to capture the disciplinary
effects of the capital markets and those designed to measure
firm performance. These variables are introduced in the
present chapter. At various stages the limitations of the data
are discussed but no attempt is made to consider alternative
measures of the variables used. This will be considered in
later chapters.

The firms in the samples are large UK and US industrial
companies selected at different times for the post second world
war period. The variables defined are both indicative (discrete)
and quantitative (continuous). In the case of the U.K. the
information used allows for the introduction of the taxonomy
of firms by control type (owner control, management control)
diversification strategy (single product, dominant product,
related product, unrelated product) and organisation structure
(functional, multidivisional, holding company). Some of this
information was previously published by Florence (1961) and

Channon (1973) while the rest was made available after private communication with these authors. This chapter describes the composition of the original Florence and Channon samples. When the samples from different sources were collated various companies had to be omitted from the results for a variety of reasons. The reasons for these omissions and the details of the final samples used will be described in subsequent chapters. The quantitative data are contained in a data bank compiled by the Department of Applied Economics, Cambridge, which provided the industrial classification of companies at a two digit and MLH level of disagregation and the accounting information necessary to calculate the distribution ratio, variation of profits, and various measures of profits, size and growth.

The main sources of information for the sample of U.S. firms werePalmer (1972 a,b,c) and Fortune magazine. The former classifies firms by control type (strong owner control, weak owner control, management control) and product market structure (high monopoly, medium monopoly, low monopoly) while the latter provides a measure of size and various measures of profitability. The central variable of interest for U.S. firms, namely the valuation ratio, was calculated following the collection of primary data by the author. This involved extensive searching through Moody's Manuals for each of the years 1960 to 1969 to obtain high and low annual share prices for each firm in the sample.

For convenience all variables defined in this chapter are listed in the appendix at the end.

2.2 U.K. Indicative Data

The Florence study is based on a sample of quoted joint
stock companies selected from the commercial and industrial
section and the breweries and distilleries sections of the Stock
Exchange Year Book, 1951. The initial sample consisted of 350
firms though full information was available for only 268. The
main characteristics of these 268 firms are summarised in
tabular form in Table 2.1. Each company included is large and
is classified into one of three size classes according to issued
share capital in 1951: very large (£3m or over); medium large
(£1m to £3m); smaller large (£0.2m to £1m). The total number
of companies in each group for which full information was
available in 1951 is given in the table. In the first group
the companies accounted for approximately 20% of the gross
income of all trading concerns in the industrial and commercial
sectors while the first two groups combined accounted for
approximately 32% of the gross income of all trading concerns
(Florence (1961), p. 13).

The companies included are taken from a wide coverage
of the industrial sector. Some of the orders in the SIC are
not represented in the sample partly because the predominant
form of industrial organisation was one man business, partner-
ship or state ownership. The industries affected in this way
are agriculture (Order 1), mining (11), public utilities (XVIII),
transport and communication (XIX), banking finance and insurance
(XXI), public administration (XXII) and professional services
(XXIII). The orders included in the sample cover all

Industry	Very Large (£3m+)	Medium Large (£1m-£3m)	Smaller Large (£0.2-£1m)	Pre 1958 SIC Order	Post 1958 SIC Order	Owner Control	Management Control	Total
Industrial and Commercial								
Chemicals	9	4	4	II	26	5	12	17
Distrib. Trades	14	4	26	XX	82	18	26	44
Engineering	21	11	21	V, VI, VIII, IX	33, 36	15	38	53
Food	12	4	9	XII	21	11	14	25
Motor Vehicles	6	7	8	VII	38	6	15	21
Paper	9	3	5	XV	48	9	8	17
Textiles	12	5	15	X	41	6	26	32
Miscellaneous	15	9	0	XVII, XXIV	88	9	15	24
Sub Total	98	47	88			79	154	233
Breweries	11	12	12			10	25	35
TOTAL	109	59	100			89	179	268

Sources: 1. Compiled from Florence (1961), p.41, Chapter 6 and Appendices

2. Computer File of U.K. Quoted Companies

TABLE 2.1: Characteristics of Florence Sample

manufacturing industries excluding oil (III to XVI), building (XVIII), distributive trades (XX) and entertainment and catering (XXIV). Some of these industrial orders were joined by Florence for classification purposes as shown in Table 2.1. This table also shows the industrial grouping based on the finer SIC which is used in the analysis and results of later chapters.

Finally, each company is classified according to its locus of control. In the classification of each company by control type four main criteria are used. First, vote concentration, i.e. the concentration of ownership of vote carrying shares with high concentrations being associated with owner control and low concentrations with management control. Second, the type of vote holder; vote holders are classified as being persons, institutions or companies with personal holdings more likely to reflect owner control and institutional holdings reflecting management control. Third, directorial holdings where there is assumed a positive relationship between the collective share holdings of the board of directors and the degree of owner control. Fourth, the number of members of the board among the top 20 shareholders assuming, again, a direct relationship between this measure and the degree of owner control. If more than 50% of the vote carrying shares are owned by one person a company is said to be owner controlled. Alternatively, if 20-50% of the votes are owned by the largest shareholder or at least 20% are held collectively by the largest 20 shareholders a company is classified owner controlled if (a) the main vote holders are persons or (b) the board of directors collectively own more than 10% of the shares or (c) two or more members of the board are among the largest 20 shareholders. All other

companies are classified management controlled. (This is
illustrated below in the Appendix to chapter 4).

The second major source of indicative data is the
extensive study of corporate strategy and structure by Channon
(1973). This is one of a series of studies originating from
Harvard Business School and Channon did for British companies
what Rumelt (1974) had previously done for U.S. firms, namely
investigated the changing post war patterns of diversification
strategy and organisational structure and their interrelation-
ship within the framework laid down by Chandler (1962, 1977).
The starting point in Channon's study was the selection of a
sample of 100 British manufacturing companies taken from The
Times 500 list for 1969/70 the smallest company in the sample
in terms of sales being listed as number 147. A similar sample
was taken for 1950 and 1960 with the result that information
was available over the entire period for 92 companies.

Each company in each period was classified in terms of
its organisational structure. A firm is classified as being
functionally organised (U form) if the production process of the
commodity it produces is arranged in terms of the functions
involved, for example, mining, refining, manufacturing, distri-
bution etc. The co-ordination of these various sub-units is the
responsibility of general management. Second, a company is
multidivisional (M form) if it consists of a number of separate
and largely autonomous sub-divisions where each is responsible
for the entire production process of a given commodity. While
each division is independent of the others the progress of the
entire company is monitored by general management whose overall

policy activities are divorced from the operational decisions taken within divisions. The final form of organisation is the holding company (H form) which consists of a collection of sub-divisions which may or may not be related in some way. The essential feature of this kind of structure is the absence of overall policy co-ordination which is separated from daily operational decision-making.

Measurement was also made of the diversification strategy of each company based on the diversity of its output. A firm is classified as being a single product firm if at least 95% of its total sales is earned by producing one product line. A dominant product firm is one in which a single product accounts for the bulk of total sales but where supplementary products contribute up to 30% of total sales. These secondary activities may or may not be related to the primary activity. In a related product company two or more products contribute significantly to total sales such that both (or all) are related in terms of technology required in the production process and no single product contributes more than 70% of the total sales volume. The final category of company strategy is unrelated product where the products concerned are not related by technological requirements and no single product line contributes more than 70% of the total sales volume. The final category of company strategy is unrelated product where the products concerned are not related by technological requirements and no single product line contributes more than 70% of the total sales volume.

Finally companies were classified according to control type. A company is said to be owner-controlled if a family member is the chief executive officer, if there has been at

least two generations of family control and if a minimum of

5 per cent of the voting stock is held by a family or associated

trust interests. Clearly, this approach to the measurement of

control type differs from the approach followed by Florence and

this will be discussed in the next chapter. On the basis of

the information published (ibid, Table 3.1, pp. 52-63) along

with unpublished material provided by Channon it is possible

to summarise his sample as shown in Table 2.2.

	DIVERSIFICATION STRATEGY				ORGANISATION STRUCTURE			CONTROL TYPE		TOTAL
	S	D	R	U	F	M	HC	OC	MC	
1950	31	38	21	2	52	12	28	49	43	92
1960	18	35	39	4	24	32	40	39	57	96
1970	6	34	54	6	7	72	21	30	70	100
TOTAL	55	107	114	12	83	116	89	118	170	288

Notes: S   :   Single Product
         D   :   Dominant Product
         R   :   Related Product
         U   :   Unrelated Product
         F   :   Functionally Organised
         M   :   Multidivisionally Organised
        HC   :   Holding Company
        OC   :   Owner Control
        MC   :   Management Control

Sources: 1. Channon (ibid)

            2. Further unpublished material provided by Channon

Table 2.2   Characteristics of Channon Sample

2.3 U.K. Quantitative Data

The sole source of quantitative data for all the
British companies in this study is the "Computer File of
U.K. Quoted Companies Accounts: 1948-1976". This databank
began life as a project initiated by the NIESR following
the 1948 Companies Act in which it was made compulsory for
public companies to publish consolidated accounts. The aim
of the project was to develop standardised consolidated
accounts which would accommodate the published accounts of
all industrial companies. The results were subsequently
published at an aggregated level (NIESR (1956)) and dis-
aggregated level (Tew and Henderson (1959)). The exercise
was subsequently extended to 1960 in conjunction with the
Board of Trade and later became attached to the Department of
Applied Economics at Cambridge. After a brief sojourn at
the Universities of Edinburgh and Bristol it has now settled
once again at Cambridge. It has been used extensively in the
analysis of company behaviour by Singh and Whittington (1968),
Whittington (1971), Singh (1971), Meeks (1977), Holl (1975, 1983)
and Goudie and Meeks (1982).

The accounting information relates to the consolidated
accounts of all manufacturing and distributive companies
quoted on British stock exchanges over the period 1948-1976.
Companies which are consolidated subsidiaries of other companies
whose group accounts appear elsewhere in the databank are
excluded. A company is deemed quoted irrespective of the type
of share capital quoted and if its loan stock only is quoted.

A small number of very large non-quoted companies are also
included in the population. Because of the births and deaths
of companies the number present varies from year to year: for
the period 1948-60 the number averages about 2500 while the
average for 1961-1969 is about 2150. For each year the
consolidated accounts contain 67 separate items along with a
further 148 quantitative and qualitative items relating to
different aspects of corporate activity. With 215 separate
items for each of 29 years for an average number of companies
in excess of 2000 the databank therefore contains considerably
more than 12 million items of information.

The core of the data relevant for present purposes is
contained in the 67 accounting items referred to above taken
from the annual report and accounts of each company. The data
provided is then fed into a standardised format containing a
balance sheet statement, sources and uses of funds statement
and an appropriation of income statement. In simple accountancy
terms we begin with the identity

$$\text{Assets} = \text{Liabilities} + \text{Net Worth}$$

This represents the financial position of the company at a
point in time and is expressed in the balance sheet. If we
consider the net changes on each side of the identity between
two consecutive balance sheet statements we have the sources
and uses of funds statement (the sources referring to the
right hand side and the uses referring to the left hand side
of the identity). Finally, looking at net changes in part of

the net worth items for consecutive balance sheets gives the appropriation of income statement. The final arrangement of the accounting items in summary is:

	Items
Liabilities and Net worth	1 - 12
Assets	14 - 21
Sources of Funds	23 - 36
Uses of Funds	37 - 43, 44 - 49, 60 - 67
Appropriation of Income	50 - 59
Summary et alia	13, 22

A full listing of the items is given in Table 2.3. beginning on the following page.

A full discussion of the quality of the data is covered in various readily available publications (Tew (1959), NIESR (1956 a, b), Whittington (1968, Appendix A)) and it is not possible or necessary here to repeat this material but some of the more important limitations that are especially pertinent to the present work will be discussed briefly. These relate to adjustments to the sources and uses statement for book transactions, the valuation of assets, and the assignment of each company to an industry group.

A book transaction is one that does not involve a flow of funds to or from the company and any such transaction has been removed from the sources and uses of funds statement. A scrip issue is an example of such a transaction. In an unadjusted statement a scrip issue would result in an increase in issued share capital (item 23) and a decrease in reserves (item 25). In the data used here each item remains unchanged.

Sources of Funds

23	Issue of Shares - Ordinary
24	" " " - Preference
25	Increase in liability to minority interests
26	Issue of long-term loans
27	Bank credit received
28	Trade and other credit received
29	Increase in dividend and interest liabilities
30	" " current tax liabilities
31	" " future tax reserves
32	Balance of Profit-Depreciation provision
33	" " " -Provision for amortization
34	Balance of Profit - Other provisions
35	" " " - Retained in reserves
36	Other receipts

Use of Funds

37	Expenditure, less receipts, on fixed assets - tangible
38	Expenditure, less receipts, on fixed assets - intangible
39	Expenditure, less receipts, on fixed assets - trade investments and investments in subsidiary companies
40	Increase in value of stocks and work in progress
41	Increase in credit given - trade and other debtors
42	Expenditure ex Provisions
43	Sundry expenditure

Adjustments

44	Consolidation adjustment
45	Conversion "
46	Residual "

Balance

47	Change in securities

| 48 | Change in tax reserve certificates |
| 49 | "   " cash |

Appropriation of Income

50	Operating profit (before depreciation)
51	Dividends and interest received (gross of income tax)
52	Other income
53	Interest paid on long-term liabilities, gross
54	Tax on current profit
55	Dividend, net of income tax, Ordinary
56	" " Other
57	To minority interest in subsidiaries (net of taxation)
58	Prior year adjustments - Tax
59	" " " - General

Summary

60	Total capital and reserves (Items 1 to 6)
61	" liabilities (Items 7 to 12)
62	" fixed assets, net of depreciation (Items 14 to 16)
63	" current assets (Items 17 to 21)
64	" sources (Items 23 to 36)
65	" uses (Items 37 to 43)
66	" profit (Items 50 to 52)
67	" balance of profit (Items 32 to 35)

Notes   Items headed 'Memorandum' do not have any arithmetic consistency with other items, e.g. 'total depreciation' has already been deducted from the value of 'tangible fixed assets'.

Items headed 'Summary' are the sums of groups of other items

Source Whittington & Singh (1968), Appendix C.

Table 2.3   List of Standardised Variables in the Accounting Data

Similarly, the revaluation of fixed assets is not incorporated into the figures. Apart from this item representing a nominal change in assets it is a practice which is not carried out by all firms and, for those who do, it is not carried out regularly. Thus, although it may be desirable to revalue assets during an inflationary period lack of information prevents this for all firms in the sample.

One of the main causes for concern is in the area of valuation of assets of various kinds. In the case of stocks and work in progress (item 17) the basis of valuation is historic cost or market value which ever is the lower but a large proportion of this item consists of work in progress for which there is no objective market valuation available and the accountant is able to provide no more than an informed guess. Similarly intangible items (items 15) are equally difficult to value as it includes items such as expenses incurred in the acquisition of trade marks and patents and decisions have to be made concerning the period and rate of write-off. Another example is the amount and method of valuing goodwill that results from the acquisition of a subsidiary company (goodwill being the excess paid over book value of its shares by the acquiring company). Finally, there is the problem of depreciation as applied to tangible fixed assets (item 14). The most common convention for valuation is historic cost less depreciation to date and raises problems of estimation concerning the average life of a machine and the method (straight line or declining balance) of amortisation. Although methods differ between firms the choice of historic

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cost rather than current cost means that in times of inflation assets are in general undervalued - sometimes seriously so.

These considerations are important in the results reported in later chapters because at least three of the central indicators (especially size, growth and profits as a proportion of net assets) are based on the assets figures previously discussed. However, in defence of their use two points need to be made. First, the errors tend to work in the same direction. For example, although different methods of depreciation are used by different companies there will be a strong tendency amongst most companies to undervalue rather than over-value assets. Secondly, the adverse effects of errors in the valuation of assets is likely to be greater across industries than within industries and the former will be partly reduced (although it is not possible to say how much) by subsequent attempts to eliminate the effects of inter-industry variation on the variables used.

This brings us conveniently to the final consideration listed above, namely, the assignment of each company to a given industry. This has been done at both the two digit SIC level and the minimum list heading level. Such classification is clearly going to be arbitrary to a greater or lesser extent for large companies whose activities straddle different industries. Some indication of the extent of the problem is provided by an NIESR study (1956 a, Appendix A) for 1951 where an attempt was made to measure the degree of specialisation for companies in each of 16 manufacturing groups measured in terms

of the percentage of a company's employees in establishments in the designated industry. For the 16 industries listed the lowest was 81% (iron steel and non-porous metals; shipbuilding and non electrical engineering; other metal goods, etc.) the highest was 97% (clothing and footwear; paper and printing) with an average for all companies of 87%. Thus, a typical company had 87% of its employees engaged in the industry group to which it had been allocated. But such a high degree of specialisation is partly the result of the very broad definition of each industry group which in practise combines a number of different operating environments.

This led Prais (1959) to investigate whether the variations in financial performance between industrial groups differ from that of groups chosen from firms at random. For each of a number of financial indicators he calculated the standard deviation for each industrial group and then compared a weighted average of these with the standard deviation based on all companies irrespective of industry group. Following the use of F test analysis he concluded that "our industrial classification is reasonably good in avoiding much overlapping of companies as between one industrial group and another. It is, however, less satisfactory in giving industrial groups which to any substantial extent are distinct from one another in their financial experience; hence the analytical value of our industrial grouping, though not negligible is relatively small" (ibid, p. 127). This conclusion is in part confirmed by the results to be reported later. The effect of inter industry variations are removed in one case by taking samples matched in terms of industry group and in another by calculating variables which have been normalised (at two digit and MLH level) in order to

remove cross industry effects. It will be seen that the results are significantly affected by the removal of these inter industry differences.

2.4 Measurement of Variables: U.K.

In addition to the indicative variables previously
defined it is necessary to define the continuous variables to
be calculated from the financial data discussed above. The
present section is concerned only with defining these variables;
the rationale behind their inclusion will be considered in
later chapters. In order to be consistent with other studies,
each of the 67 standardised accounting items will be prefixed
with the letter Q (for quantitative) to distinguish it from the
indicative items prefixed with the letter I. Also for the sake
of consistency the symbol given to each variable willbe the
same as that given in the papers in which the results were first
presented (Holl, 1975, 1977, 1983).

$$X_1 : \text{Average pre-tax rate of return on net assets (\%)}$$
$$\overline{\text{1949-1960}}$$

This measure contains annual returns summed over the
period divided by aggregate net assets: We define:

Annual Net Assets $= (Q60 + Q7 + Q8 - Q4)$ and

Aggregate Net Assets $= \left[\left\{ (\text{Net Assets})_{1960} + (\text{Net Assets})_{1948} \right\} \div 2 \right.$

$$+ \left\{ \sum_{1949}^{1959} \text{Net Assets} \right\} \Big]$$

We can therefore define

$$X_1 = \frac{\sum\limits_{1949}^{1960} \left[Q66 - Q32 - Q33 - Q34 + Q59 \right]}{(\text{Aggregate Net Assets})}$$

$$X_2: \text{Growth of Net Assets Compounded Annually (\%),} \atop 1949\text{-}1960$$

$$X_2 = \sqrt[12]{\dfrac{\displaystyle\sum_{1949}^{1960}(Q23+Q24+Q31+Q35+Q36-Q43) + \underset{1960}{(Q7+Q8)} + \underset{1948}{(Q60-Q4)}}{(\text{Net Assets})_{1948}}} - 1.0$$

The growth variable represents the rate of growth in net assets over the entire period compounded annually.

$$X_3: \text{Variance of average pre-tax rate of return on net} \atop \text{assets, } 1949\text{-}1960$$

For the majority of firms in the sample the variance and the skewness (see below) of profitability were calculated using data for the entire twelve year period. Details of the number of companies for which the calculation was based on a period of less than twelve years are given in chapter 4. In general we therefore define the variance of profitability for each company as:

$$X_3 = Var(X_1) = \sum_{1949}^{1960}(X_{1i} - \bar{X}_1)^2 /12$$

$$X_4: \text{Skewness of average pre-tax rate of return on net} \atop \text{assets } 1949\text{-}1960$$

Just as the variance is the second moment about the mean the measure of skewness is the third moment about the mean and is defined as

$$X_4 = \sum_{1949}^{1960}(X_{1i} - \bar{X}_1)^3 /12$$

$$X_5: \text{Distribution Ratio (\%)}$$

The distribution ratio is here defined as the percentage sum of ordinary dividends over the period (net of income tax)

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divided by the sum of ordinary dividend and retained profits,
that is

$$X_5 = \sum_{1949}^{1960} Q55 \bigg/ \sum_{1949}^{1960} (Q55 + Q35)$$

$\underline{X_6}$: Size (£000)

In the Florence study size was measured in terms of issued
share capital in 1951, but for present purposes an alternative
measure was used, namely, net assets in 1951. Thus we have

$$X_6 = (Q60 + Q7 + Q8 - Q4) \text{ in } 1951$$

A further measure of size using the log of net assets is
presented below.

$\underline{\Pi^*}$: Post Tax Rate of Return on Equity Assets (%)
1949/53, 1957/61 and 1967/71

This second indicator of corporate profitability is measured
after tax and for the first of the three periods is defined as:

$$\Pi^* = \frac{\sum_{1949}^{1953} (Q35 + Q55)}{\left\{\left[(Q60-Q4-Q2)_{1948} + (Q60-Q4-Q2)_{1953}\right]/2\right\} + \sum_{1949}^{1952} (Q60-Q4-Q2)}$$

The calculations involved for the periods 1957/61 and 1967/71
follow in a parallel way.

$\underline{G^*}$: Growth of Net Assets Compounded Annually (%)
1949/53, 1957/61 and 1967/71

Apart from the different periods involved this variable is the
same as X_2.

$\underline{\text{Log}_{10}S^*}$: Size Measured as Aggregate Net Assets
1948, 1956 and 1966

Size is here measured the same as X_6 though it is expressed in

logarithmic terms.

Because the last three variables listed above are measured across a very broad cross section of manufacturing, wholesale and retail industries it was found necessary to remove the effects of interindustry variations. Moreover at various times at the estimation stage it was desirable to pool observations for all time periods and this required removing industry variations across time. Each of the last three continuous variables was therefore normalised across time and across industry. The analysis was unfortunately complicated by the revisions made to the SIC numbering in 1958 and 1969. These revisions had more effect on the classification of companies at the MLH level than on the two digit level thus introducing greater room for inaccuracies in the calculation with the former compared with the latter. On the other hand the narrower definition of an industry contained in the MLH classification is a priori better than at the two digit level. It was finally decided to normalise at both levels of disaggregation and compare the results. Further discussion of this and related issues can be found in Prais (1959) and NIESR (1955). Thus in the case of profits we have:

$$\Pi_{ijt} = (\overline{\Pi}_{ijt}^{*} \cdot \Pi_t) / \Pi_{jt}$$

$$i = 1, \ldots, N$$
$$j = 1, \ldots, 47$$
$$t = 1, \ldots, 3$$

where Π_{ijt}^{*} = 5 yearly average profits for the ith firm in the jth MLH for the tth period as measured by the ith firm's balance sheet data.

Π_{jt} = 5 yearly average profits for the jth MLH for the tth period as calculated from balance sheet data for all firms in the industry contained in the databank.

$\overline{\pi}_t$ = 5 yearly average profits for the tth period calculated from balance sheet data for all companies listed in the databank.

The normalised variable π_{ijt} was used in the results reported below. A company in an industry where profits are higher than the national average will have its balance sheet profits figures scaled down. Similarly, a company in a given industry for two periods will have its balance sheet profits figures scaled up in the second period if the industry average in this period was lower than in the first. The variable $\overline{\pi}_{ijt}$ therefore represents company profits normalised across time and across industry. The same procedure was followed for S and for G.

2.5 U.S. Data

The companies in the initial sample of U.S. firms
are those listed in the Fortune 500 for 1965 (Fortune Magazine,
July 15, 1966). For each company it was necessary to obtain
information which covered the period 1960-69. When the first
stage of data collection was complete various companies had to
be omitted: 64 were merged with, or acquired by, other companies
between 1965 and 1969 while for a further 76 companies it was
not possible to obtain sufficient information. This left a
sample size of 360. At the second stage of data collection
involving the total return measure of profitability a further
17 companies had to be omitted leaving a final sample of 343.

Each firm has been classified by control type by Palmer
(1973a). His classification was such that in strong owner-
controlled firms a small group held at least 30% of the total
voting stock while in weak owner-controlled firms a small group
held between 10 and 30%; in management-controlled firms less
than 10% was so held. In general the classification of firms
agrees with those of Larner (1970)and Monsen et al (1968).
Of the 343 firms analysed 45 were strong owner controlled, 73
were weak owner controlled while 225 were management controlled.

The central continuous variable of interest in the
results to be presented later is the valuation ratio (VR). The
valuation ratio is defined as being the average price of a
company's common share for a given year divided by its net
tangible assets per common share, net tangible assets being
defined as total capital stock and surplus less preferred (and

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other senior) stock issues and intangible assets. Marris and
Singh (1966) and Edwards and Hilton (1966) have shown that the
mid-range of the annual high and low common share price is a
good estimator of the numerator and this information is readily
available in Moody's manuals (Moody's Industrial Manuals 1960-
1969). Values for the denominator, appropriately adjusted for
stock splits and stock dividends, are also available from the
same source. Wherever possible the valuation ratio was
estimated per company per year and averages of these ratios
for the periods 1960-64 and 1965-69 were taken as long run
indicators. For some companies it was not possible to take
averages based on all five years for each indicator but each
was based on an average of at least three years for the
relevant period.

The calculation of the valuation ratio raised various
problems, the main one being the compatibility of the numerator
and denominator. The high/low share price figures relate to
a calendar year. If the accounting year for a company ends on
December 31st the asset figure in the denominator and the share
price data in the numerator are compatible because the calendar
year and the accounting year are synonymous. This however was
not always so: 91 companies presented their accounts on dates
other than end December. The problem is at its worst when the
accounting year ends during the second and third quarters and
there were 55 companies for which this was so. Although it is
possible to make some approximate adjustments and so remove part
of the inconsistency this was not attempted. While it is not
possible to say anything about the direction of the resulting
bias we can confidently predict that it will be fairly small.

A further problem concerns the way in which the valuation ratio has been used in the analysis. A valuation ratio for a company is deemed to be low in relation to the average for the industry from which it comes and it is to be expected that the distribution of VR across firms will differ from one industry to another. Empirical evidence exists for the U.K. (Singh & Whittington , 1968) and for the U.S. (Whitman & Cottle , 1959) which suggests that this is so. From a practical point of view, it was not possible to make appropriate adjustments for this in the analysis, so that a valuation ratio is deemed low in relation to the average for the whole sample where this average serves as a proxy for the average of the economy. Implicitly, this is tantamount to assuming that the movement of capital is perfectly mobile across industries and that any attempt to purchase control of a company is independent of the industry in which the company operates. Clearly, this assumption, which has to be made on practical grounds, is not very satisfactory but neither is it altogether unrealistic since one way for a firm to expand into a new market is to purchase control of a company already operating in that market.

Connected with this variation of VR across industries is the problem of the valuation of net tangible assets in the denominator. For most companies net tangible assets are under-valued which creates an upward bias in the calculation of VR. Moreover, for any given firm, this bias will vary according to the age structure and composition of capital stock and these in turn will vary across and within industries. While this intro-duces the possibility of serious error in the estimation of VR in a given period the estimates have been used in such a way

as to minimise the effect of these errors. First, the analysis is based on a comparison of the distributions of VR for the same companies between adjacent time periods. Since the age structure and composition of capital stock vary slowly through time is is not unreasonable to assume that the distribution of bias across industries is fairly constant for the period considered, in which case the effect of the bias should not vitiate the conclusions reached. Second, when the valuation ratio is used as an explanatory variable in the analysis it is introduced in a dichotomous rather than a continuous form and this again helps to minimise any distorting effects resulting from errors of measurement.

The final indicative variable used in the analysis of US companies is a market structure index. In the results presented below it is necessary to control for the effect that different market structures may have on the profitability of companies selected from a wide range of manufacturing industry. The market structure index used is one developed and made available by Palmer (1972). Each four digit industry was assigned to a group with an index measuring the barriers to entry depending on whether these barriers were very high (index 1) substantial (index 0.5) or moderately low (index 0). For each firm in the sample a composite, weighted barriers to entry index is then calculated by taking the sum of these indices weighted by the proportions of the firm's sales assigned to industries in each barrier to entry group. Depending on the size of the index the firm is said to operate in a market structure of high, medium or low monopoly. With each company classified in this way it is possible to compare the profit-

ability of companies which have been matched in terms of
market structure so that the differential effect of this
variable on corporate profitability can be removed.

2.6 Measurement of Variables: U.S.

Apart from the valuation ratio and the market structure index there are three further variables that are used whose measurement and definition are required. Two of these are continuous and are alternative measures of profitability while the third is a discrete measure of corporate size.

Profitability I: Total Return 1962-72 (%): The model to be developed in later chapters is based on the maximisation of owners utility and requires a profits measure that includes both dividend return and stock price appreciation. The resulting figures are based on data covering the period 1962-72 assuming that stock owned at the end of 1962 was sold at the end of 1972. Dividends received during the period are assumed re-invested in the company and adjustments have been made for stock splits, rights issues, company re-organisations, etc. The final percentage figure is based on annual average changes compounded annually as a proportion of total equity expressed and reported in Fortune Magazine (1973). Of the two measures of profitability used for U.S. firms the total return measure is theoretically the more appealing and the results presented later will concentrate on this measure.

Profitability II: Net Income to Net Worth 1965-69%: The second profits measure is the more easily available indicator defined as net return on stockholders equity, i.e. net income over net worth. Net income is shown after taxes

and after extraordinary credits or charges when any are
shown while stockholders equity is the sum of capital stock,
surplus and retained earnings at the company's year end.
Annual figures are averaged over the period 1965-69.

Size: Fortune Ranking for 1965 The final variable
is corporate size. Just as it is necessary to remove the
effects of different market structures on corporate profit-
ability, so it is necessary to remove the effect of company
size. This was done by matching samples in terms of the
Fortune 500 ranking for 1965 based on the level of sales.
Sales include service and rental revenues but exclude
dividend, interest and other non-operating revenues. Sales
of subsidiaries are included in the case of consolidated
companies. Samples were matched such that a company ranked
i was coupled with another ranked no more than i + 30 and
no less than i - 30.

2.7 Appendix: List of Variables Used

A. U.K.

X_1 : Average pre tax rate of return on net assets (%), 1949-60

X_2 : Growth of net assets compounded annually (%) 1949-60

X_3 : Variance of average pre-tax rate of return on net income, £m, 1949-60

X_4 : Skewness of average pre-tax rate of return on net assets, £m, 1949-60

X_5 : Distribution ratio (%), averaged over the period 1949-60

X_6 : Size, Aggregate net assets, 1951 (£000)

Π^* : Post tax rate of return on equity assets averaged over the five year periods 1949/53, 1957/61 and 1967/71 (%)

$\log_{10}S^*$: Log of aggregate net assets 1948, 1956, 1966 (£000)

G^* : Average annual growth of net assets compounded over the five year periods 1949/53, 1957/61, and 1967/71 (%)

Π : Post tax rate of return on equity assets averaged over the five year periods 1949/53, 1957/61 and 1967/71 normalised across time and across industry at the MLH level of industrial classification (%)

$\log_{10}S$: Log of aggregate net assets 1948, 1956, 1966 (£000) normalised across time and across industry at the MLH level of industrial classification

G : Average annual growth of net assets compounded over the five year periods 1949/53, 1957/61 and 1967/71 normalised across time and across industry at the MLH level of industrial classification

CT : Control type = 1 if owner control; = 0 if management control

OPT : = 1 if company is multidivisional or functional and single product; = 0 otherwise

OPT1 : = 1 if company is multidivisonal or functional and single product; = 0 if functional and dominant product or functional and related product

OS : Organisation Structure

OS1 : = 1 if company is multidivisional; = 0 otherwise

OS2 : = 1 if company is a holding company; = 0 otherwise

B. U.S.

VR   : Valuation ratio averaged over the periods
                        1960/64 and 1965/69

Profitability 1   : Total Return, 1962-72 (%)

Profitability 11   : Net Income to Net Worth averaged over the
                        period 1965-69 (%)

Size   : Fortune Ranking, 1965

Control Type   : Strong Owner - one party owns at least
                                        30% of common stock

                        Weak Owner - one party owns between 10% and
                                     30% of common stock

                        Management Control - single largest holding
                                             is less than 10%

Chapter 3: Extent of the Separation of Ownership and Control

3.1 Introduction

It is clear from our previous discussion that the possibility of discretionary behaviour is contingent upon the separation of ownership and control. Our first task in this chapter must therefore be to see how far this separation has occurred in the modern corporation by reporting on various studies which have investigated this issue. This is done for U.K. firms for the period 1951-1975 and for U.S. firms for the period 1929-1970, the dates chosen being determined by the studies under investigation.

Our second task is to see how much this separation has changed over the periods chosen. This is the more difficult aim of the two because the studies differ with regard to the composition of the samples and the definitions of the variables. Nevertheless it is desirable to be able to say something on this issue, tentative though it may be. In particular we wish to see whether any change took place and if so whether it can best be described as revolutionary or evolutionary.

Measurement of the separation of ownership and control is based on information contained in company share registers and there are two features of this information that need to be discussed at an early stage. First, the highly dispersed nature of the distribution of vote carrying stock. Second, the increasing importance of stock ownership by financial institutions. These two features of the pattern of share ownership are discussed in the next two sections.

3.2 Pattern of Stock Ownership: Degree of Dispersion

In the study by Berle and Means corporate control is
defined in terms of the ability of the ordinary (vote-carrying)
shareholders to select the members of the board of directors.
Control is therefore a function of the distribution of vote
carrying shares. If the shares of a company are highly dispersed
with concerted action by a small group of larger holders not
possible control may well pass into the hands of management which
can operate independently of owners wishes. Alternatively, if
share ownership is highly concentrated or highly dispersed in
such a way that significant ownership by a small group exists,
owners can determine the decisions of management and so exercise
control. The degree of share dispersal is therefore a central
feature that needs to be investigated.

We begin by looking at the evidence available for the U.S.
From the data given in 'Modern Corporation' it is possible to
illustrate the degree of share dispersal only amongst those
companies finally classified as management controlled.[1] Since
the degree of share dispersal varies directly with size these
companies also tend to be the largest amongst the top 200 in
the sample. Figures designed to illustrate the amount of share
dispersal are given in table 3.1 which shows the percentage of
total shares owned by the largest, the twentieth and the largest
twenty shareholdings for a selection of companies in 1929.
The companies are chosen from each of the three main industrial
sectors, namely railroads, industrials and utilities. From the
table it can be seen that the largest single holding for any
company is 1.66 (Boston Elevated Ry. Co.). The largest twenty
holdings combined is 12.4% (Delaware and Hudson Co.). Clearly,

Company	Largest Holding %	20th Largest Holding %	Holdings by 20 largest %
Railroads:			
Pennsylvania Rd. Co.	0.34	0.07	2.7
Delaware & Hudson Co.	1.51	0.38	12.4
Industrials:			
United States Steel Co.	0.74	0.09	5.1
General Electric Co.	1.50	N.A.[1]	N.A.[1]
Utilities:			
Americal Tel. & Tel. Co.	0.60	0.09	4.0
Boston Elevated Ry. Co.	1.66	<0.30	N.A.[1]

Source: Berle and Means (1968) Table XII p. 98-100

1.   Not Available

Table 3.1   Share Dispersion in Selected U.S.

Companies, 1929.

even by 1929 the degree of share dispersal for a few companies selected from the largest U.S. corporations was considerable.

For very large companies as a whole (including those which would have been classified as owner controlled) the degree of share dispersal, while still considerable, was less marked. The distribution of the percentage of shares held by the twenty largest shareholders in the largest 132 U.S. industrial companies for the period 1937-9 is given in table 3.2. For these companies the value of the median percentage was 28.5%. There is little doubt that this value would increase as the sample size is increased thereby incorporating smaller companies.

Further evidence is available for U.S. corporations in Kimmel (1952)[2] who studied the size distribution of shareholdings for 1411 common stock issues of manufacturing corporations in 1951 his sample including a mixture of some very large and some very small companies. He found that the number of small shareholders (individual holdings of less than 100 shares) collectively represented 64.2% of the total number of shareholders while holding only 10.1% of the total stock available. On the other hand the number of large shareholders (those holding more than 1000 shares each) represented only 2% of the total number of shareholders but held 56.8% of the total stock. Moreover, the mean size of holding for all the 3360 small shareholders (as defined above) amounted to 0.003% of the total stock while that for the 118 large shareholders was 0.48% of the total. Again we see not only that the size distribution of holdings has a strong positive skew but that typically the average proportion of stock held by small stockholders and large stockholders, as measured by the mean, is very small.

% of shares held by top[1] holders	U.K.			U.S.
	1936 %	1951 %	1975 %	1937-9 %
0.0 - 9.9	10.8	18.0	60.9	3
10.0 - 19.9	16.9	29.2	12.9	28
20.0 - 29.9	15.7	12.4	5.9	22
30.0 - 39.9	14.5	11.2	5.4	} 23
40.0 - 49.9	4.8	11.2	4.0	
50.0 [+]	37.3	18.0	10.9	24
Median of top holding (%) per company	34.6	22.3	8.2	28.5
Median No. of total holders (000)	10.0	14.2	-	-
Sample Size	83[2]	89[2]	202[3]	132

Sources: U.K. data from Florence (1961) Appendix A.1. and Nyman and Silberston (1978) Table 1.
U.S. data from Florence (1953) page 223

Notes: 1.   For 1975 top holders defined as "single institutions or by board of directors and their families". For remaining three columns they are defined as the twenty largest shareholders.

2.   Same 89 firms used in 1936 and 1951 with 6 omitted in 1936.

3.   Original total was 224 but 16 companies were omitted because they were unquoted and 6 others did not fit into the class intervals chosen. The final total was therefore 202.

Table 3.2 Holdings of Top Shareholders in U.K. and U.S.

We turn now to the evidence concerning share dispersion
for British firms which is to be found in Florence (1953, 1961)
and Nyman and Silberston (1978). The data relevant for our
purposes are summarised in table 3.2 which shows the distributions
of the largest share-holdings for a sample of the very largest
89 firms in the U.K. in 1936 and 1951 and for 202 firms from the
top 250 in 1975.

The first thing apparent from the table is that for British
firms in each of the years 1936 and 1951 the size distribution of
shareholdings is highly skewed. For a sample of 83 firms in
1936 the median holding of the top 20 shareholders combined was
22.3% with a total of 14,200 shareholders per firm. If to this
we add the fact that the median value of the twentieth largest
holding in 1936 amounted to 0.3% of the total (Florence (1953)
p. 225) it is apparent that the distribution has a very long tail
indeed. (The median value of the twentieth largest holding for
1951 is not available but it is almost certain to be less than
the 1936 value of 0.3% and the same conclusion applies). So
the size distribution of shareholdings in 1936 and 1951 is highly
skewed with the vast majority of holders owning an insignificant
proportion of the total.

The second feature of note in the table for U.K. firms
concerns the trend of share dispersal over time. The median
value of the top shareholders declined from 34.6% to 22.3%
between 1936 and 1951 and it is to be remembered that these
figures refer to samples where the firms present are the
same in both years. By 1975 the median value had fallen
further to 8.2%. It is also worth

noting that this trend is common to most of the class
intervals chosen. For example, in the first class interval
the percentage of firms increases from 10.8 in 1936 to 18.0 in
1951 to 60.9 in 1975. The reverse is apparent in the last
class interval where it declines for the same years from 37.3
to 18.0 to 10.9. It is clear from these figures that share
dispersal amongst large British firms has increased markedly
and continuously over the period 1936 to 1975.

Finally the data in table 3.2 allows comparison of share
dispersal in the U.K. and the U.S. for the mid 1930's. The
median percentage of shares held by the largest 20 shareholders
for the U.S. in 1937-9 was 28.5 while that for the U.K. in 1936
was 34.6. While this suggests greater dispersal in the former
compared with the latter a comparison of columns 2 and 5 suggests
that this greater dispersal is not evenly spread across the
distributions. If it were we would expect the values in column
5 to be greater than those in column 2 for earlier class intervals
but less than those in column 2 for later class intervals. A
pairwise comparison of these two columns shows that the expected
pattern is apparent for the second, third and sixth class
intervals but not for the first nor for the fourth and fifth
combined. Nevertheless, using the median as a summary measure
and recognising that like any summary measure it has its
limitations we can say that in general share dispersal in the
1930's in the U.S. wasgreater than in the U.K.

3.3 Pattern of Stock Ownership: Institutional Ownership

The second feature of the pattern of stock ownership of interest isthe changing importance of ownership by financial institutions in both the U.K. and the U.S.

In the post war years there have been various important surveys into the pattern of shareholdings amongst U.K. companies. The first two in the 1960's were conducted at the Department of Applied Economics at Cambridge (Stone et al (1966) and Moyle (1971)). These were followed by a Department of Industry survey for 1975 (Central Statistical Office, 1979), the Wilson Report on the Functioning of Financial Institutions (Wilson (1980)) and a Stock Exchange Survey for 1980 (Stock Exchange (1980)). In addition to these some information is now published regularly in Financial Statistics.[3] For the results to be discussed relating to U.S. firms we shall rely heavily on data provided by Kotz.[4]

The changing pattern of ordinary share ownership by financial institutions in the U.K. and the U.S. for the post world war period is shown in diagram 3.1 which is an expanded and updated version of a similar diagram in Prais (1976 p. 119). Before discussing the data it contains it is necessary to consider the definitions of financial institutions for both countries. For U.K. companies they include insurance companies, pension funds, investment trusts and unit trusts. In the case of U.S. companies two further categories are included, namely personal trust funds managed by commercial banks and trust companies and a miscellaneous group which includes commercial banks. If the definition of financial institutions for U.S. companies was

%

50
40
30
20
10

U.K.

U.S.

1952   1962   1972   1982
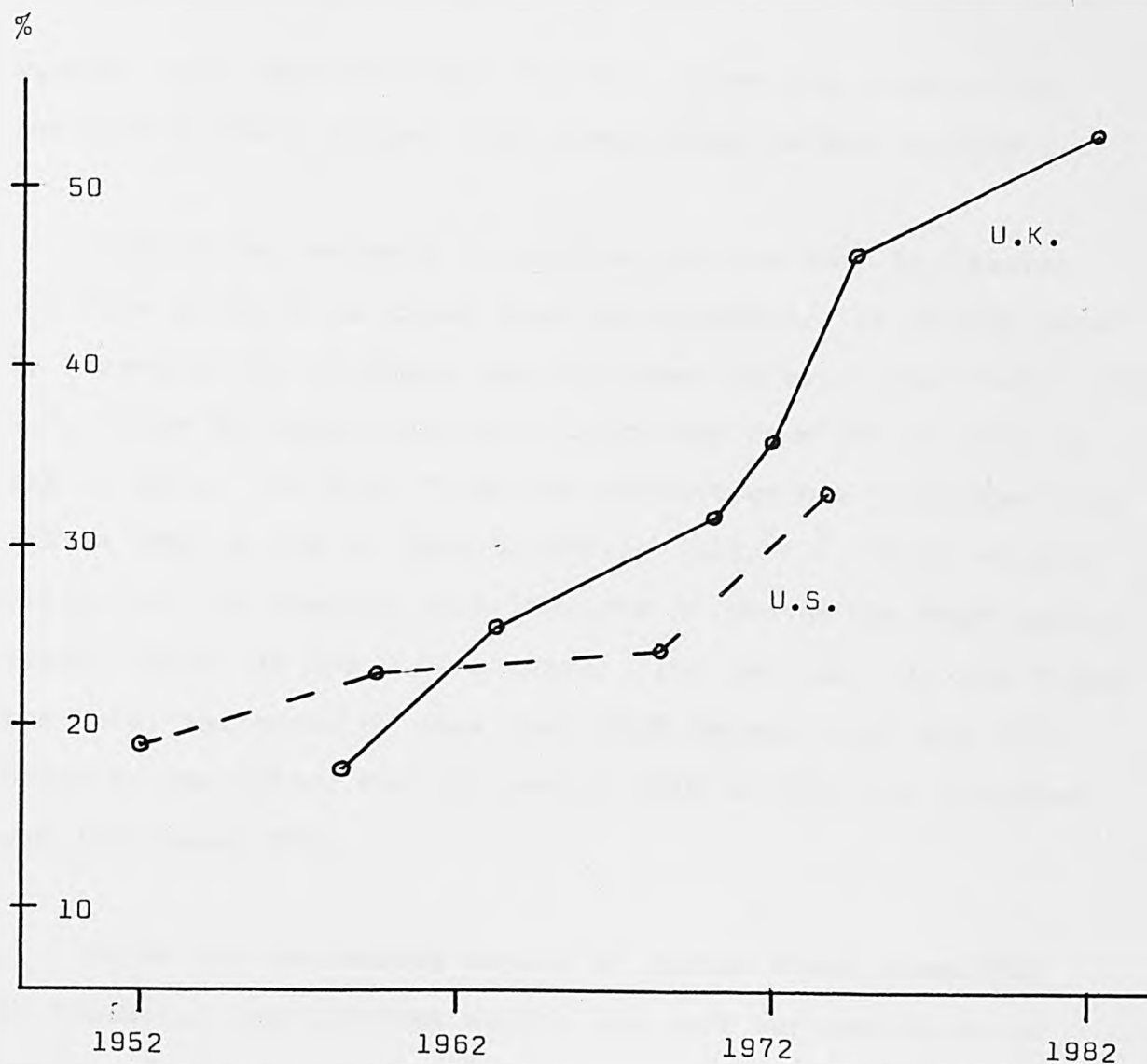
Sources :   U.S. : Kotz(1978)

U.K. : For 1957,1963,1969 and 1972 Prais(1976) p.119

and footnote 62 page 271-2.

For 1975 C.S.O. (1979)

For 1982 author's own calculations. See

footnote 6.

Diagram 3.1 : Proportion of Total Ordinary Shares Held By

Financial Institutions in the U.K. and U.S. 1952-1982.

brought into line with that for U.K. firms the figures for
the former would be less than those given in the diagram.

With these comments in mind we can now turn to diagram
3.1 from which it is clear that the proportion of shares owned
by financial institutions has increased in both countries.[5] For
U.S. firms the proportion held increased from 19% in 1952 to
33% in 1974. For U.K. firms the proportion has increased from
17% in 1957 to 47% in 1975 to 53% in 1982.[6,7] It is equally
clear from the diagram that the rate of change has been consid-
erably faster in the U.K. compared with the U.S. In the former
the level increased by more than 100% between 1957 and 1973
while in the latter for the period 1958 to 1974 the increase
was just under 50%.

Given the increasing degree of common stock ownership
by financial institutions during the post war period it is
necessary to consider the effect this has had on corporate
control. If increase in institutional ownership has been spread
across a large number of companies its effect on control may have
been minimal. But if it has been concentrated on a smaller number
of companies its effect on control may have been considerable.
The information in table 3.3 helps us to distinguish between
these two possibilities. The table shows the distribution of
the proportion of ordinary shares held by financial institutions
in large companies in the U.S. for the period 1967-9 and in the
U.K. in 1951 and 1975. For the U.K. in 1951 in each of 7
companies out of a total of 89 of the largest industrials a
single financial institution held at least 5% of the voting
stock. For 1975 the figure is 9 out of 224 taken from the largest

Proportion of Shares held by a Single Financial Institution	U.K.		U.S.
	1951 [1]	1975 [2]	1967-9 [3]
Over 50%	0	0	1
40-50	0	0	0
30-40	1	0	1
20-30	0	1	2
10-20	3	4	12
5-10	3	4	45
Sub Total	7	9	61
TOTAL IN SAMPLE:	89	224	200

Notes: 1.   Compiled from data contained in Appendix A1 in Florence (1961)

2.   From Nyman and Silberston (1978) p. 85

3.   Compiled from data contained in Appendix B in Kotz (1978)

Table 3.3:   Proportion of Ordinary Shares Held by the Largest

Financial Institutions in U.K. and U.S. Companies

250. Amongst the largest U.K. companies it therefore seems
fairly clear that the involvement of financial institutions in
the ownership of ordinary shares of individual companies is
quite minimal and has been declining between 1951 and 1975.

The position for American firms, however, is quite
different. Even as recently as 1967-9 in each of 61 (i.e.
30.5%) of the top 200 firms a single financial institution held
in excess of 5% of the voting stock. Also, in 25 of these 61
cases possible control via share ownership was reinforced in
at least one other identifiable way for example, by having a
representative on the board of directors or by the financial
institution concerned being a creditor of the company. The
pattern of institutional ownership amongst the largest American
firms is therefore such that the opportunity to exercise control
via shareholdings is considerable and this will be pursued
further in the next section.

There is one further way in which the position in the United
States differs from that in Britain. Within the group of
financial institutions in general it is the banks in particular
that are the most active share owning institutions in the U.S.
This is not so in the U.K. Although banks are not usually
included under the heading of financial institutions in U.K.
studies they are included under this heading in the Nyman and
Silberston study which is the source of data for 1975 and
recorded in table 3.3. In their study only 1 bank was recorded
from amongst the 9 cases with significant institutional ownership.[8]
But of the 61 U.S. institutions with at least 5% share ownership
48 were banks. Indeed Kotz found that from amongst the 200

companies in his sample 57 were controlled by just 13 banks
with Chase Manhattan Bank alone controlling 16 companies.[9]

From our brief investigation into the pattern of
institutional shareholdings we can now briefly summarise our main
conclusions as follows. First, the proportions of holdings of
ordinary stock in British and American companies have increased
considerably during the post war period. Second, the rate of
increase has been greater in the U.K. than in the U.S. Third,
although the increase has been greater in the U.K. the effect of
this on the control of corporations via shareholdings has been
less in the U.K. than in the U.S. Finally, American banks are
far more active in the control of industrial companies than are
British banks.

3.4 Separation of Ownership and Control in the U.S.

On the basis of share data available in 1929 Berle
and Means assigned each of the 200 largest non financial
companies in 1929 into one of six groups as given in table
3.4. With private ownership at least 80% of the vote carrying
shares are held by a small identifiable group. Majority
ownership involves a small group owning at least 50% and less
than 80% while a minority control involves a small group
owning between 20% and 50%. Various companies were controlled
via one of a number of legal devices[10] while the rest were
characterised by share ownership which was sufficiently
dispersed to be classified as management controlled. Only
34% of the companies accounting for 20% of the combined assets
were controlled by the owners. In contrast 44% of the companies
accounting for 58% of the assets were controlled by management.
Twenty one per cent were controlled by means of a legal device
and 1% were in receivership.

From the results obtained the authors claimed that
control by management rather than control by owners had become
the dominant feature of the American corporate economy. But there
is good reason for believing that they almost certainly under-
estimated the degree of owner control. Of the 41 corporations[11]
controlled by legal device 30 were at least partly controlled by
pyramiding and some if not many of these were probably controlled
by the owners. The procedure adopted by Berle and Means where
a company B was a subsidiary of company A was such that B was
classified management control if A was management controlled
but as controlled by pyramiding if the parent company was either

Control Type	Number of Companies 1929	1937	1963	% of Companies 1929	1937	1963	% of Assets 1929	1963
Private Ownership	12	41	0	6	23	0	4	0
Majority Ownership	10		6	5		3	2	2
Minority Ownership	46.5	47	18	23	25	9	14	11
Legal Device	41	0	9	21	0	5	22	3
Management Control	88.5	94	167	44	52	83	58	84
Receivership	2	0	0	1	0	0	0	0
Total:	200	182	200	100	100	100	100	100

Sources: 1   Data for 1929 and 1963 taken from Larner (1970) table 1

2   Data for 1937 collected by TNEC. Compiled in above form from raw data in Burch (1972) table A-2.

Table 3.4   Ultimate Control Type in the 200 Largest Non Financial Corporations in the U.S. 1929, 1937 and 1963

minority or majority controlled. This asymmetry leads to an
underestimate of control by owners. For example in the case of
General Motors 32.6% of the stock was held by E.I. du Pont de
Nemours and Co. with 30% of the stock of the latter in the
hands of the du Pont family. General Motors was finally
classified as being controlled by pyramiding when in fact
minority control would probably have been more accurate. When
Burch pursued this issue in more detail he found that at least
10 of the 30 companies classified as being controlled by
pyramiding were more likely to have been family controlled (1972
Table A-1).

Not only is there good reason for believing that the
number of companies classified as being controlled by owners is
biased, there is also good reason to believe that the number
classified management controlled is biased. Much of the evidence
used to classify companies in this way is at best of a conjectural
nature. This can be seen in the titles the authors gave to
sections J and K of the table containing the classification of
each company. Section J of the table is entitled "Majority of
stock BELIEVED to be widely distributed and working control held
either by a large minority interest or by the management
PRESUMABLY the former". (capitals added). On this basis 29
companies were classified minority owned. Similarly, section K
of the table is entitled "Majority of stock BELIEVED to be
widely distributed and working control held either by a large
minority interest or by the management PRESUMABLY the latter"
(capitals added). On this basis 44 companies are classified
management controlled. Therefore 73 companies out of a total
of 200 are classified on the basis of rather flimsy evidence and

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errors in either of these two groups could markedly affect the overall proportion of companies finally classified management controlled. But since errors in the two groups work in opposite directions it is not possible to say in which way overall the Berle and Means analysis is biased.

A more accurate assessment of the degree of separation of ownership and control for U.S. firms for the pre world war two period is contained in a study by Goldsmith and Parmelee carried out on behalf of the Temporary National Economic Committee (TNEC, 1940) for the late 1930's. Companies were classified on the basis of data collected by questionnaire relating not only to stock ownership but also to represent-ation on company boards and familial and directorial ties linking blocks of votes. The main categories of control chosen and associated percentages of voting stock were majority control (more than 50%) predominant minority control (30% to 50%) substantial minority control (10% to 30%) and small minority control (3% to 10%). The fifth and final group consists of management controlled companies with no dominant shareholders. On the basis of this classification the authors found that approximately 70% of the companies were owner controlled (the first four groups combined) and the remaining 30% were manage-ment controlled.

Although the proportion of owner controlled firms given by the TNEC is more than double that given by Berle and Means (70% compared with 34%) these two figures are not directly comparable. While Berle and Means chose a voting stock cut

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off point of 20% the TNEC chose a figure of about 3% which was used in conjunction with additional information. In order to make them comparable it is necessary to reorganise the original data used by the TNEC (available in Burch (1972) table A-2) in terms of the Berle and Means taxonomy. While the data are not sufficiently detailed to do this for 18 of the companies it is possible to do so for the remaining 182 and the results are given in table 3.4. On the basis of this re-organisation it now appears that in 1937 48% of companies were owner controlled and the remaining 52% management controlled so that both groups seem to have been underestimated by Berle and Means. The most obvious difference is to be found in the degree of private and majority ownership combined. In 1929 the figure of 11% is less than half of the figure of 23% for 1937. The main differences are not therefore found in the marginal cases around the cut off point but at the other end of the scale where the definition of owner control is at its most obvious.

Despite the obvious weaknesses in the Berle and Means analysis Means was able to say in a new appendix added to the revised edition of the Modern Corporation, written 35 years after its initial publication, that "the figures on the dispersion of stock ownership and on the separation of ownership and control have not received serious challenge" (1968, p. 34-6) and their work was brought up to date during the 1960's by Larner (1966, 1970). He investigated the degree of separation of ownership and control amongst the largest 500 non financial corporations in 1963 using in the main the same definitions and procedures as Berle and Means in order to make direct comparison possible.

The only substantial change he made was to lower the
dividing line between minority control and management control
to 10% because of the increase in share dispersion since 1929.
His main results are summarised in table 3.4. By 1963 the
proportion of management controlled firms amongst the top
200 had almost doubled to 83%. With 5% controlled by legal
device only 12% of firms were controlled by owners. It is
also noticeable from the table that while in 1963 the per-
centage of companies which were management controlled and the
percentage of assets under management control are much the
same (83% compared to 84%) the corresponding percentages for
1929 of 44% and 58% are markedly different. From this it is
clear that while management control was more common amongst the
larger companies in 1929 by 1963 it had become more evenly
spread across the sample. On the basis of these results
Larner therefore concludes: "....it would appear that Berle
and Means in 1929 were observing the so called 'managerial
revolution' in process. Thirty four years later that
'revolution' seems close to complete....."   (1970, p. 22).

        Further support of the move towards managerial control
is provided by Palmer (1972) who investigated control type
for 1965. In various ways his approach differed from that of
Larner. First, his sample of the Fortune 500 is much narrower
than Larner's sample including only industrials and omitting
utility and railway companies. Second, he introduced a strictly
binary classification using a 10% shareholding theshold with
firms being either owner controlled or management controlled.
As a result of these differences his estimate of the degree

of owner control in 1965, namely 33% of the sample, is
considerably higher than that given by Larner for 1963.
Nevertheless, he confirmed the trend away from owner control
previously noted by Larner. For those firms in his sample
in 1965 that remained in existence in 1969 he also identi-
fied the control type for the later year and found that
6 companies had changed from owner control to management
control while none had changed in the reverse direction.

What then are we to make of the claim by Larner
concerning the revolutionary nature of the change in
corporate control? We have already seen that Berle and
Means almost certainly underestimated the degree of owner
control and since Larner followed the same approach he no
doubt has done the same. But to what extent? To answer
this we really need a more accurate assessment of the
position in the 1930's and 1960's. For the former period
the TNEC study is based on more accurate data and is there-
fore more reliable than Berle and Means. In addition a
study by Burch (1972) for the 1960's provides a more
accurate assessment than that given by Larner in part
because it uses more accurate data[12] and also because,
unlike Larner, the author incorporates familial represen-
tation on the board of directors into his assessment of
control type. Moreover, since the two studies can be made
directly comparable a more accurate assessment of the change

in control type between the pre and post war periods can be made by comparing the TNEC and Burch studies rather than by comparing the Berle and Means and Larner studies.

In the Burch schema a company is said to be probably family controlled if an individual, family or group of families, owns at least 4-5% of the stock and there is evidence of family representation on the board. If there is strong evidence of family involvement but the above two conditions are not met a company is said to be possibly family controlled. All other companies are classified probably management controlled. In addition to classifying the top 200 and 500 firms in 1965 Burch has also gone over the classifications made by the TNEC for 1937 and reassessed each company in the light of his chosen framework occasionally using additional data not available at the time. Table 3.5 summarises the results obtained.

Since the TNEC study includes corporate utilities and railways in its sample while the Burch study deals with the Fortune 500[13] manufacturing and mining firms direct comparison of all firms in the samples would not be valid. The best approach is therefore to make comparison involving only industrial firms. In the TNEC study there were 120 industrials and these have been compared with the largest 120 industrials

	Top 120 Industrials 1937(%)	Top 120 Industrials 1965[2](%)	Top 200 Industrials 1965[1](%)	Top 500 Industrials 1965[1](%)
Probably Family	50.0	37.5	39.5	47.0
Possibly Family	9.0	20.8	17.5	13.0
Probably Management	41.0	41.7	43.0	40.0
Total	100.0	100.0	100.0	100.0

Notes:

1. Given in Table 3-1 of Burch (1972 p. 68)

2. Compiled from data given in Appendix C tables C-1 and C-2 of Burch (1972) and information from Fortune Magazine.

    See footnote 14 of this chapter for details

Table 3.5   Change in Control Type Between 1937 and 1965 in U.S. Firms

for 1965 in columns 1 and 2 of the table. Because the room
for errors of classification is considerable amongst the
possibly family firms we will take the probably family firms
as our indicator of the extent of family control. On this
basis it can be seen that family control declined from 50%
to 37.5% between 1937 and 1965, that is to say by approximately
4 to 5 percentage points per decade. The change in owner
control for the top 200 according to Larner amounts to
approximately 8 to 9 percentage points per decade. A compar-
ison of the work of Berle and Means and Larner therefore results
in the estimated change in the degree of owner control being
approximately twice as large as that obtained by comparing
the updated TNEC results with those of Burch.

Moreover, it is clear from the table that while the
number of family controlled firms has decreased the number of
firms controlled by management has remained stable at about 41%.
The main change, from 9.0% to 20.8% has been amongst the
possibly family controlled firms where final classification
is probably least accurate. In short, while change obviously
occurred between 1937 and 1965 it can hardly be referred to as
a managerial revolution.

Before leaving the Burch study the results for 1965 need
to be seen in the context of the U.S. industrial sector as a
whole. Table 3.5 shows quite clearly that the degree of family
control increases as sample size increases: from 37.5% in the
top 120 to 39.5% in the top 200 to 47.0% for the top 500. Amongst
smaller firms the degree of family control is no doubt even
greater so that amongst the industrial sector as a whole family

control is the predominant form of corporate control.

Finally, the degree of family control as estimated by Burch is biased downwards because it includes only public companies. There are various privately owned firms in the U.S. which are sufficiently large in terms of sales to be included with the largest firms listed in Fortune magazine. According to three surveys carried out in the mid 1960's (see Burch p. 14) at least ten companies were large enough to be included in the top 300 industrials and at least three were large enough to be included amongst the top 50 merchandisers. These corporations, if included in the sample, would of course increase the proportion which were family controlled.

Although the Burch analysis provides a more accurate assessment of control type it has one defect in common with all others discussed so far in this section. No account is taken of the changing importance of financial institutions in the owner-ship of corporate stock. We have seen in the previous section that the increase in stock ownership by financial institutions has increased their potential for control over the corporate sector. This has caused some observers to argue that the traditional ownership of firms by families has been replaced by a mixture of financial control and management control. Such a possibility was investigated by Chevalier for the largest 200 non financial corporations in 1965/66. Along with the usual control groups of majority ownership, minority control and management control he introduced a further group namely predominant influence. All firms in each group were further classified in terms of the type of controller, i.e. families, banks, other financial institutions,

board of directors and other. The results, along with the
definition of each mode of control, are given in table 3.6.

    In relation to the results given by Larner for 1963 two
points are of interest. The first concerns the relative
importance of owner controlled and management controlled firms.
In Larner the figures are 12% and 83% In Chevalier the figures
are $42\frac{1}{2}$% (i.e. families and board of directors) and 40%. This
large difference is due in part to the authors choosing
different stock ownership thresholds to differentiate between
owner control and management control. Larner as we have seen
chose 10% while Chevalier chose 5%. But the difference is also
due in part to our second point of interest namely the importance
of control exercised by financial institutions. Only Chevalier
allowed for this and found that $15\frac{1}{2}$% of the largest 200
companies were controlled in this way the majority of them
being controlled by commercial banks.

    In Chevalier's paper control was measured in terms of
votes held and directorial influence. But in addition to these
an institution can exercise control by virtue of being a
leading supplier of capital. This added dimension was intro-
duced by Kotz (1978) in his investigation into the extent of
financial control in the largest 200 non financial corporations
in 1967-69. A company is deemed under full financial control
if a financial institution is the largest stockholder and holds
at least 10% of the stock. It is also under full financial
control if a financial institution is the largest stockholder
with between 5% and 10% of the stock and is also a leading
supplier of capital to the corporation or has strong directorial

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Type of Control	Individuals and Families	Commercial Banks	Other Fin. Institution	Board of Directors	Other	Total
Majority Ownership	7	0	0	0	4	11
Minority Control	58	14	5	16	0	93
Dominant Influence	4	12	0	0	0	16
Management Control	–	–	–	–	–	80
Total	69	26	5	16	4	200

Source: Chevalier (1969)

Notes: Majority Control: Control group owns in excess of 50% of stock

Minority Control: Control group owns 5-50% of stock

Dominant Influence: Group with representation on board wields decisive influence

Management Control: Group holdings are less than 5%

Table 3.6 Classification of the 200 Largest Industrial Corporations According to

Type of Control and Control Group (1965-66)

representation. With full owner control an individual group owns at least 10% of the stock or has 5-10% of the stock plus strong representation on the board of directors. All other companies with no identified centre of control are considered management controlled.

An initial glance at the results obtained by Kotz as shown in table 3.7 suggests that Chevalier's estimate of the extent of financial control is biased downwards. Kotz found that[15] 29.5% of his companies were either fully or partly controlled by financial institutions with 16.5% owner controlled and 46.5% management controlled. But there is reason to doubt his figure of 29.5%. If a company does not meet the conditions for full financial control it may be classed partial financial control. There are various ways in which this can arise. For example, if a financial institution holds 10% of the stock but is not the largest stockholder it may still be considered to be in partial control. It is also possible in the Kotz schema for a company to be under partial financial control solely on the basis of an institution being a leading supplier with representation on the board even when there is a stockholder with close to 10% of the stock. Even though financial control may be exercised in each of these cases in practise there is considerable room for error. What is rather worrying about the results of Kotz is that the majority of cases of financial control which he identifies are classed as partial control rather than full control. Only 6.5% of his total sample involve clear financial control while 23% involve partial control only. Since the majority of these companies fall in the area where there is room for considerable error the overall figure of

Control Category	Number of Companies	Percent of Companies
Full Financial Control	13	6.5
Partial Financial Control	46	23.0
Full Owner Control	31	15.5
Partial Owner Control	2	1.0
Management Control	93	46.5
Other	15	7.5
Total	200	100

Source: Adapted from Kotz (1978) Table 3 p. 97

Table 3.7 Summary of Control Over the Top

200 Nonfinancial Corporations in The U.S.,1967-9

29.5% is best viewed as being an overestimate. Since we have reason to believe that the Chevalier figure of 15.5% is biased downwards and that the Kotz figure of 29.5% is biased upwards the true figure no doubt lies somewhere between the two.

We are now in a position to draw together some of the conclusions reached concerning corporate control in large U.S. non financial institutions. First, the degree of owner control by families and individuals has declined, albeit fairly slowly, over the period 1929 to 1965. Second, the degree of management control throughout the period while considerable has increased at most very little and possibly not at all. Third, most of the change from personal and family control has been in the direction of financial control though by the mid 1960's the degree of financial control was still considerably less than that of family control and management control.

3.5 Separation of Ownership and Control in the U.K.

The empirical evidence available on the separation of
ownership and control in the U.K. is easier to summarise than
the evidence available for the U.S. because there are few major
studies to consider but problems nevertheless arise when trying
to assess the degree of change over the post war period.

The first study to consider is that by Florence (1961)
who took a stratified sample of 268 firms in 1951. In
assessing the control type of each firm he took into account
the following criteria: vote concentration among the largest
20 shareholders; the type of voteholder (personal, institutional,
corporate and nominee); the amount of votes held by the board
of directors; and the number of board members among the top
20 shareholders. If more than 50% of the votes were owned by
the top 20 shareholders a company was immediately classified
as owner controlled. If less than 50% were so held more
evidence was required from the other criteria used before
calling a company owner controlled: the further below 50%
the figure went the more additional evidence was required.
A minimum cut off point for vote concentration was not
stipulated in advance though in practice as we shall see,
it turned out to be approximately 30%. The results are
summarised in table 3.8.

The figures of interest at present are the non bracketed
ones contained in columns 1 and 2 from which it can be seen
that 33% of all large companies in 1951 were considered owner
controlled with the remaining 67% management controlled.

Control Type / Size	OC (%) (1)	MC (%) (2)	TOTAL FIRMS (3)
Very Large	33 (59)	67 (41)	109
Medium Large	25 ⎱	75 ⎱	59
Smaller Large	⎰ (69)	⎰ (31)	
	38	62	100
Total	33 (65)	67 (35)	268

Source: Sargant Florence (1961).   Non bracketed figures
          compiled from tables and textual material on
          p. 130-136.   Figures in brackets calculated
          from Table III.C (p.68-9)   See thesis text
          for an explanation.

Note: Figures in Columns 1 and 2 are expressed as
          % of row total.

Table 3.8   Classification of Firms by Control Type

for Sargant Florence Sample

Such a low estimate for the degree of owner control is not only unexpected but is also unlikely. The application of the criteria chosen by Florence was almost certainly too strict. We can see this clearly by considering the case of Morris motors. In this company 29.7% of the votes were held by the largest 20 shareholders, at least half of the directors were among the top 20 shareholders and the directors collectively held 28.3% of the shares. With such a profile Morris Motors should clearly have been classified owner controlled even in 1951. And yet Florence considered it the most marginal of all his companies and finally deemed it to be management controlled.

We can get an indication of the effect of the strict application of the criteria chosen if we re-classify companies using a minimum level of vote holdings amongst the top 20 shareholders of 20%. Such a figure is not unreasonable in the light of other empirical studies especially when it is realised that many companies with vote concentration between 20% and 30% will no doubt have additional characteristics discussed above pointing to owner control. The results of re-classifying companies in this way are given in brackets in table 3.8. The measure of the extent of owner control has now virtually doubled from 33% to 65% with a consequent halving of the extent of management control from 67% to 35%. Indeed, it could be argued that the criteria used could be relaxed further and this will be discussed later in this section.

Before doing this we will consider the results of the other major U.K. study by Nyman and Silberston (1978). The

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main criteria used to classify firms were the votes held
by an identifiable, cohesive group, the votes held by directors
and their families and the identity of the chairman or mana-
ging director and their relationship to the firm's founder.
If an individual or an identifiable group, or the board of
directors held in excess of 5% of the votes or if such a
group held less than 5% with the chairman or managing director
a member of the founding family owner control was considered
present. The results of applying these criteria to the 'top
250' firms in 1975 are shown in column 1 of table 3.9. Out
of a total of 224 firms 56.3% were classified owner controlled
with the remaining 43.7% having no known control.

Finally, the authors compare their results with those
of Florence. After acknowledging the difficulty of making
such a comparison they conclude that the degree of owner
control had not fallen and had probably increased slightly
over the period 1951 to 1975.

While comparison is difficult it is nevertheless
possible to use the information collected by Florence and
Nyman and Silberston to assess the degree of change over
this period. To do this we need to take into account two
factors. The first concerns the presence of unquoted
companies. In order to assess the degree of control in the
corporate sector it is necessary to include such companies
in the sample but while the Oxford study did so the Florence
study did not. Since such companies are necessarily owner
controlled the results of the former study are biased in
relation to those of the latter and to assess the degree of

% of ⟍ Sample ⟍ Voting ⟍ shares owned ⟍ by single largest or ⟍ largest 20 shareholders	N and S (1)	PSF I (2)	PSF II (3)
Unquoted	16 (7.1)		
50% +	22 (9.8)	12 (11.8)	26 (10.0)
20-49%	31(13.8)	43 (42.2)	138 (52.9)
10-20%	32(14.3)	28 (27.5)	67 (25.7)
5-10%	10 (4.5)		
< 5%	15 (6.7)		
Sub-total	126 (56.3)	83 (81.4)	231 (88.5)
Total in Sample	224	102	261

Sources: Nyman and Silberston (1978) and Florence (1961)

Notes: 1.   Abitrarily included in this group are 6 firms
                  with holdings greater than 10%.
                  Figures in brackets are % with column total
                  as the base
                  Column 2 is for very large firms only while
                  column 3 is for all firms less 8.

Table 3.9 Control Type for Firms in the Nyman and Silberston

           and Florence Samples

change over time we need to remove the unquoted companies from the sample.

The second factor that needs to be taken into account is the fact that Florence was too strict in the application of his criteria. We have already seen the effect of dropping the top 20 shareholdings figure to 20% but we need to go further and consider whether or not to lower this figure even more to 10%. Although such a figure may be too low to apply to all companies there is little doubt that some companies with share dispersal between 10% and 20% will have other previously discussed criteria pointing towards owner control. This can be seen clearly in the appendix to this chapter which gives a profile of all 28 very large companies with top 20 holdings between 10% and 20%.[16] In 13 cases, for example, at least one director is amongst the top twenty holders. In some cases there are clear indications of owner control in terms of director holdings and type of main shareholder (British Plastic Board, Imperial Tobacco, London Brick, Reckitt and Sons), while in others there are clear indications of management control (Dunlop, Lancashire Cotton, Siemens). Clearly, the rigid application of either 10% or 20% invites errors of mis-classification the former overestimating and the latter under-estimating owner control. The approach followed below is to assess the degree of owner control using both thresholds with the former used to obtain an upper limit and the latter to obtain a lower limit.

With this in mind we can assess the results given in

table 3.9.   The data in column 2 relate to very large

companies while column 3 relates to all companies in the

sample (omitting 8 for which data were not available).

Using a threshold figure of 20% we see that 54% of the very

large companies were owner controlled compared with 63.9%

for all companies suggesting that control type and size were

correlated in 1951.[17]   Of these two the latter estimate is

preferable since it is based on a much larger and more

representative sample. If we lower the threshold between

control types to 10% the extent of owner control increases

in the larger sample to 88.5%. We have then as our final

estimate of the degree of owner control in 1951 a figure

somewhere between 63.9% and 88.5%. Since the data in

appendix 3.1 for companies with top 20 shareholdings between

10 and 20% suggests that the number of fairly clear cases

of owner control in this group (marked with a single asterisk)

is quite small, it seems preferable to calculate the degree

of change over the period using the lower figure for 1951

of 63.9%. And this is to be compared with the estimate for

1975 which, excluding unquoted companies, amounted to 52.9%.

In short, the extent of owner control amongst large U.K.

companies during the post second world war period declined

at the rate of approximately 5 percentage points per decade.

Finally, we refer briefly to the study by Channon (1973)

which reinforces our suggestion that the degree of owner

control amongst U.K. companies has fallen. Channon investigated

the degree of family control in the top 100 U.K. companies in

1950, 1960 and 1970 where family control is said to exist if

a family member is the chief executive officer, if there has

been at least two generations of family control and if a
minimum of 5% of the voting stock is held by a family or
associated trust interests. His results can be found in
table 6.1 in chapter 6 which shows that 53% of his sample
of firms in 1950 were family controlled. This figure falls
to 41% in 1960 and to 30% in 1970. Although his rather strict
definition of family control no doubt excludes some companies
which are owner controlled[18] the general trend is clear,
namely, a decrease in family control between 1950 and 1970.

Our final conclusion is therefore different from the one
reached by Nyman and Silberston concerning the change in the
extent of owner control in recent years. Instead of possibly
increasing as they report our fairly conservative estimate
suggests a fall in the amount of owner control between 1951 and
1975 at a rate of approximately 5 percentage points per decade,
a rate roughly the same as that experienced by U.S. firms over
the period 1938 to 1963. The figure estimated by Larner for
U.S. firms was of the order of 10 percentage points on the basis
of which he writes of a 'revolution in process.' Our analysis,
however, suggests that his figure is a considerable overestimate
and that it is preferable to describe the changes that took
place in the corporate sectors of both countries as being
evolutionary rather than revolutionary.

3.6 Summary and Conclusions

Our aims in this chapter have been to investigate the extent of the separation of ownership from control in large U.K. and U.S. companies and to assess the degree of change that has taken place. We have found that in both countries the dominant mode of control was owner control and that the level of owner control over the periods investigated was generally higher in the U.K. than in the U.S. We also found that the extent of owner control in both countries fell at about the same rate, and that the consequent change in the corporate sector of each country is better described as being evolutionary rather than revolutionary.

For U.S. firms our discussion has shown that the degree of owner control declined from about 50% of the very large firms in 1937 to about 38% in 1965, that is, at a rate of approximately 4 to 5 percentage points per decade. This is considerably less than the figure of 10 percentage points estimated by Larner whose claim concerning the revolutionary nature of the change over the period is an exaggeration. The fall in the amount of owner control has been accompanied by a considerable rise in the extent of financial control and at most a marginal rise in the amount of management control.

Amongst the large U.K. firms at least 64% were found to be owner controlled in 1951. By 1975 the figure had fallen to 56%. After making some necessary adjustments to the data it was found that the degree of owner control fell at the rate of approximately 5 percentage points per decade. This conclusion

differs from that reached by Nyman and Silberston who
estimated no change with the possibility of an increase over
the period. It was also apparent that because the involvement
of financial institutions in the control of British Companies
is very limited the fall in owner control has been largely
offset by a rise in management control rather than financial
control.

Holdings in 1951

	1	2	3	4	5
Amalg. Metal	17.2	1.5	I	0.2	0(10)
Austin Motors	11.5	1.7	N	0.1	0(5)
Bowater	19.6	2.0	N	1.2	1(10)
Bradford Dyers	11.7	2.6	N	2.6	1(13)
BICC	10.1	2.4	I	0.6	1(13)
Br. Plastic Board	17.8	5.1	N	2.4	3 (18)*
Br. Ropes	16.2	4.9	N	3.1	1(11)
Calico	19.2	4.5	I	1.8	2(7)
Dunlop	9.6	0.2	I	0.0	0(10)**
Eng. Elec	15.2	0.5	N	0.6	1(8)
Eng. Sewing	11.9	2.5	N	0.7	1(8)
Gen. Elec	13.3	2.7	I	0.2	0(14)
Goodlass Wall & Lead	17.3	3.2	C	1.3	(11)
Harrods	12.5	5.5	P	0.2	0(6)
Hawker Siddeley	14.0	0.4	I	0.2	o(5)
Imp. Tobacco	15.8	10.2	P	4.2	4(34)*
Int. Tea	12.5	2.2	P	0.5	0(8)
Lanc. Cotton	14.3	0.9	N	0.4	0(7)**
London Brick	14.9	7.0	P	3.5	3(7)*
Paton's & Baldwins	14.4	4.2	I	2.4	2(10)
Pinchin Johnson	11.4	1.2	I	6.8	0(10)
Reckitt & Sons	18.5	14.1	P	3.2	2(6)*
Ruston & Hornsby	15.0	1.0	I	0.2	0(11)
Selfridge	19.9	0.3	N	0.3	0(6)
Siemens	11.3	0.2	I	0.2	0(8)**
Smith & Sons	19.5	0.0	N	0.9	0(6)
Spillers	11.9	5.9	P	1.6	1(5)
Radiation	9.9	3.4	I	0.2	0(8)

Source: Florence (1961) Appendix A

Notes: 1.   Holdings of largest 20

2.   Extent of personal holdings

3.   Type of main holder

4.   % shares held by Directors

5.   No. Directors among top 20 holders (total directors in brackets)

*   Profile suggests strong evidence of owner control

** Profile suggests strong evidence of management control

Footnotes to Chapter 3

1. From amongst the 200 companies in the sample a total of
   88 were classified management controlled. Of these only
   21 were so classified on the basis of share dispersion
   data. (See Berle and Means, Table XIV, p. 107). Only
   for these companies were share dispersal data given.

2. Quoted in Villarejo (1961)

3. The distribution of ownership of equity capital is also
   an important feature of the Diamond Royal Commission on
   the Distribution of Income and Wealth. (Diamond Report,
   1975, especially chapter 2 of Report Number 2). However,
   apart from the results of an investigation involving only
   30 companies selected from amongst the Stock Exchange
   list of the largest 100 for 1975 the report depended
   exclusively on information provided by the studies
   previously referred to.

4. In the Kotz analysis of share ownership by financial
   institutions it is not made clear whether his data refer
   to corporate stock in general or common stock in particular
   (See Table 1 page 65 and surrounding text). In one place
   however, when he refers to corporate stock it is clear
   that he is referring to common stock (see footnote 189
   page 64) and I have assumed that this is so for Table 1
   page 65 which is used in subsequent discussion.

5. Note also that apart from the different definitions of
   financial institutions used the figures for both countries
   are biased downwards. See Kotz (1978, p. 64 footnote 188)
   and Prais (1976, p. 269 footnote 56).

6. Aggregate holdings of financial institutions in 1982

amounted to £60,222 m. out of total U.K. holdings of
ordinary shares of £114,583 m. The details are given
below.

Insurance Companies	
Long Term Funds	22234
General Funds	3081
Pension Funds	26205[1]
Investment Trusts	4245
Unit Trusts	4457
Other (non-financial)	54361[3]
Total Ordinary Shares in U.K.	114583[2]

Notes and Sources:

All figures apart from the total (see 2 below) in
terms of market values at end December, 1982

1. In the mid 1970's Financial Statistics ceased to
give the breakdown of holdings of company securities by
pension funds. The above figure for ordinary shares was
obtained on the assumption that the ratio of aggregate
ordinary holdings to total holdings was the same as the
ratio of net acquisitions of ordinary securities to net
acquisitions of all securities, the latter ratio being
available for 1982.

2. The figure for total U.K. ordinary shares is the
market value for end September 1982 given in the Stock
Exchange Fact Book, September 1982.

3. Obtained as a residual from the rest of data given.

7. In the mid 1970's Professor Prais wrote: "It is clear,
then, that present trends imply that before long the
greater part of quoted industrial ordinary shares must
come into institutional hands; even with some slackening

in their rate of advance we could hardly be surprised if
they owned two thirds of all United Kingdom quoted
ordinary shares by 1984" (1976, p. 120). The figure
calculated for 1982 suggests that this forecast is an
overestimate though not by much.

8. This was the case in which Barclay's Bank International
owned 24.5% of the shares of Tozer, Kemsley and Milbourn.
In 6 of the remaining 8 cases the dominant institution was
Prudential Assurance.

9. When investigating the seat of control Kotz (1978) used
a number of criteria of which stockholding was usually
the most important. For details of criteria see pages
75-79. For details of the main banks involved in the
control of other companies see Table 10 page 111.

10. See footnote 18 chapter 1 above for further details.

11. Of this total 26 were fully controlled by pyramiding
and 4 were partly controlled.

12. Larner relied heavily on corporate proxy statements sent
to shareholders in advance of the annual meeting. These
statements usually give only the holdings of directors
and their immediate families frequently omitting sizeable
personal blocks of votes. Burch however searched
systemmatically through periodicals such as Fortune,
Business Week, New York Times etc. over an extensive
period. He was thereby able to detect a large number of
personal and familial voting blocks overlooked by Larner.
Only when no other information was forthcoming did he
use proxy statement data.

13. Burch also investigated the corporate control in the top
50 merchandising firms, top 50 transportation firms and

top 50 commercial banks but makes no attempt to incorporate them into the sample of 500 industrials. See chapter 4 for details.

14. The comparison is complicated by two factors. First, the ranking of firms in 1937 was based on assets while the ranking used by Burch for 1965 was based on sales. The two groups were made comparable by rearranging the 1965 data in terms of assets using information from Fortune Magazine (July, 1966). When companies in 1965 were listed first in terms of sales then in terms of assets it was found there were 102 firms common to both groups. The second complication concerns the cut off point that differentiates 'probably' family from 'possibly' family. It was decided to choose 10% for 1937 and 5% for 1965.

15. Kotz also found cases where control was exercised by groups of financial institutions rather than by a single institution. When presenting his results he gives them first of all excluding control by groups and secondly including control by groups. It is the results of the former that are presented here. When control by groups of institutions is included the figure of 29.5% given above increases to 33.5% an increase which can be considered marginal in the light of errors of classification which are likely in an exercise of this kind.

16. The profile data are available for the 28 very large companies but not for the remaining 39 medium large and smaller large companies.

17. Nyman and Silberston found no correlation between control
    type and size for 1975. (1978 Table II).

18. For practical purposes the terms owner control and family
    control are usually used interchangeably in the literature
    but Channon's definition of family control introduces the
    possibility of difference between the two. The case of
    Rowntree provides a good example of this. In 1951 at
    least 63.6% of the shares were owned by B.S. Rowntree and
    family and family trusts. By most standards this is a
    clear case of family control and therefore owner control.
    But Channon classifies it as under non family control
    presumably because a family member was not the chief
    executive officer or because there were not at least two
    generations of family control.

Chapter 4: Control Type and Corporate Performance in U.K.Firms

4.1 Introduction

In the previous chapter it was argued that while the degree of management control has been exaggerated in empirical studies and that the movement towards managerialism has been at most evolutionary rather than revolutionary it is nevertheless true that ownership and control have been shown to be separated to a considerable extent in the post war period in the U.K. and the U.S. It is therefore possible to test to see whether or not this separation has led to significant differences in the performance of owner controlled and management controlled firms. This chapter presents the results of such a test for U.K. firms.

The empirical work reported is for a sample of firms taken from the Sargant Florence study described in chapter 2. At this stage no attempt is made to introduce capital market constraints into the argument. Our aim is to test a straightforward version of the Berle and Means hypothesis within the context of modern managerial theories of the firm. Sections 2 and 3 describe the firms in the sample and the choice of performance variables. This is followed by a brief introduction to the use of discriminant analysis in section 4 and a discussion of the results obtained in section 5. Section 6 assesses the results in relation to those reported by others while section 7 makes an overall assessment of all empirical studies to date. The conclusions are summarised in section 8.

4.2 Firms in the Sample

The data used are taken from the Florence study and
the Cambridge databank with the former being used to classify
firms by control type and the latter providing the performance
data.

It was explained in chapter 2 that the 268 companies
in the Florence sample were classified by industry and by size.
Three size groups were chosen on the basis of issued share
capital in 1951: 'very large' companies with issued capital
at least £3 million; 'medium large' with at least £1 million
but less than £3 million issued capital; and, 'smaller large'
with at least £0.2 million but less than £1 million issued
capital. In the classification of each company by control
type four main criteria areused.[1] First, vote concentration,
i.e. the concentration of ownership of vote carrying shares
with high concentrations being associated with owner control
and low concentrations with management control.[2] Second, the
type of vote holder; vote holders are classified as being
persons, institutions or companies with personal holdings more
likely to reflect owner control and institutional holdings
reflecting management control. Third, directorial holdings
where there is assumed a positive relationship between the
collective share holdings of the board of directors and the
degree of owner control. Fourth, the number of members of the
board among the top 20 shareholders assuming, again, a direct
relationship between this measure and the degree of owner
control. If more than 50% of the vote carrying shares are
owned by one person a company is said to be owner controlled.

Alternatively, if 20-50% of the votes are owned by the largest shareholder or at least 20% are held collectively by the largest 20 shareholders a company is classified owner controlled if (a) the main vote holders are persons or (b) the board of directors collectively own more than 10% of the shares or (c) two or more members of the board are among the largest 20 shareholders. All other companies are classified management controlled. (This is illustrated in Appendix 4.9).

The Cambridge data bank contains data for approximately 4000 U.K. companies for the period 1948-60. To be included a company must be quoted on a U.K. Stock Exchange with its sphere of activities essentially home based in the general area of manufacturing and distribution. These data, which have been standardized, are taken from the financial accounts of holding companies so that the assets and liabilities of companies which are subsidiaries of holding companies are included in the group (consolidated) accounts of the holding companies. The accounts have not been adjusted to take account of the effect of revaluation of assets and of take-overs. Each company is classified into one of 21[3] industries listed in table 4.1

In bringing together the Florence study and the Cambridge data a number of considerations arose which should briefly be discussed. The first concerns the classification of companies by control type. The Florence study uses information relating to parent companies whereas the Cambridge data, as explained above, are taken from group accounts. It

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	Very large		Medium large		Smaller large		All
	MC	OC	MC	OC	MC	OC	Sizes
1 Bricks, pottery etc.	4		1				5
2 Chemicals	2		1				3
3 Metal manufacture				1			1
4 Non electrical engineering	1	1	4	2	3		11
5 Electrical engineering	7	3	3	1	3	1	18
6 Vehicles	8	2	2		1	2	15
7 Metal goods n.e.s.	3		2		3	1	9
8 Cotton & man made fibres							
9 Woollen and worsted	1		1	1	2		5
10 Hosiery etc.							
11 Clothing and footwear		2		1	1		4
12 Food	4	5	2		2	2	15
13 Drink	9	6	15	2	3		35
14 Tobacco	1	1					2
15 Paper, printing etc.	7	1		1		2	11
16 Leather etc.	2		2	1		1	6
17 Construction					1		1
18 Wholesale distribution	2		2	1	6	2	13
19 Retail distribution	6	4	2	2	5	4	23
20 Entertainment and sport		2					2
21 Miscellaneous services	1	1	1		1		4
All industries	58	28	38	13	31	15	183

Total MC: 127

Total OC: 56

Table 4.1: Classification of Firms by Industry, Size
(Net assets) and Control Type: U.K.,1951.

is assumed here that the definition of control type as
applied to the parent company also applies to the company
group as a whole. Since the group consists of the parent
and its subsidiaries and since the latter by definition are
under the control of the parent this approach is quite
reasonable. However, as the extent of pyramiding increases
communication between the parent at the top and the (possibly)
remote companies at the bottom becomes more difficult so
that parent control in practice may become less effective.

The second problem concerns the measure of company
size. Florence measured size on the basis of issued share
capital in 1951 but this is totally inadequate when making
use of consolidated accounts since issued capital of the
parent company and issued capital of the consolidated company
as presented in the group accounts are the same though the
sizes of the two are clearly different. It is therefore
necessary to introduce an alternative measure of size and
for present purposes size is measured in terms of net assets
in 1951.[4] Using this measure companies are classified into
three groups using the same nomenclature as Florence though
the upper boundary of each class is adjusted upwards. Thus,
'smaller large' companies are those with net assets of £0.2
million to £1.5 million, 'medium large' companies have assets
between £1.5 million and £6 million and 'very large' companies
have assets in excess of £6 million.[5]

A third problem relates to the definition of control
type. The definition of control type is based on information
for 1951 whereas the performance data cover the period 1948-60.

Clearly, a company which was owner controlled in 1951 may
not be so controlled in 1960 particularly given the dispersal
of share ownership which took place throughout the 1950's.
An indication of the extent of the problem is given by
Radice (1971). He found that for the period 1957-67 despite
the increase in share dispersal few firms could be regarded
as having moved from one control type to another. In another
study by Palmer (1972) for the United States, it was found
that only six firms out of a sample of 500 changed control
type between 1965 and 1969, each moving from owner control to
management control. Limited evidence suggests, therefore,
that change of control type is not likely to be much of a
problem. Also, if the problem does arise it is likely to
involve a firm moving from OC to MC and an attempt is
subsequently made to overcome this by introducing a more
rigorous definition of owner control than the one used by
Sargant Florence.

The initial task of data collection was to list all
companies in the Florence sample along with control type
as given in Appendices A and B and on pages 131, 133 and
134. The list of all companies contained in the Cambridge
data was then scanned to see how many of the Florence companies
were also present in the databank. From the original
sample of 268 companies 85 had to be omitted from the
present study. Of these, 28 were either primarily engaged
in activities abroad or were subsidiaries of other companies
and were therefore excluded from the Cambridge data. Forty-
four companies had to be excluded (mainly in the chemicals,
metal manufacture, cotton and man-made fibres and hosiery
industries) because although listed as being

present in the Cambridge data the magnetic tapes used did not contain the full information. A further six companies were dropped because of errors in the data.[6] Finally, it was decided that a company with data covering a period of less than six years should be omitted because this was considered too short a period for the calculation of long run indicators; seven companies were dropped for this reason. We are therefore left with a final sample totalling 183 firms of which 145 continued in existence throughout the whole period 1948-60.[7] The characteristics of the sample are summarized in table 4.1 where companies are classified by control type, size (measured by net assets) and by industry group.

4.3 Choice of Variables

It is now necessary to specify the variables used
in an attempt to discriminate between the performances of
OC and MC firms. These variables are: profitability, growth,
two separate measures of the distribution of a firm's
profitability over time, and the distribution ratio. We
begin by considering the relationship between profitability
and growth as developed by Marris (1964).

In the theory of managerial capitalism developed by
Marris there are two functional relationships contained in
the profit rate growth rate plane; these are the demand
growth curve and the supply of capital curve shown in
diagram 4.1. If owners' utility is maximized by maximizing
profitability (profit rate) they will select the combination
of P and G represented by the point O. This assumes,
however, that all capital gains are realized. If this is
not the case the combination chosen will be to the right
of O on the demand growth curve, say O′. At this point also
the valuation ratio is maximized. Managers, however, when
wanting to maximize their own utility function are assumed
to maximize growth and will therefore aim for the combination
of P and G given by the point M. But they will also be
subject to constraint in their choice because their desire
for growth must be matched by at least a minimum level of
security as represented by the valuation ratio. Thus,
managers will choose a combination of P and G to the left of
M on the demand growth curve, say M′. At this point the

valuation ratio is not maximized. Indeed, the point chosen depends upon the extent to which the valuation ratio acts as a constraint on managerial action - in short, on the extent to which the stock market conforms to neo-classical assumptions. The choice open to the firm, then, lies on the negatively sloped part of the demand growth curve between O and M. Moreover, if the separation of ownership from control results in management being able to take decisions, at least in part, independently of the shareholders it is to be expected that on average management controlled firms will exhibit higher growth rates and lower profit rates than owner controlled firms. A scatter of points relating P and G across firms would then appear as shown in diagram 4.2. The scatter would show a positive trend (because the larger variations in the demand growth curve, vis-à-vis the supply of capital curve would identify the latter) with the points forming two sub-groups, one for OC firms with average profit rate and growth rate given by Po and Go, and one for MC firms with average profit rate and growth rate given by Pm and Gm. In the results given below profit rate is measured as the sum of annual pre-tax profitability for the relevant time period divided by aggregate net assets for the same period. The growth rate is measured as the growth of net assets compounded annually.

The next two variables to be considered are based on the analysis by Baumol (1959) and Monsen and Downes (1965). Briefly, the argument is that there is asymmetry between the reward and punishment received by those in control of MC firms. Although poor management may result in a strong movement

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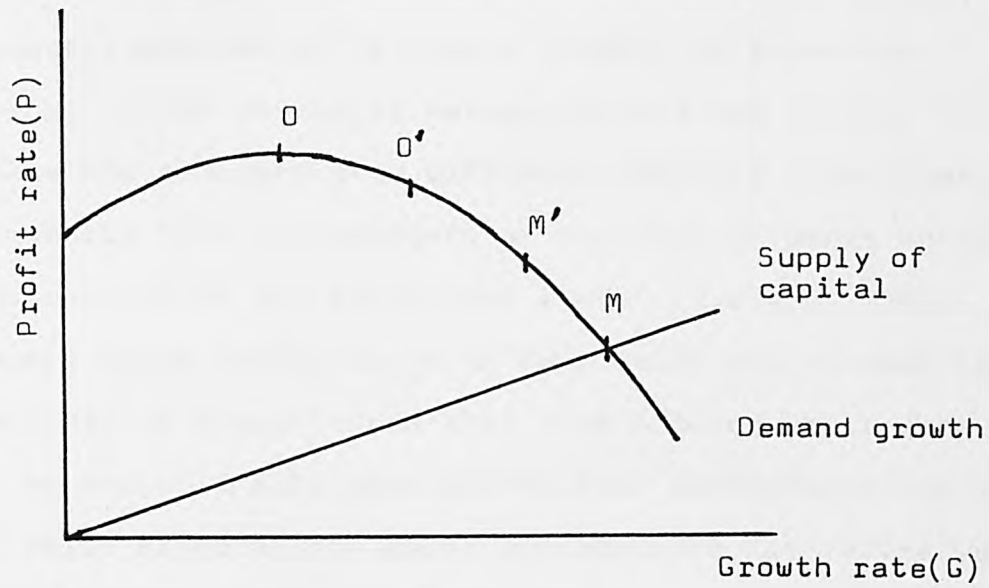
Diagram 4.1 Relationship between profits and
growth in the Marris model.
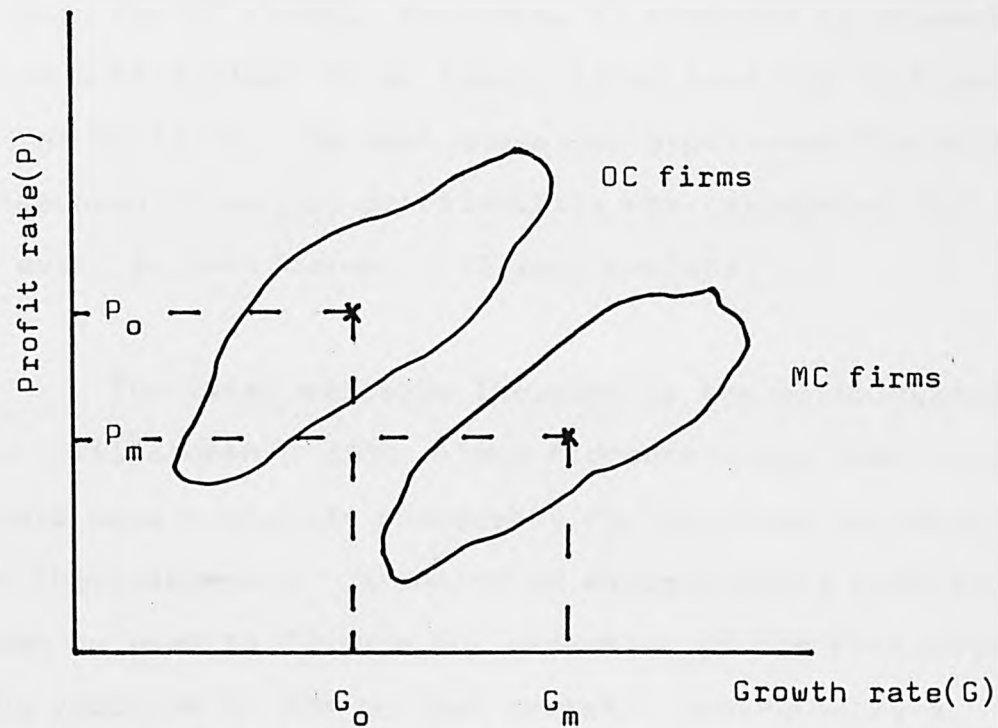
Diagram 4.2 Scatter of profits and growth
for OC and MC firms.

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to replace managers or to take over the firm concerned, successful management is rarely greeted by excessive rewards. 'This asymmetry between failure and success tends to make the managers of a diffused ownership firm behave differently from the managers of the type of owner managed firms envisioned by traditional theory' (1965, p. 226). If managers allow profit rates to fall below the minumum level acceptable to shareholders they risk loosing their jobs. But, an exceptionally good profit rate performance one year will raise expectations among shareholders for future years which managers may not be able to meet. Ultimately, the effects will be seen in the distribution of a firm's profit rate over time. Comparing this distribution with the distribution for OC firms suggests two possible differences. First the variance of profitability for MC firms is likely to be less than for OC firms. Secondly, if skewness is present in each distribution it is likely to be less for MC firms than for OC firms. To test these two hypotheses the variance and skewness of annual profitability was calculated for each over, in most cases, a 12 year period.

The final variable included is the distribution ratio. Williamson (1970) and Florence argue that hired managers have a greater preference for retained earnings since they represent a source of discretionary behaviour and can be used to finance the expansion of the firm without having recourse to the capital market. Consequently a management controlled firm will report a lower distribution ratio than an owner controlled firm. Alternatively one could argue that owner controlled firms may be more interested

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in increasing capital gains through an increasing share
price than in the receipt of dividend income.[8]   This would
be particularly true of rich owners who are paying high
rates of income tax.   In this case there would be no
reason for suggesting that differences in control type are
associated with differing distribution ratios.   In the
empirical results given below which attempt to distinguish
between these two hypotheses the distribution ratio is
defined as the sum of ordinary dividend over the period
(net of income tax) divided by the sum of ordinary dividend
and retained profits.[9]

4.4   Use of Discriminant Analysis

In order to consider whether or not control type affects corporate performance discriminant analysis and generalized (Mahalanobis) distance analysis have been used.

Given that we have observations across K variables for n units with the latter arranged into two groups, OC and MC, we are concerned with discriminating optimally between groups by introducing a linear compound of variables of the form

$$D = a_1X_1 + a_2X_2 + \cdots + a_kX_k$$

The discrimination achieved is optimal in the sense that the ratio of the squared vector of the differences of group means divided by the variance within groups is maximized. If each of the a_i is multiplied by the standard deviation of the variable to which it is attached we obtain

$$D = a_1^{*}X_1 + a_2^{*}X_2 + \cdots + a_k^{*}X_k$$

This procedure standardizes the discriminant function co-efficients so that they reflect the relative contribution made by each variable to the overall discrimination achieved by the estimated function. It is these coefficients which are presented below.

Tests of hypotheses are based on the use of the Mahalanobis D^2 statistic which is closely related to the discriminant function. For each of our two groups of observations we have a scatter of points in K dimensional space. If variables are correlated the scatter represents

an hyperellipsoidal region which has K orthogonal axes
of symmetry and it is necessary to redefine the observations
so that their co-ordinates coincide with these K axes of
symmetry. The cloud of points obtained is hyperspherical
and these points are then standardized. The Mahalanobis
distance is then defined as the distance between the
vectors of mean values of the redefined, standardized
variables and is equivalent to obtaining maximum discri-
mination between groups. In order to test the hypothesis
that the differences in population means simultaneously
are zero an F test of D^2 is available. Moreover, the
programme used in obtaining the results (BMDO7M Stepwise
Discriminant Analysis) followed a stepwise approach in
which at each stage in the analysis the variable entering
the function was the one which, given the variables already
entered, contributed most to the Mahalanobis distance. An
F test is also available for assessing the significance of
this contribution.[10]

4.5 Empirical Results

We can get a preliminary indication of the results of the exercise by considering differences in mean values for each variable. These values are given in table 4.2 for a number of samples with differing characteristics which will be explained subsequently. Also included in this table are the mean values for size measured in terms of net assets; the inclusion of this variable will also be explained subsequently. Sample 1 contains all 183 firms. In general the results conform with a priori expectations. For OC firms profit rate is higher and growth rate lower as suggested by Marris while variance and skewness are greater, this being consistent with the predictions of Baumol and Monsen and Downs. It now remains to see whether these differences are statistically significant.

The estimated discriminant function for sample 1 when all variables are included (given in table 4.3) is

$$D_1 = 0.25X_1 - 0.56X_2 + 0.42X_3 + 0.09X_4 - 0.26X_5 + 0.14X_6$$

The resulting squared Mahalanobis distance (D^2) is found to be significantly different from zero. Moreover, the values of the coefficients suggest that growth rate and variance of profit rate make the major contribution. This is confirmed by a stepwise approach. After the inclusion of these two variables the addition of the next most important variable (distribution ratio) does not make a significant contribution

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SAMPLE / VARIABLE	Sample 1		Sample 2		Sample 3		Sample 4	
	OC	MC	OC	MC	OC	MC	OC	MC
X_1: Profitability %	16.9	15.4	16.9	16.2	17.3	15.7	15.1	12.8
X_2: Growth Rate %	6.0	8.0	6.9	8.5	7.3	7.5	6.5	6.0
X_3: Variance	48.8	32.1	47.8	31.5	48.6	31.6	25.7	17.1
X_4: Skewness	-169.3	-142.9	-165.4	-100.7	-172.8	-132.3	-193.2	-54.6
X_5: Distribution Ratio %	40.2	42.9	40.3	41.0	40.2	43.9	37.0	41.2
X_6: Size (£000)	3415.0	2921.0	4225.8	2992.4	4203.7	2868.8	2906.6	3687.5

Table 4.2: Means of Samples for all Variables by Control Type

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to the discrimination achieved. However, in the stepwise
function it is found that variance of profits contributes
more than growth rate. The resulting function is:

$$D_2 = -0.37X_2 + 0.47X_3$$

Again, D^2 is found to be significantly different from zero.

Although the discrimination achieved is statistically
significant it is not yet clear how good this is. We get
an insight into this by using the function (i.e. D_2) to
calculate the a posteriori probability that a firm with a
given vector of observations on X_2 and X_3 comes from each group
with the firm being assigned to the group which gives the
larger probability. The classification of firms on this basis
is as follows:

	OC	MC
OC	25	31
MC	43	84

Grouping of firms based on a posteriori probabilities

Numbers on the main diagonal relate to firms whose classifi-
cation based on a posteriori probabilities are the same as for
the initial classification of control type. The opposite is
true for numbers in off diagonal positions. Thus, 31 OC firms
have characteristics closer to MC firms and 43 MC firms have
characteristics closer to OC firms. In short, the overlap
between groups is such that 74 of the original 183 firms
are misclassified - approximately 40%. Clearly, the discri-
mination achieved is not very sharp.[11]

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One of the problems of estimation which has not yet been mentioned is the possible introduction of bias resulting from the effect of extraneous variables. In particular it is necessary to consider the bias which may be imparted by firm size and differing market structures. In regression analysis it is usually possible to control bias by including such variables in an equation measured discretely or continuously. In the present analysis the approach used to control the effect of such bias is that of matched samples. Thus, for example, if we wish to control for the effect of firm size the sample used for estimation is such that each owner controlled firm is matched with a management controlled firm chosen from the same size strata. Similarly if we wish to control for the effect which differing industry structure has on the results the sample used for estimation is such that each owner controlled firm is matched with a management controlled firm taken from the same industry group. The results of controlling for bias in this way are given in table 4.3.

The results for sample 2 relate to the controlling of the effect of firm size, with 56 firms in each group. It can be seen that the function D_3 is not very different from D_1 with D^2 significant in each case. The coefficients of the function following a stepwise approach, given in D_4, are also similar to those given in D_1 in that the same two variables are included in each case though their relative contribution differs. It seems then that corporate size imparts very little bias and, indeed, this is suggested in the results for sample 1 where it was shown that size did not make a signifi-

		X_1	X_2	X_3	X_4	X_5	X_6	D^2	F for D^2
Sample 1	OC = 56								
	MC = 127								
	TOT = 183								
	D_1	0.25	-0.56	0.42	0.09	-0.26	0.14	0.36	2.24*
	D_2		-0.37	0.47				0.22	4.20*
Sample 2	OC = 56								
	MC = 56								
	TOT = 112								
	D_3	0.26	-0.85	-0.47	-0.03	-0.33	0.30	0.44	2.35*
	D_4		-0.51	0.47				0.30	4.15*
Sample 3	OC = 51								
	MC = 51								
	TOT = 102								
	D_5	0.14	-0.43	0.40	0.05	-0.31	0.29	0.29	1.18
Sample 4	OC = 20								
	MC = 20								
	TOT = 40								
	D_6	0.73	-0.53	-0.52	-0.97	-0.34	-0.28	0.73	1.09

* Significant at 5% level

Table 4.3: Values of Discriminant Function Coefficients, D^2 and F value Based on D^2

cant contribution to the discrimination achieved.

Sample 3 is designed to control for the effect of market structure by matching observations by industry group. The results show that when all variables are included the discrimination achieved is minimal with D^2 (=0.29) not significantly different from zero. The same two variables, growth rate and variance of profit rate contribute the most but in a stepwise analysis it was found that neither made a significant contribution. Clearly, removing the effect of bias resulting from firms being taken from differing market structures also removes the discrimination which had been achieved in samples 1 and 2.

The results obtained so far are consistent with the hypothesis that control type has no effect on the performance of the firm but before accepting this conclusion we must consider in a little more detail our definitions of control type. The definition used, based on an amalgam of differing criteria, is essentially a continuous one and it is to be expected that for some companies defining control will be rather arbitrary, and it may be this problem which has so far prevented discrimination between groups. Thus, it is desirable to remove these firms from the sample. To do this a more strict definition of owner control has been introduced. Each firm thus classified as OC has been matched, by industry, with that firm considered most likely to be management controlled. It was not possible to select a pre-determined definition of owner control because there were insufficient firms available. Instead, the 20 firms which appeared most

likely to be OC were selected and matched accordingly. Details of the firms in each group are given in appendix 4.9. The characteristics of the final sample are such that in the average owner controlled firm 65% of the votes are owned by the largest 20 vote holders, 25% are owned by members of the board of directors, personal holdings are the main type of vote holdings and, with a board of say ten directors, five would be among the largest 20 vote holders. This is to be compared with the typical management controlled firm where only 11% of the votes are owned by the largest 20 vote holders, 1% are owned by members of the board of directors, institutions are the main type of vote holdings and one director out of a board of ten would be among the largest vote holders. Table 4.2 shows that for this sample (sample 4) mean values differ from earlier samples in two respects. First, growth rate for OC firms is now larger than for MC firms. Second, average size for the former is smaller than for the latter. Nevertheless, the value obtained for D^2 when all variables are included in the function is not different from zero and, once again, stepwise discriminant analysis fails to yield a single variable which makes a significant contribution. Although the number of firms in sample 4 is somewhat small the results suggest that failure to discriminate between groups is independent of the definition of control type.[12]

Finally, we consider the results for the distribution ratio. In all of the four samples considered the results are consistent in two respects. First, the average distribution ratio for MC firms is marginally higher than for OC firms.

Second , this difference is not statistically significant.
The results therefore are consistent with the argument
that shareholders in owner controlled firms are more concerned
with increasing capital gains than they are with increasing
dividend return and that this results in there being no
significant difference in the average distribution ratios of
owner controlled and management controlled firms.

4.6 Comparison with Other Studies

How do these results compare with those reported in other
investigations? The results of other studies are summarised
in table 4.4 which is a more comprehensive and updated version
of a similar table contained in Nyman and Silberston (1978).
They are presented by country (U.K., other European countries and
U.S.) and by year within each country. It can be seen that studies
differ considerably with regard to sample characteristics,
variables included and methodology used.

Because of this heterogeneity direct comparison is difficult.
This is particularly apparent when we consider the range of
definitions of profitability used. In his pioneering analysis
of corporate activity Bain (1951) insisted that the correct
measure of profitability to use is the long run price-economic
cost margin and that this is best approximated by the ratio
of economic profit over sales. In this he has subsequently
been supported by Qualls (1972) and Bothwell (1980). Others,
including Hall and Weiss (1967) argue that from the point of
view of the owners the best measure is an accounting rate of
return that incorporates both stock price appreciation and
dividend return. In addition to these issues of principle
there are various practical considerations that have to be
borne in mind when making a final choice. In the U.K. sales
data in general were not readily available before the passage
of the 1967 Companies Act so that use of the Bain measure
of profitability is precluded. Also the high opportunity
cost in terms of time and money of collecting information
on share price appreciation has meant that the

Author	Country	Features of the Sample	Variables	Effect of Owner Control on Each Variable	Level of Significance
Florence (1961)	U.K.		Distribution Ratio	Greater	-
Radice (1971)	U.K.	89 large firms for the period 1957-67	Profits	Greater	$\geqslant 5\%$
			Growth (of assets)	Greater	$\geqslant 5\%$
Child (1973, 1974)	U.K.	82 firms for 1963/4 - 1968/9	Profits	"No general effect": direction not given	-
			Growth (of assets)	Greater	$\geqslant 1\%$
Holl (1975)	U.K.	183 firms from original Florence sample	Profits	Greater	Not significant
			Growth (of assets)	Lower	Not significant
			Variance of Profits	Greater	Not significant
			Skewness of Profits	Greater	Not significant
			Distribution Ratio	Lower	Not significant
Steer & Cable (1978)	U.K.	82 companies from top 250 in Times 1000 index, 1967-71	Profits	Greater	$\geqslant 5\%$
Holl (1983)	U.K.	215 firms from Channon sample of 288, for 1950, 1960 and 1970	Profits	Greater	Not significant
			Interaction between profits & structure	Greater for F form	10%
Thonet and Poensgen (1979)	Germany	Between 297 and 323 firms, 1961-70	Profits	Lower	$\geqslant 5\%$
			Valuation Ratio	Lower	$> 5\%$
			Growth (of assets)	Lower	Not significant
			Variance of Profits	Greater and Lower	Not significant
Jacquemin and de Ghellinck (1980)	France	103 firms from largest 200 industrials, 1970-74	Profits	Lower	Not significant
			Interaction of profit and size	Greater	1%
Cable and Dirrheimer (1983)	Germany	48 firms from Tannhauser's (1976) original sample of 100 for 1970	Profits	Greater	Generally $> 5\%$
Williamson (1964)	U.S.	52 firms matched by industry	Retention Ratio	Lower	
Shelton (1967)	U.S.	28 restaurants whose control type changed	Profits	Greater	Results probably highly significant
Monsen et alia (1968)	U.S.	72 firms from Fortune 500 for 1963. Data for 1952-63 controlled for industry and size variations	Profits	Higher	$> 1\%$
			Debt Ratio	Lower	Not significant
Kamerschen (1968)	U.S.	47 firms taken from Larner's sample of top 200 in 1963	Profits	Higher	5% (see footnote)
Hindley (1970)	U.S.	Maximum of 49 firms for 1930, 1935, 1940	Inverse of valuation ratio	Lower	5%
Larner (1970)	U.S.	Maximum of 187 firms from the 330 used in study of profits & size by Hall and Weiss (1967) for 1956-62	Profits	Greater	$> 10\%$
			Variation of Profits	Lower	Not significant

Palmer (1972, 1973 a & b, 1974)	U.S.	Samples from Fortune 500 1965 and 1969	Profits	Greater	Not significant
			Coefficient of variation of profits	Lower	Not significant
			Interaction between profits and market structure	Greater for monopolistic firms	5%
			Interaction between variation of profits and size	Lower for smaller firms	5%
Elliott (1972)	U.S.	88 firms from Standard and Poor's compustat tape 1964-67	Growth	Not given	Not significant
			Profits et alia	Not given	Not significant
Qualls (1972)	U.S.	205 firms from Palmer's sample 1960-1968	Profits	Greater	Not significant
			Profits (after allowing for interaction between control type and various measures of market structure)	Greater amongst firms in concentrated industries	Not significant
Boudreaux (1973)	U.S.	72 firms from top 500 matched by industry 1952-63	Profits	Greater	1%
			Variation of Profits	Greater	1%
Sorensen (1974)	U.S.	60 firms matched by industry, 1948-66	Profits	Greater	Not significant
			Growth (of sales)	Greater	Not significant
Ware (1975)	U.S.	74 firms in food and beverage industry 1960-70	Profits	Lower	10%
			Retention Ratio	Higher	5%
Holl (1977)	U.S.	343 firms from Palmer Sample 1962-72 and 1960-69	Profits	Greater	5%
			Profits (matched by size and structure)	Greater	Not significant
			Interaction of control type and market for corporate control on profits	Greater	1%
Stano (1976)	U.S.	354 firms from Palmer Sample for 1965. Data for 1963-72	Profits	Greater	1%
			Variation in profitability (Beta coefficient)	Lower	Not significant
Kania and McKean (1976)	U.S.	178 firms from initial sample of 1800 stratified by industry and size, 1963-72	Profits	-	Not significant
			Variation of Profits	-	Not significant
			Growth (of sales)	-	Not significant

McEachern* (1975, 1976, 1978)	U.S.	96 firms from Chemical Drug and Petrol refining industries, 1964-73	Profits	1	OC > MC	1%
				2	OM > MC	1%
				3	EC > MC	5%
			Growth (of sales)	1	OC < MC	Not significant
				2	OM > EC	5%
				3	MC > EC	Not significant
			Distribution Ratio	1	OC < MC	1%
				2	OM < EC	1%
				3	MC > EC	Not significant
			Variation of Profits (Beta Coefficient)	1	OM > EC	1%
				2	MC > EC	1%
Bothwell (1980)	U.S.	150 firms from Palmer Sample 1960-67	Profits (adjusted for risk)		Greater	Not significant
			Profits (allowing for interaction effects between various measures of market structure and control type)		Greater	5%

Notes: *McEachern introduces three control types: owner manager (OM) firms have dominant ownership in hands
of managers; externally controlled (EC) firms have dominant ownership and hired managers;
management controlled (MC) firms have dispersed ownership. The OM and EC firms can be combined
to give OC firms as in other studies.

TABLE 4.4: SUMMARY OF EMPIRICAL EVIDENCE ON THE RELATIONSHIP
BETWEEN CONTROL TYPE AND CORPORATE PERFORMANCE

accounting rate of return used in many U.K. and U.S. studies
have concentrated on net income as a proportion of total
equity.[13]

One further comment needs to be made before proceeding
with our comparison. In order to simplify discussion we shall
concentrate on the more popular performance indicators used
namely profits, variability of profits and growth.

Probably the single most important issue to consider
is whether or not OC firms are significantly more profitable
than MC firms as predicted by managerial theories. Despite
the large number of studies to date, a clear cut answer is
not forthcoming. Of the 22 studies in the table that present
results of significance tests 11[14] find differences in favour
of OC firms at a level of significance of 10% or better while
9 find differences that are not significant. The remaining
two find significant differences in favour of MC firms (Ware
(1975) ,Thonet and Poensgen (1979)). The absence of a clear
cut decision is apparent for both U.K. and U.S. firms. For
U.K. firms, for example, Holl (using two different samples)
and Child find no differences while Radice and Steer and
Cable present results where differences are present.

The results with regard to the variance of profits are
even less clear cut and their interpretation is complicated
because the a priori expectations concerning this indicator
are equivocal. The variation in profitability (usually

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measured in terms of the variance or the coefficient of variation) is a measure of risk propensity. We have seen in section 3 of this chapter that Monsen and Downs argue that the asymmetry of reward and punishment make the managers of MC firms more risk averse. Palmer argues, however, that the opposite is true. Because the managers of MC firms are insulated from stockholder control they have little to fear if a good performance one year (in terms of profits) is not repeated the next. On the other hand managers of OC firms, being subject to shareholder control, have much to fear if a good performance is not repeated and are therefore likely to be more cautious. On this reasoning the managers of OC firms are likely to report more stable profits than the managers of MC firms. If we try to differentiate between these two competing hypotheses by looking at the results we finish up none the wiser. Of the 8 studies that introduce a variation of profitability measure 5 find differences that are not significant, 1 finds evidence in favour of smaller OC firms being significantly more risk averse (Palmer) and 1 finds evidence in favour of OC firms being significantly less risk averse (Boudreaux). The study by McEachern is less straight-forward than the last two but finds that both the owner-managed firms and the manager-controlled firms have greater market related risk than externally controlled firms.[15]

With regard to the growth variable our results tend to be in line with results elsewhere in general but at variance with results for U.K. firms in particular. In each of the other two studies for British firms the growth variable was found to be significant with OC firms growing faster than MC

firms. On the other hand, in each of the remaining 5 cases
where a growth variable was introduced (1 for Germany and
4 for the U.S.) it was found to be insignificant.

Finally, there is one feature of the results presented
in table 4.4 that is worth pointing out because it provides
an important link between this chapter and the two that
follow. In three of the investigations control type is a
significant explanatory variable only after it is allowed to
interact non linearly with another variable. Palmer found OC
firms more profitable than MC firms amongst highly monopdistic
firms but not amongst firms with a medium or low degree of
monopoly power. Similarly, Bothwell found OC firms to be more
profitable (after adjusting for risk differences) amongst
firms operating in industries with high or substantial barriers
to entry. Such a difference was not apparent amongst firms
operating in a more competitive environment. And in the study
by Jacquemin and de Ghellinck only amongst the very large
French firms were the familial firms significantly more
profitable than non-familial firms. In each of these three
cases we have a more refined investigation into the effect of
control type on company performance and this will be pursued
further in the next two chapters.

4.7 A Further Assessment of Empirical Results

There is one feature of the results discussed in the previous section that is worth considering further. Although many of the estimated coefficients for the profits variable are not statistically significant there is nevertheless a strong tendency for them to have a numerical value which is positive.[16] This is an important feature of the results which should not be ignored. In any empirical investigation that involves the interpretation of a regression coefficient there are two aspects that need to be considered. First, we need to consider the significance of the coefficient and second we need to consider its sign. The discussion in the previous section concentrated on the former while the discussion in this section concentrates on the latter.

If it were true of western countries in general that control type has no effect on profitability we would expect to observe on average as many positive coefficients as there are negative ones in the results presented in table 4.4. This expectation suggests an alternative way of assessing the results shown in the table. If managerial theory is incorrect in predicting greater profits for OC firms we would expect the proportion of studies with positive signs (P) to be one half. Alternatively, if it is correct in its prediction we would expect P to be greater than one half. We can therefore formulate the following null and alternative hypotheses:

$$H_o \ : \ P \ = \ 0.5$$

$$H_1 \ : \ P \ > \ 0.5$$

If we view the proportion of studies with positive signs as being binomially distributed we can use the normal

	Number of studies including this variable	Number with the given sign	$\hat{P}$	Z
Profits[1]: U.S.	13	12 (+)	0.92*	3.04
Europe	7	5 (+)	0.71	1.13
All	20	17 (+)	0.85*	3.13
Variation in Profits[2]	6	3 (+)	0.5	0.0
		2 (+)	0.33	-0.85
Growth[3]	6	3 (+)	0.5	0.0

Notes 1. Excluding Child, Elliott and Kania and McKean where the direction of difference is not given.

2. Excluding McEachern and Kania and McKean where direction of difference is not given. Thonet and Poensgen report differences for this variable in both directions and both are included in the table i.e. when 'greater' 3 of the 6 studies have positive signs and when 'less' 2 of the 6 studies have positive signs.

3. Excluding Elliott and Kania and McKean.

4. Standard error of proportion given by $(P(1-p)/N)^{\frac{1}{2}}$ and $Z = (\hat{P} - p)\Big/ \left[(1-p)/N\right]^{\frac{1}{2}}$

* significantly different from 0.5 at 0.01 level.

Table 4.5 Z Coefficients for Testing Proportions

distribution as an approximation and test to see whether the observed proportion differs from 0.5. Such tests of course are not confined to the profits variable alone. Similar tests can be carried out for other variables as well and in each case choosing between Ho and H1 is a simple and appealing way of summarising the results obtained so far.

The results of this approach are presented in table 4.5. Ideally it is desirable to pursue the analysis for each variable of interest and for the U.S. and Europe separately. This, however, is not possible in general because of the heterogeneous nature of the samples combined with an insufficient number of studies available. Despite these limitations the results obtained for the profits variable are of interest. Of the 20 studies that indicated the direction of difference between OC and MC firms 17 (i.e. 0.85) indicated that on average OC firms were more profitable. This proportion gave a Z value of 3.13 showing a less than one chance in a hundred of observing such a large proportion if Ho were true. When these 17 studies are broken down by region an interesting difference emerges. The proportion of European studies favouring OC is not significant ($\hat{P}$ = 0.71 with Z = 1.13) while the proportion of U.S. studies favouring OC firms ($\hat{P}$ = 0.92 with Z = 3.04) is highly significant. This in part is the result of an increase in the standard error resulting from a fall in the number of observations available but there is also a fairly substantial difference between the two sample proportions as well. These two facts together result in a clear acceptance of Ho for European firms and a clear acceptance of H1 for U.S. firms.

The results for the remaining two variables in the table,
namely variation in profits and growth, result in a clear
acceptance of Ho in each case. But with at most 6 studies
in each case the results are of limited value. For all other
variables listed in table 4.4 the number of observations
available for calculating standard errors was less than six
and the analysis was therefore not pursued further.

We can therefore add a further dimension to the assessment
of results regarding profitability which is contained in the
previous section. If we investigate the coefficients solely
in terms of whether they are significant or not there are
roughly as many studies that conclude there is a performance
difference as there are that say there is not. But if we
attempt to summarise the results obtained in terms of the
signs of the estimated coefficients there is a clear suggestion
that OC firms are more profitable than MC firms in the United
States but not in Europe.

4.8 Conclusions

This chapter has compared the performance of owner
controlled and management controlled firms taken from the
original sample constructed by Sargant Florence. The technique
of discriminant analysis was used to compare the performance
of both groups. Data for the period 1948-60 were used with
profits, growth, variation in profits and the distribution
ratio used as measures of corporate performance. A straight
comparison of 56 OC and 127 MC firms gave significant differences
in both the growth rate and the variance of profits at the 5%
level but these differences disappeared after the removal from
the samples of bias resulting from firms being selected from
industries with differing market structures. A more rigorous
definition of control type was then introduced into the analysis
and it was found that the results were not sensitive to the
definition of control type used.

These results were compared with those obtained in a
large number of other studies embracing both European and U.S.
firms. It was found that for the profitability variable the
results were somewhat mixed with about half the studies finding
significant differences in favour of OC firms and most of the
remainder finding no significant differences. When this was
pursued further by investigating the direction of observed
differences (whether significant or not) it was found in general
that the results for U.S. firms showed significant differences
overall while the results for European firms did not. For the
profits variable, therefore, the lack of significance in the
present sample of U.K. firms is in keeping with other European
studies but not with those reported for the U.S. With regard to

the other main variables of interest namely growth and
variation of profitability the lack of significance reported
in the present study is in line with results reported else-
where for both European and U.S. firms.

4.9 Appendix: Measuring Control Type for a Selected Sample

	1	2	3	4	5	6	7	8
Crompton Parkinson	5	19	OC	49.4	P	2.8	4	12
Revo	6	57	OC	63.5	P	13.2	2	8
Falk Stadelman	5	102	OC	79.4	P	7.2	3	7
Rootes	6	97	OC	55.0	P	30.6	4	9
Hartley	12	34	OC	69.9	P	40.4	4	5
Ranks	12	65	OC	100.0	P	33.3	3	3
Colman	12	112	OC	49.2	P	27.5	4	7
British Cocoa & Choc.	12	120	OC	66.1	P	32.2	8	11
Illustrated Newspapers	16	145	OC	47.2	P	39.6	4	8
Lebus	16	67	OC	72.4	P	28.0	4	10
Metal Agencies	18	129	OC	40.1	P	4.4	4	6
Chaplin Holdings	18	171	OC	85.2	P	8.8	2	4
Curry's	19	36	OC	53.4	P	13.8	5	8
Lewis, John	19	75	OC	81.0	P	66.6	1	8
Marks & Spencer	19	83	OC	43.9	P	14.9	4	8
Reed, Austin	19	99	OC	68.3	P	37.8	4	9
Yeo, John	19	124	OC	64.1	P	25.6	4	6
Times Furnishing Hlds.	19	161	OC	82.0	P	29.7	5	6
Gieves	19	194	OC	54.8	P	27.3	6	6
Union International	21	240	OC	79.0	P	13.4	2	6
B.I.C.C.	5	9	MC	10.1	I	0.6	1	13
General Electric Co.	5	37	MC	13.3	I	0.2	0	14
Siemens	5	61	MC	11.3	I	0.2	0	8
B.S.A.	6	9	MC	6.9	N	0.7	1	7
Crosse & Blackwell	12	24	MC	15.1	P & I	0.5	1	9
Hovis	12	40	MC	17.7	P	0.1	0	6

	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8
Liebigs	12	44	MC	8.8	I	0.8	1	6
Spillers	12	72	MC	11.9	P	1.6	1	5
Odham's Press	15	73	MC	15.0	P	0.6	0	10
Barry & Staines	16	157	MC	8.4	I	0.6	1	6
Amalgamated Metal	18	83	MC	17.2	I	0.2	0	10
Hanson, Samuel	18	237	MC	9.4	I	0.0	0	7
Debenhams	19	38	MC	9.4	N	10.0	0	12
Gorringe, Fred	19	53	MC	13.1	P	0.5	2	4
Harrod's	19	57	MC	6.2	I	0.2	0	9
Int. Tea Co. Stores	19	66	MC	12.5	I	0.4	0	7
Army & Navy	19	145	MC	5.5	P	0.7	1	7
Hope Bros.	19	150	MC	12.4	I	1.1	2	5
Lewis Investment Trust	19	168	MC	6.8	P	1.1	3	10
Savoy Hotels	21	164	MC	14.8	P	1.5	2	7
Average			OC	65.2	P	24.8	0.52	
Average			MC	11.3	I	1.1	0.10	

Columns 1 and 2: Industry and company number as given in the Cambridge data tapes
Column 3: Control type – owner controlled (OC) or management controlled (MC)
Column 4: % of total votes held by 20 largest vote holders
Column 5: Main type of vote holder – persons (P), institutions (I), nominees (N)
Column 6: % of votes held by members of board of directors
Column 7: Number of directors in the top 20 vote holders
Column 8: Total number of directors

Data for columns 4 to 8 are taken from Florence (1961) and additional information provided by Professor Florence

Footnotes to Chapter 4

1.   A fifth criterion was occasionally used in marginal
         cases, namely, capital gearing. Other things being equal
         control is more likely to be in the hands of owners in the
         case of highly geared companies (where loan capital and
         preference share capital are relatively large in relation
         to equity capital) than in the case of companies with low
         gearing. Seven companies where the concentration of vote
         ownership made their classification of control type marginal
         were finally classified as owner control because they had
         very high gearing ratios.

2.   Each company is assigned to 1 of 7 groups according
         to vote concentration as follows:
         I   : Largest single holder has $>$ 50% of votes
         II : Largest single holder has 20-49% of votes
         III : Largest 20 holdings have $\geqslant$ 50% of votes
         IV : Largest 20 holdings have 30-49% of votes
         V   : Largest 20 holdings have 20-29% of votes
         VI : Largest 20 holdings have 10-19% of votes
         VII : Largest 20 holdings have 0-9% of votes

3.   The industrial classification used by Florence consists
         of his own amalgamation of these 21 groups into eight
         separate groups (for details see 1980, p. 39). The present
         study maintains the original breakdown of the SIC.

4.   Net assets = Issued Share capital (ordinary and preference)
         + capital and revenue reserves + future tax reserves + contracts
         for capital expenditure outstanding + interest of minority

shareholders in subsidiaries + long term liabilities.

5.   As might be expected the effect of adjusting the size
strata in this way is to increase the number of very large
and medium large companies at the expense of the number of
smaller large companies. The actual figures are:

	Florence classification	New classification
very large	76	86
medium large	43	51
smaller large	64	46

6.   As an independent check on the data issued share capital
in 1951 was calculated from the Cambridge data and compared
with the information given by Florence. For the medium large
and smaller large companies it was only possible to check
consistency by comparing the Cambridge figure with the
Florence group size limits. For the very large companies,
however, it was possible to compare two point estimates. In
only one case was an inconsistency found which was sufficient
to justify omitting the company concerned. In five other
cases it was found that the average distribution ratio over
the period (see below) was either negative or greater than
unity. These companies were also omitted.

7.   Of the 38 companies which did not exist for the whole
period data were available as follows:

For 5 companies data were available for a 6 year period

For 1 company data were available for a 7 year period

For 6 companies data were available for an 8 year period

For 3 companies data were available for a 9 year period

For 2 companies data were available for a 10 year period

For 10 companies data were available for an 11 year period

For 11 companies data were available for a 12 year period

8.   This was suggested by an anonymous referee of the journal in which this material first appeared.

9.   For further details of the calculation of this variable plus others discussed in this section see Chapter 2 section 4 and appendix 2.7.

10.   Further details concerning discriminant analysis and Mahalanobis D^2 can be found in Van de Geer (1971)

11.   These figures are calculated assuming that the a priori probability of a firm chosen at random being OC or MC are equal at 0.5. A better approach would have involved the use of the proportions of firms in each group in the overall Sargant Florence sample (which was stratified by industry and size) as estimates of the population proportions, but computer limitations prevented this.

12.   Introducing a more rigorous definition of owner control also contributes towards over-coming the possibility of a firm changing from owner control to management control over the period 1951-60. It could be argued that the resulting increase in share concentration in the owner controlled firms will make them more susceptible to take-overs and in this way more susceptible to a change in control type, but of the 20 owner controlled firms in the sample 17

are continuing companies.

13.   There are 4 main definitions of profits used in the empirical literature. These are given below along with the choice made by each author.

a) Income/Aggregate Net Assets

Radice, Child, Holl (1975), Cable and Dirrheimer

b) Price - Cost/Sales

Qualls, Bothwell, Shelton

c) Net Income/Equity

Thonet and Poensgen, Jacquemin & de Ghellinck, Kamerschen, Larner, Palmer, Elliott, Boydreaux, Sorensen, Ware, Kania and McKean.

d) Total Return (Stock price appreciation plus dividend return)

McEachern, Stano, Holl (1977)

Other authors included in the table but not yet listed in this footnote use a combination of at least 2 and sometimes all four of the above measures.

14.   Kamerschen concludes that there is no significant difference in profitability between the two groups in his sample using a two tail test at the 5% level. However, in this case a one tail test is more appropriate since we can predict a priori the direction of the expected difference between groups and if we were to use a one tail test at the 5% level the difference found by Kamerschen is significant. For this reason I have included his results amongst those that find a significant difference even though his conclusion is to the contrary.

15.   See footnote 19 of chapter 1 above for a definition

of each of the three control types introduced by McEachern.

16.   This is on the assumption that control type is a
dichotomous dummy variable that takes on the value 1 for
owner control and 0 for management control.

Chapter 5. Managerialism and External Capital Market Constraints

in U.S. Firms

> We have substantial ownership - I'm talking about 40% -
> that is vested in four or five parties who are all
> represented on our board and we feel that an unfriendly
> takeover would not be feasible as long as these investors
> are satisfied.
>
> > President, Dymo Industries (quoted
> > in Wall Street Journal (1974)).

> I'm sure there's a lot of disgruntled share-holders out
> there and I'm sure they'd all be unfriendly if the tender
> price were $300.
>
> > President, Tyco Laboratories Inc.
> > (quoted in Wall Street Journal (1974))

5.1 Introduction

The empirical results presented in the previous
chapter failed to find any significant performance difference
between OC and MC firms for a large sample of U.k. firms
using data for the 1950's. But in our discussion of the
results of other studies it was seen that such differences
were found when the control type variable was allowed to
interact with other important explanatory variables. With
this in mind we now introduce into the picture the market
for corporate control to see what effect it has on the
relationship between control type and company performance
for a large sample of U.S. firms.

The role of the market for corporate control was

discussed briefly in the first chapter where a distinction
was made between the punitive discipline and the corrective
discipline exercised by this market. In this chapter we
concentrate on the latter. In the next section the operation
of corrective discipline is discussed and an attempt is made
to formally model its activity by introducing a bivariate,
regression towards the mean, equation. In section 3 the
model is estimated and in the light of the results obtained
the effectiveness of the corrective discipline exercised
by the market is discussed. The model is extended in section
4 in order to investigate empirically the effect of corrective
discipline on the relationship between control type and
company profitability. Section 5 discusses various criticisms
of the model used and results obtained while section 6 replies
to these criticisms. A final section summarises the results.

5.2 Market For Corporate Control

The focal point of the analysis is the market for
corporate control and it is necessary to begin by seeing
how this market operates and to introduce an index to
be used in measuring its effect.

The market for corporate control is concerned
with the relationship between the market value of a company's
common stock and the value of the assets to which it relates.
If the former is divided by the latter we obtain the
valuation ratio which provides an index showing how rewarding
it would be for an outside interest to purchase control of
a company - other things being equal, the lower the ratio
the more profitable the purchase.[1] A management which is
not maximizing returns to the owners of the company will find
this fact reflected in a lower common share price. As the
market value of equity falls in relation to the value of
physical assets (i.e. as the valuation ratio falls) it
may become advantageous for an outside party to purchase
those shares and, with them, control of the company. If
this market is fully efficient management cannot do anything
but maximize returns to owners as the only alternative is
to forfeit corporate control. The market for corporate
control then becomes a constraint which prevents manage-
ment from directing returns away from the owners and ensures
that the interests of management and owners are synonymous.

The discipline exercised by this market is of
two kinds which for convenience can be referred to as being

punitive and corrective. Punitive discipline involves
corporate takeover and can be thought of as discipline in
the short run. It represents discipline in its most extreme
form. A takeover bid will occur when the valuation ratio of
a company falls low enough to encourage an outsider to attempt
to buy control of the company, a low valuation ratio in this
context being one that is less than the average for the
industry from which it comes. Since a takeover is usually
followed by the removal of the incumbent management, and the
loss of income and perquisites associated with top managerial
positions, it is a move that managers fear. Once a bid is
made there are various ploys that incumbent management can
pursue in an attempt to successfully reject the bid. It can
raise the dividend given to shareholders in an attempt to
maintain their support and drive up the price of the stock,
purchase its own shares in the open market from those ready
to sell and so reduce the amount of stock in unfriendly hands,
again driving up its price, buy the services of outside con-
sultants, encourage an enquiry into the bid by the Federal
Trade Commission, if there is any possibility of it offending
anti-trust laws, or even take legal action to try to prevent
the opponent from communicating with the company's share-
holders.[2] An alert management will usually know if it is
ripe for a takeover bid and is likely to have contingency
plans ready for such an event. While the existence of these
plans will not guarantee that a bid will be successfully
rejected it does suggest that defending management has a
definite advantage over an acquisition minded firm and that
the punitive discipline exercised by the market for corporate
control is likely to be only partially effective.[3]

It is partly because of this advantage of defending management over the raider firm that we see the market exercising what was previously referred to as corrective discipline. If a takeover is thwarted by raising the dividend or by purchasing its own shares in the open market the price of the company's stock will increase. This in turn will increase the valuation ratio and the cost of the takeover to the raider firm. Another situation in which such corrective discipline may be exercised occurs when purchasing control results in expenditure so large that it has to be distributed over a long period of time. When an attempt is made to purchase control in this way a defending management will soon become aware of it as shareholder lists are continually updated, and there will be sufficient opportunity to introduce policy adjustments which result in an increase in the valuation ratio. The continued purchasing of control will then be far less attractive. In general if the market operates efficiently a firm cannot remain an attractive takeover possibility in the long run; the corrective discipline of an efficient market for corporate control constrains a firm to pursue policies which result in its valuation ratio moving towards the long run industry average.

It has been seen that the punitive discipline of the market may be only partially operative and this may be true of the corrective discipline also. This will particularly be so in the case of large firms where buying control is likely to be a risky venture. A premium for this risk will have to be reflected in the valuation ratio and it could be that the valuation ratio of a company is low but not low enough to include an adequate risk premium for a potential buyer. The

risk element involved may also result in there being few
buyers in the market so that demand and supply may be out
of phase in much the same way that those seeking employment
in the labour market may not match the vacancies that exist.
Moreover, as Stigler (1961) has pointed out, knowledge is
not a free good and including the cost of information
necessary for the decision-making process might make an
otherwise profitable venture into an unprofitable one. For
any one of these reasons, then, it is possible that corporate
management can escape both the punitive and corrective
discipline of the market for corporate control and it is
this fact that has implications for the relationship between
corporate performance and the separation of ownership from
control. If the market operates imperfectly it may be
possible for the management of some firms to pursue goals
which are not in line with those of the owners, that is to
say, management will be able to divert returns away from the
owners. Thus, instead of comparing the behaviour of owner-
controlled firms with that of management-controlled firms,
as done in previous studies it is necessary to compare the
behaviour of owner-controlled firms with the behaviour of
those management-controlled firms that are able to overcome or
evade the discipline of the market for corporate control. In
order to test this line of reasoning it is first necessary
to investigate empirically whether such a market exists.
This is considered in the next section.

5.3 Corrective Discipline

The empirical evidence that exists to date relates
mainly to the exercise of market discipline of the punitive
form, that is to say, discipline expressed directly through
the takeover mechanism. Hindley (1970) calculated the
valuation ratios of a sample of U.S. companies where each
member had experienced an attempt to buy control which was
met by opposition from the existing management.[4] This group
was compared with a control group consisting of firms which
had not experienced an attempt to buy control. He found
that on average the valuation ratios of the companies in the
former group were significantly lower than for the control
group but there was considerable variation in the values for
each group suggesting that the takeover mechanism allowed
considerable freedom of action on the part of management.
Similar evidence has been found for British firms. In a
study based on a stratified sample of 250 firms for 1961
Kuehn (1969) found a statistically significant relationship
between the probability of takeover and the valuation ratio.
And Singh (1971) in a study of all companies quoted on the
U.K. Stock Exchange between 1955 and 1959 found evidence
suggesting the existence of an inverse relationship between
the valuation ratio and the probability of takeover though
this relationship was not very strong. Again, the conclusion
seems to be that the takeover mechanism operates, albeit
somewhat imperfectly.

Further related evidence is provided in two recent
papers by Pickering (1978, 1983). From amongst the 1205 actual
or proposed mergers that were referred to the Monopolies and

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Mergers Commission between 1965 and 1975 he was able to identify 171 which were later abandoned. A major cause of abandonment was found to be the successful rejection of the bid by encumbent management which is entirely consistent with the effective operation of the market for corporate control. For example, Pickering reports that "on occasions a friendly institution or merchant bank bought shares in the market in order to keep up the share price and reduce the proportion of shares committed to accepting the offer." (1983, p. 272).

The evidence presented in this section relates to the corrective action of the market for corporate control investigating whether there is a tendency for the distribution of the valuation ratios among firms to move towards a long run average value over time. This is approached via the use of a bivariate regression equation. Consider the relationship

$$VR_{it} = a + bVR_{it-1} \qquad \ldots\ldots\ldots(1)$$

where VR_i is the valuation ratio of the ith firm in a given industry, t and t-1 are long run time periods and a and b are constants. If $o < b < 1$ there is a movement amongst VR_i towards the long run industry average between time periods t-1 and t. This is most easily explained with the help of diagram 5.1 which shows equation (1) with a value of $o < b < 1$ and the regression line passing through the point of intersection of means of the two variables (i.e. $\overline{VR}_{it}$ and $\overline{VR}_{it-1}$). Consider a firm with a valuation ratio VR_1 in time period t-1. Given the relation in equation (1) and a value of b which is positive and fractional the value of this firm's valuation ratio in period t is VR_{1t}. In each period its valuation ratio is below the long run average value for all firms, but less so in period t than in period t-1. This will be true of all firms with a below average value in

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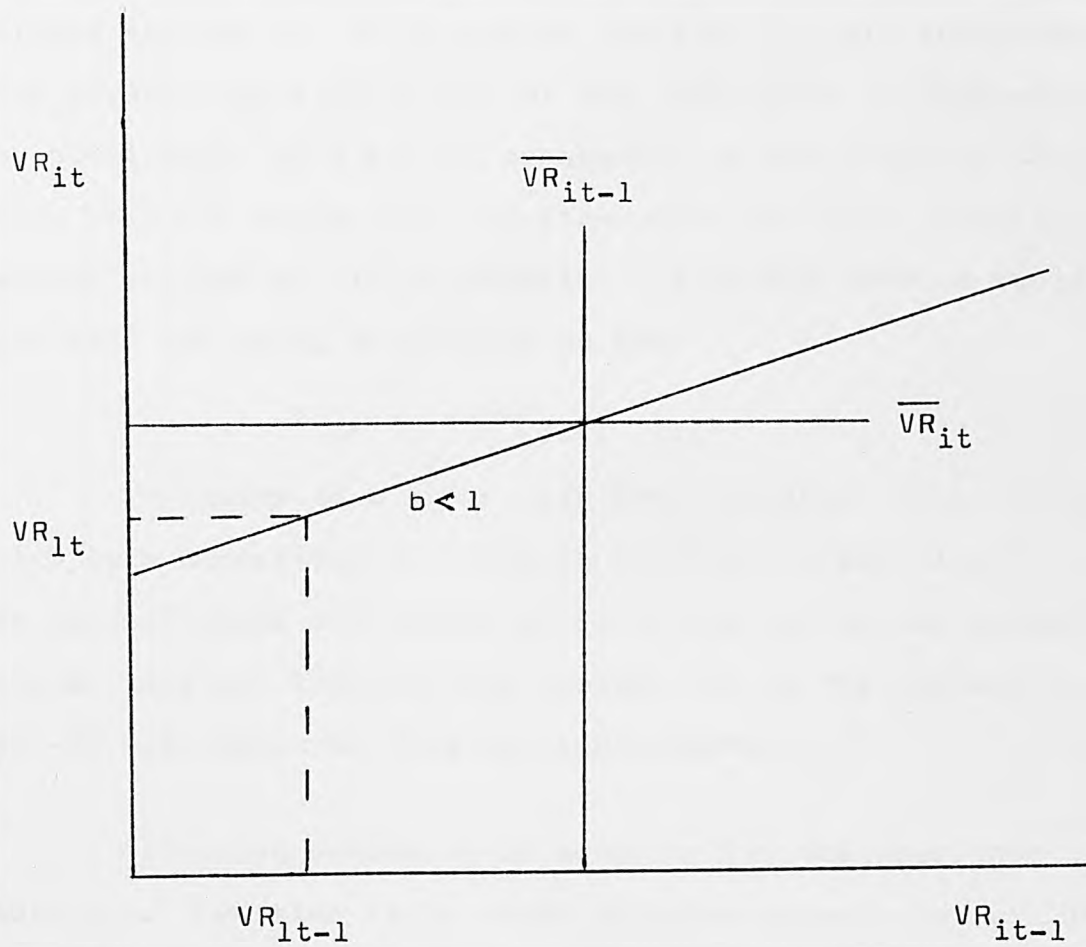
Diagram 5.1 Regression Towards the Mean.

t-1.[5] Such a situation is consistent with the market for
corporate control acting as a constraining force causing firms
to adjust their policies, bring their below average valuation
ratios more into line with the long run average for the industry.
Note that the constraint is only partially effective between
periods t-1 and t. If b remains constant for all subsequent
time periods the full effect of the constraint is approached
asymptotically; if $b \geqslant 1$ the constraint is non-existent while a
value of b = o means that the constraint is fully effective
between t-1 and t. If to equation (1) is now added a stochastic
term with the usual properties we have

$$VR_{it} = a + bVR_{it-1} + U_i \qquad \ldots \ldots \ldots (2)$$

Estimates of a and b have been obtained using 360 firms
which were classified as being in the Fortune 500 list in 1965.
For each of these the valuation ratio was calculated annually
between 1960 and 1969 and the average values for 1960-64 and
1965-69 were taken as long run indicators.

Differing estimates of equation (2) are presented in
table 5.1. Equation (2.1) which contains results for all 360
firms in the sample, reveals an estimated value of b equal to
0.88. While this value is fairly close to unity the t ratio
of 4.0, based on the null hypothesis that b = 1, suggests that
b is significantly less than one at both the 95% and 99% levels
of significance. This result suggests that while the corrective
discipline of the market for corporate control quite clearly
operates it does so rather imperfectly.

In the previous section it was suggested that this
imperfection may be in part a direct function of corporate

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Equation number	Rank	Number of firms	$\hat{a}$	$\hat{b}$	R^2	t
2.1	1-500	360	0.4407	0.8781 (0.0304)	0.6994	4.01[a]
2.2	1-125	115	0.4586	0.8527 (0.0664)	0.5917	2.22[b]
2.3	126-250	87	0.2543	1.0100 (0.0582)	0.7800	0.17
2.4	251-375	84	0.4945	0.7887 (0.0478)	0.7682	4.42[a]
2.5	376-500	74	0.7493	0.7402 (0.0672)	0.6277	3.87[a]
2.6	1-250	202	0.3294	0.9430 (0.0441)	0.6959	1.29
2.7	251-500	158	0.6062	0.7714 (0.0382)	0.7225	5.98[a]
2.8	126-250[c]	86	0.5458	0.8600 (0.0619)	0.6969	2.26[b]
2.9	1.250[c]	201	0.4932	0.8582 (0.0458)	0.6381	3.12a

a   Coefficient is less than unity using $P = 0.01$

b   Coefficient is less than unity using $P = 0.05$.

c   Company ranked 192 omitted

Figures in parentheses are standard errors

The t ratio is based on $H_o : b = 1$.   Modulus value given.

Table 5.1 Estimated Parameters For Equation 2.

size, and it is possible to consider this further with
the information collected since the largest company in the
sample (General Motors) is almost 100 times larger than the
smallest (Detroit Steel) and this amount of size variation
may well be sufficient to allow the market to have a
differential impact within the sample. In order to invest-
igate this possibility the entire group of companies was
divided into four subgroups with equation (2) being estimated
separatey for each. Thus, group one (equation 2.2)
contains companies ranked 1-125, group two (equation 2.3)
contains companies ranked 126-250, etc. For companies
ranked 1-125 there is a movement towards the long run average
valuation ratio but while the slope coefficient of 0.85 is
less than unity at a 95% level of confidence it is not so
using 99% limits. This weaker result is confirmed further
by the results for companies ranked 126-250. For these
companies b is estimated to be 1.01. With a standard error
of 0.06 this value is consistent with a population coefficient
of 1 suggesting that for these companies market discipline
is non-existent. For equation (2.4) and (2.5), however,
relating to companies ranked 251-375 and 376-500 respectively,
the situation is quite different. In each equation the
estimated slope coefficient is clearly significantly less
than 1 and has a value lower than any of the previous values.
This change of emphasis resulting from change in corporate
size is seen more clearly in equations (2.6) and (2.7).
The former relates to companies ranked 1-250 (groups 1 and
2 combined) and the estimated value of 0.943 is not less than
unity at even 95% limits. This situation is reversed in
(2.7) for companies ranked 251-500 (groups 3 and 4 combined)

where b = 0.77 is significantly less than 1 at a 99%
significance level.

These results, however, are marred by the fact
that they are disproportionately dependent on the presence
of just one company. This company, Avon Products ranked
192, had valuation ratios of 12.59 and 16.84 for successive
five-year periods and this one observation which is highly
atypical biases the slope coefficient in equations (2.3) and
(2.6) in an upward direction. The results of re-estimating
these equations omitting this company are given as equations
(2.8) and (2.9). In (2.8) b is less than 1 using 95% limits
and in (2.9) it is less than 1 at 99%. If these two equations
replace (2.3) and (2.6) the significance tests do not suggest
that the operation of the market is dependent on size though
it still remains true that the value of the coefficient falls
as corporate size increases. Clearly, adjusting the samples
in this way is not good practice but conversely, confidence
in the results must be weakened when they are heavily
dependent on the presence of just one company in a fairly
large sample.

With the data collected it is possible to consider
whether the operation of the takeover mechanism is affected
by corporate size. The relevant figures are presented in
table 5.2. If the effect of the takeover mechanism varies
according to size it is to be expected that the proportion
of companies taken over will vary between pairs of groups.
Assuming that the proportion of companies taken over or merged
in each group is binomially distributed we can use the normal

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Group	Rank	No. of companies taken over or merged	Calculated Z
1	1-125	5	$Z_{2.3}=0.33$
2	126-250	18	$Z_{1.2}=2.97^a$
3	251-375	20	$Z_{1.3}=3.24^a$
4	376-500	21	$Z_{1.4}=3.38^a$
1 and 2	1-250	23	$Z_{12.34}=2.45^a$
3 and 4	251-500	41	$Z_{3.4}=0.17$

a Calculated value significant with 99% limits using null hypothesis of no difference between proportions; one tail test

Table 5.2 Tests of Differences Between Proportions.

distribution as an approximation and test for differences in proportions for pairs of groups. However, since no attempt has been made to control for the effect which other variables might have on these proportions this is, at best, a crude approach. The Z value for differences in proportions for groups 1 and 2 ($Z_{1.2}$) equals 2.97 which is significant at 99% using a one tail test. Similarly comparisons between groups 1 and 3 ($Z_{1.3} = 3.24$) and groups 1 and 4 ($Z_{1.4} = 3.28$) show significant differences at the same level of confidence. However, comparisons involving pairs of groups taken from groups 2,3 and 4 did not reveal any differences. Finally, it was decided to test for significant differences between groups 1 and 2 combined and groups 3 and 4 combined. Again, the observed difference yielding a t value equal to 2.44, was found to be significant.

In general, the evidence presented and discussed suggests two main conclusions. First, a market for corporate control exists though its discipline is somewhat imperfect; second, the amount of imperfection probably increases with company size. The implication of both conclusions taken together is that there is room for some management-controlled firms to behave differently from owner-controlled firms, particularly amongst the biggest firms in the country.

5.4 Corrective Discipline and Control Type

If the market for corporate control affects the relationship between control type and corporate performance the problem that immediately arises is how to analyse this empirically. One possibility that suggests itself follows from the argument developed in the previous section. If a firm has a low valuation ratio for the period 1960-64 one of three things can happen in the period 1965-69. First, it can be taken over; this possibility, however, is ruled out here since the 360 firms of interest continued in existence throughout the period. Second, it can be subject to the corrective discipline of the market. If the reasoning behind diagram 5.1 is extended in the light of the stochastic specification contained in equation (2), this will result in a value of $VR_{it} \geqslant \hat{VR}_{it}$. Third, it may be unaffected by the market in which case VR_{it} will be less than $\hat{VR}_{it}$. In short, the difference between VR_{it} and the value of VR_{it} as given by the mechanism contained in equation (2) can be used as an index of the effectiveness of the market for corporate control.[6] The differing possibilities are shown in diagram 5.2 which shows the estimated equation (2.1) passing through the point of intersection of the average values of VR for both time periods. The main observations of interest are those that fall to the left of $\overline{VR}_{it-1}$ and below the estimated regression line, since these represent companies that are not subject to market discipline.

The classification of control type is based on the

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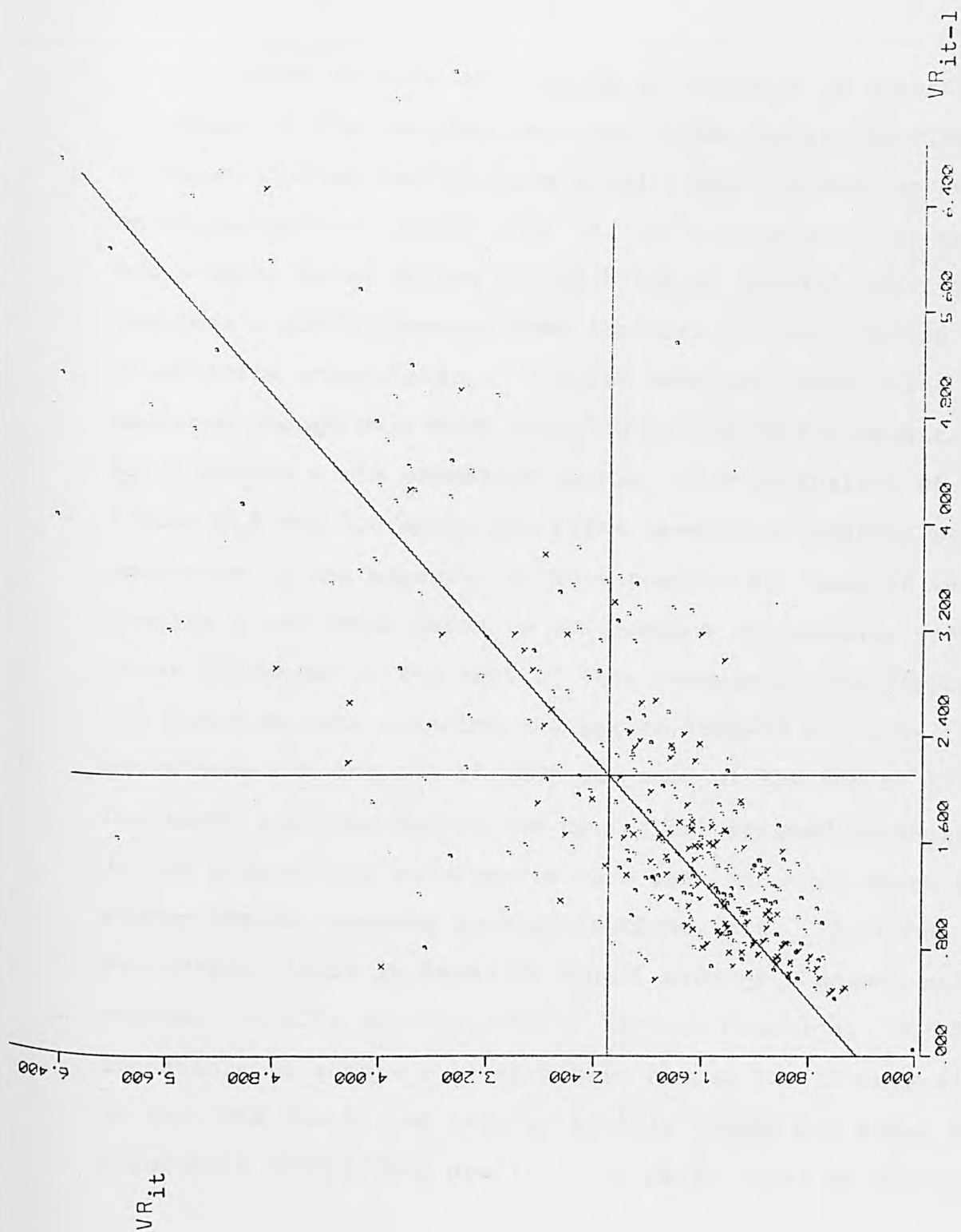
Diagram 5.2 Estimated Regression Line and Scatter of Points.

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scheme used by Palmer (1972 a). If one party owns at least 30% of the common stock the firm is classed as strong owner control: more than 10% but less than 30% is akin to weak owner control while the rest ($<$10%) are management controlled.

Only one measure of corporate performance is directly important in the results presented below, namely profits. In previous studies profits have usually been defined as net return on stock-holders' equity that is, net income over net worth. But a model based on the maximization of owners' utility requires a profit measure that includes dividend return and stock price appreciation. Results were generated using both measures though only those relating to the latter measure - total return - are presented below. (The equivalent of tables 5.3 and 5.4 using the first measure of profits are presented in the appendix to this chapter but none of the results given there leads to conclusions at variance with those discussed in the rest of this section). The figures are based on data covering the period 1962-72 assuming that stock owned at the end of 1962 was sold at the end of 1972. Dividends received during the period are assumed re-invested in the company and adjustments have been made for stock splits, rights issues, company re-organizations, etc. The final percentage figure is based on annual average changes, com-pounded annually and reported in Fortune Magazine. It proved impossible to obtain a total return figure for 17 companies so that the sample was reduced to 343. Table 5.3 shows the results of classifying profits into cells based on control.

	Strong OC	Weak OC	MC	All OC	All OC and MC
Companies with $VR_i < \hat{VR}_i$ in 1965-69	12.44 (17)	8.88 (28)	7.72 (84)	10.22 (45)	8.59 (129)
Other companies	13.11 (28)	13.32 (45)	11.41 (141)	13.24 (73)	12.03 (214)
Total	12.86 (45)	11.62 (73)	10.03 (225)	12.09 (118)	10.74 (343)

Figures in parentheses are numbers of firms in relevant cells

Table 5.3 Average Profitability Across Firms Using Two-Way Classification.

type and whether a company with a low VR in 1960-64 has a value for VR_i for the period 1965-69 which is $\gtreqless VR_i$ as given by equation (2.1). For each cell profits for the period 1962-72 were averaged across firms, the number of firms in each case being listed in parentheses.

Before carrying out any significance tests using these figures various adjustments have to be made. An observed difference between any two figures taken from the table may result from the effect of extraneous variables rather than from the two-way classification used. In particular it is known that profitability is affected by corporate size and by product market structure. The effect of these variables on the profitability figures given in the table above has been brought under control by taking matched samples, that is to say, in the comparison of any two cells each company included in one cell is matched in the other cell by a company of the same size that operates in a comparable market structure. Matching by size was done by comparing Fortune ranking for 1965. Each pair was matched such that a company ranked i was coupled with another ranked no more than i + 30 and no less than i - 30. The market structure index used is one developed and usedby Palmer (1972 b). Each four-digit industry was assigned to a group with an index measuring the barriers to entry depending on whether these barriers were very high (index 1), substantial (index 0.5) or moderately low (index 0). For each firm in the sample a composite, weighted barriers to entry index is then calculated by taking the sum of these indices weighted by the proportions of the firm's sales assigned to industries in each barrier

to entry group. Depending on the size of the index the firm is said to operate in a market structure of high monopoly, medium monopoly or low monopoly.

There are two comparisons that are of interest, the first being the comparison of profitability of all owner-controlled firms with all management-controlled firms. Using information given in Table 5.4 this involves comparing the values of 12.09 with 10.03. Using the standard t test for testing for differences in means we obtain a t value of 2.45. The null hypothesis of no difference between mean values is rejected using 95% confidence limits for a one tail test. When companies are matched by size the respective profit figures are 11.93 and 10.06 with 113 observations for each group. The t statistic when firms are matched by size is 1.93 which again leads to rejection of the null hypothesis of no difference between mean values. When companies are matched by size and market structure the profit figures become 10.98 (OC) and 9.89 (MC) with 81 firms in each group. Here we find that the profit figures matched by size are biased upwards in each case (though more so for OC than for MC firms) and that the new t statistic of 0.95 reverses the previous conclusions, that is, when the bias resulting from differing size structures and market structures is removed the resulting difference in profitability is not significantly different from zero. This is consistent with the results of a number of previous studies.

The central comparison of interest involves OC

	Sample	OC	MC	MC*	t
All companies	1	12.09 (118)	10.03 (225)		2.45[a]
Matched by size	2	11.93 (113)	10.06 (113)		1.93[a]
Matched by size and structure	3	10.98 (81)	9.89 (81)		0.95
All companies	4	12.09 (118)		7.72 (84)	4.86[b]
Matched by size	5	11.38 (64)		7.78 (64)	2.95[b]
Matched by size and structure	6	11.26 (40)		6.73 (40)	3.10[b]

a Significant difference in average values, 95% limit, one tail test

b Significant difference in average values, 99% limit, one tail test

Figures in parentheses are numbers in samples for relevant cells.

Table 5.4 Average Profitability Across Firms Using Matched Samples.

firms and those MC firms able to evade the discipline of the market for corporate control, the latter group being designated MC^*. For each pair of mean values for OC and MC^* firms the observed difference is highly significant. Removing the effect of bias resulting from corporate size, that is moving from sample 4 to sample 5, lowers profits of the OC companies while marginally increasing those of MC^*. Moving from sample 5 to 6 and removing the effect of differing market structures lowers further the profits of both MC^* firms and OC firms. The resulting differential is 4.53 percentage points and the associated t ratio of 3.10 suggests that the probability of this difference not being significant is extremely small. Clearly imperfections in the market for corporate control allow some MC firms to report profit figures markedly below those reported by OC firms in general.

5.5 Criticism

The results presented in the previous sections of
this chapter were published in the Journal of Industrial
Economics in June 1977. A few years later they were criticised
by Michael L. Lawriwsky from La Trobe University in Victoria
and his criticism plus my reply were published in the J.I.E.
in June 1980. The rest of this section contains the comments
made by Lawriwsky and my reply to them is contained in the
section that follows.

"In a recent article appearing in this Journal,
Holl (1977) tests the proposition that firms which are contro-
lled by professional managers will fail to maximise profits.
Several studies in the US have concluded that the separation
of ownership from control has had little or no effect on
company profitability, and Holl's main point is that these
have failed to consider the restraint imposed by the market
for corporate control. Holl argues that when this is done
the hypothesized non-profit maximising behaviour of profe-
ssional managers is demonstrated, although the extent of the
effect is less general than has been thought (i.e. it is
limited to those management controlled companies which can
evade the discipline of the market). The purpose of this
note is to show that proponents of the separation thesis should
not be heartened by the result achieved by Holl, since it is
heavily dependent on the form which his hypothesis takes.

Holl's central hypothesis is the managers in
management controlled (MC) firms unconstrained by the market

for corporate control will take advantage of their independence and, in pursuing their own (growth maximising) ends, earn lower returns than are available in owner controlled (OC) firms. Holl surmises that the constraint imposed by the market for corporate control is manifested in two ways. First, there is the punitive discipline which arises when a company is actually taken over. The second form of restraint is the continuing corrective discipline which is exercised by the market in the longer period. An efficient market for corporate control will constrain 'a firm to pursue policies which result in the valuation ratio moving towards the long run industry average' (Holl, 1977 p. 261). But if companies can maintain below average valuation ratios for lengthy periods without being taken over, this indicates they have somehow managed to evade market discipline.

Although it is not mentioned by Holl, in his sample the proportion of OC firms which apparently were unconstrained by this market discipline is actually slightly higher than that for MC firms (38.1% as against 37.3%). This result calls to mind the findings of several earlier studies. Hindley (1970) employed the inverse of the valuation ratio (R) as a measure of efficiency in order to test the effectiveness of the market for corporate control in the U.S. during the late 1950's and early 1960's. He found that while most contested companies had an R value higher (and thus a valuation ratio lower) than their industry median, a significant proportion had high R values and yet control was retained. It was concluded that the market was at least partially ineffective. Interestingly, a major cause of this apparent

ineffectiveness was reasoned to be the existence of a higher proportion of majority interest companies among the high R survivors than among a random sample of companies. Palmer (1972), on whose sample Holl's study is based, also found that his 'tests strongly suggested that management-controlled firms, especially in the smaller size classes, were much more likely to be merged into or acquired by other firms than were owner-controlled firms' (p. 59). A similar effect was also observed in a study conducted by Kuehn and Davies (1973). Thus, it appears that owner controlled companies may - because of their tight ownership of stock - evade market discipline, and as several writers have suggested (for example, see McEachern (1978), Nichols (1969) and Reder (1947)) owner-controllers may have utility functions composed of elements apart from profits.

Holl shows that over the period 1962 to 1972 OC firms had an average market rate of return of 12.09% as compared with the 10.03% earned by MC firms. This difference is statistically significant at the 0.05 level, but when the bias resulting from different size and market structures is removed by matched samples, figures of 10.98 and 9.89% respectively are obtained, and the null hypothesis of no difference in the mean values is accepted. Next Holl states that 'the central comparison of interest involves OC firms and those MC firms able to evade the discipline of the market for corporate control' (p. 270). Thus, Holl compares profit-ability figures of 12.09% for all OC firms and 7.72% for those MC firms which have evaded market discipline. Matching by size and structure the corresponding mean rates of return of 11.26%

and 6.73% are significantly different at the 0.01 level.
He concludes that 'imperfections in the market for corporate
control allow some MC firms to report profit figures markedly
below those reported by OC firms in general' (p. 270). My
contention is that Holl has merely proved the obvious.
There is probably no doubt that any random selection of
companies which have below average valuation ratios can be
shown to have earned lower profits than another random
selection not distinguished by the level of market valuation.

It is curious that Holl should bias his hypothesis
in this way. Since some owner-controllers may have motiv-
ations similar to those of the professional manager, Holl's
model does not hold all other factors constant. A more
logical test would be to compare the profitability performance
of those MC firms which are unconstrained, with those OC
firms which are similarly unconstrained by the market for
corporate control. In that case Holl would be comparing, in
the first instance, a rate of return of 7.72% for MC firms
against a figure of 10.22% for OC firms (not 12.09% as before).
Since matching by size and market structure originally lowered
the profitability of OC firms by a greater margin, it is quite
possible that no significant difference would be found. But
while such a finding may indicate no difference in profitability
performance based on control-type it would not rule out the
possibility that managers (with or without a substantial owner-
ship interest) who are unconstrained by the market for corporate
control are sacrificing profits for alternative objectives.
Such questions simply cannot be resolved within the owner
control/manager control framework."

5.6 Reply

There seem to be three main points raised by Professor Lawriwsky's note, one theoretical and the others empirical: first, the utility functions of firms, whether OC or MC, must have more than one argument in order to be realistic; second, the results obtained are guaranteed because of the correlation between VR and profitability; third, the comparison between MC^* and OC should be replaced by the comparison of MC^* with OC^* (where an asterisk denotes companies that are able to evade the discipline exercised by the market for corporate control). I will reply to each in turn.

As Professor Lawriwsky points out, the utility function of any manager is likely to contain a range of separate arguments rather than just profitability. This is not at issue. What is at issue is whether the selection of just one of them is a meaningful exercise. Ultimately this has to be decided on the basis of evidence presented but even then the evidence is rarely conclusive. I have argued below that the results presented reflect an important behavioural characteristic in the analysis of corporate behaviour but I realize also that other variables relevant to the analysis have not been included. Whether or not the inclusion of these variables results in this characteristic becoming statistically insignificant (meaning that my results are biased) further research alone will show. Professor Lawriwsky mentions this at the end of his note. Indeed, I am at present in the throes of processing data in order to see whether the internal

characteristics of the firm (specifically the organisational structure and diversification strategy) along with control type have an effect on company performance. It may be, for example, that an OC company fails to maximize returns to owners because of a sub optimal organizational structure and that the concentration of share ownership insulates the company from market discipline. Such a study will make a contribution towards holding constant even further variables that might contribute to any bias that my previously published results might contain.

The second point centres on the relationship between VR and profits. Clearly in classical theory the valuation ratio and profitability are different indices of the same thing, namely, the efficiency of the firm and one would expect therefore that these two should be highly correlated. However, given the inefficiency of the market for corporate control there is considerable room for deviation between the two. Evidence of this point is presented in the study by Whittington and Singh (1968). They find that for British companies the value of R^2 between VR and return on equity assets for various industries to be of the order 0.08 (p. 285), 0.25 (p. 286), 0.14 (p. 288), 0.06 (p. 289), 0.34 (p. 291), 0.06 (p. 292). Moreover Kuehn (1972) found that in the regression of VR on profits for each of 67 industries only 26 showed a positive and significant relationship and for these 26 industries the explanatory power in most cases was very low. For the 343 companies in my study the value of R^2 in the regression of VR on profitability (total return) was found to be 0.11. On the other hand the

value of R^2 between VR and the other profitability measure mentioned in my paper (net return on stock-holders equity) was 0.52. Since I used the former measure of profits when calculating my results it is not true to say that 'There is probably no doubt that any random selection of companies which have below average valuation ratios can be shown to have earned lower profits than another random selection not distinguished by the level of market valuation'. On the basis of this evidence I would say that the results obtained in the comparison of MC* and OC far from being guaranteed relate to an important behavioural characteristic in the analysis of company performance.

The final comment concerns my decision to compare the performance of MC* firms with OC firms in general. I chose to compare MC* firms with all OC firms (rather than OC* firms) because I reasoned that the management of an OC firm is quite at liberty to divert funds away from the owners if it wishes on the assumption that the managers are the owners. In an MC firm this clearly is not so. However, my reasoning is questionable if we consider the distinction, as McEachern (1975) does, between those OC firms which are owner managed and those that are not. In the latter case the managers are not free to divert funds from the owners. Thus, following the suggestion of Professor Lawriwsky I have made the comparison between the profitability of OC* and MC* firms. The results are given over the page in table 5.5.

When all OC* and MC* are compared the difference in average values of 2.5 is found to be significant. When

	OC*	OC	MC*	t
All companies	10.22 (45)		7.72 (84)	2.38[a]
Matched by size and structure	10.19 (40)		7.97 (40)	1.79[a]
Matched by size and structure		11.26 (40)	6.73 (40)	3.10[b]

a = significant difference in average values, 95% limit, one tail test

b = significant difference in average values, 99% limit, one tail test

Figures in parentheses are numbers in samples for relevant cells.

Table 5.5   Average Profitability Across Firms

Using Matched Samples

these companies are matched in terms of size and market structure the observed difference of 2.2 is also found to be significant at the 5% level. One further point is worth noting. The difference in profitability between OC and MC* comparing matched samples is 4.53 percentage points and is highly significant. This difference falls to 2.2 in the comparison of OC* with MC* but this change is more the result of an increase in the value for MC* than a fall in the value for OC*, that is the fall in the difference between average values is the result of sampling errors rather than the removal of bias in the average value of OC firms.

5.7 Conclusions

The results presented in this chapter have shown that the corrective discipline of the market for corporate control is an effective policing agent in the industrial sector. However, this efficiency probably declines as company size increases.

Armed with this result we then considered its implications for the relationship between control type and corporate profitability. It was found that for all firms in the sample there were no significant differences in profitability between OC and MC firms. But when the corrective discipline of the market for corporate control was introduced such differences became apparent. In particular only those MC firms not constrained by the corporate control market were able to report significantly lower profits than OC firms. Clearly the effect of the external capital market has important implications for the separation thesis for it limits the degree of managerial discretion that is possible in management controlled firms. In short it constitutes one of the "checks on the use of power" which Berle and Means overlooked in their analysis of the separation of ownership and control.

5.8 Appendix: Using an Alternative Measure of Profitability

In section 5 of this chapter the results presented and the conclusions reached were based on the use of a measure of profitability that included both stock price appreciation and dividend return. Moreover, it was stated that the results obtained using an alternative measure of profits, namely net income over net worth were basically the same as those presented in tables 5.3 and 5.4. This can be seen by comparing these tables with the two given in this appendix which are based on the second measure of profitability. Table 5.3 is to be compared with 5.6 and table 5.4 is to be compared with 5.7. The comparison involving the latter pair is the more revealing as it can be seen that the t ratios suggest significant differences at the same significance levels in each case showing that the conclusions reached are independent of the definition used.

	Strong OC	Weak OC	MC	All OC	All OC and MC
Companies with $VR_i < \hat{VR}_i$ in 1965/69	10.34 (17)	9.96 (29)	9.60 (92)	10.10 (46)	9.77 (138)
Other companies	13.69 (29)	15.62 (47)	13.66 (146)	14.88 (76)	14.08 (222)
Total	12.45 (46)	13.46 (76)	12.09 (238)	13.08 (122)	12.43 (360)

Notes: Figures in parentheses are numbers of firms in relevant cells.

Table 5.6: Average Profitability (Net Income/Net Worth) Across Firms Using Two Way Classification

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	Sample	OC	MC	MC*	t
All companies	1	13.08 (122)	12.09 (238)		1.89[a]
Matched by Size	2	13.08 (122)	11.62 (122)		2.48[a]
Matched by size and Structure	3	13.36 (86)	12.45 (86)		1.30
All companies	4	13.08 (122)		9.60 (92)	7.57[b]
Matched by size	5	12.92 (72)		9.51 (72)	5.64[b]
Matched by size and Structure	6	13.10 (44)		9.31 (44)	5.43[b]

Notes: a   Significant difference in average values, 95% limits, one tail test

b   Significant difference in average values, 99% limits, one tail test

Figures in parentheses are numbers in samples for relevant cells.

Table 5.7:   Average Profitability (Net Income/Net Worth)

Across Firms Using Matched Samples

Footnotes to Chapter 5

1. The valuation ratio can also be thought of as the price of
    common stock normalized across companies in terms of
    assets per common share. With this in mind the subsequent
    discussion concerning the relationship between the valuation
    ratio and the returns received by owners is the same as
    the relationship between share price and managerial
    efficiency which is discussed by Manne (1965). In fact
    his analysis is central to a large part of what follows
    although he is concerned only with the corporate control
    market as expressed through the takeover mechanism. It
    should be noted that the ceterus paribus assumption is
    important. The valuation ratio reflects the market's
    valuation of the cost to a potential buyer of purchasing
    control. Clearly, the buyer will weigh this cost against
    his estimate of the returns to be received after purchase
    and amongst potential buyers there is room for considerable
    variation as to the extent of these returns. But this
    variation will be reflected in the premiums offered by
    the buyers and not in the valuation ratio itself. It
    then still remains true that, other things being equal,
    a fall in the valuation ratio makes the purchase of control
    more profitable and vice versa.

2. These and other examples are discussed further in Hayes
    and Taussig (1967). Numerous other more recent illust-
    rations can be found in an article entitled "Sitting
    ducks. Company Executives Shore Up Defences Against Take-
    overs. Valued Over Market Firms are Vulnerable to Raids",
    in Wall Street Journal, October 21st, 1974.

3.   If a bidding company expects resistance its chances of
     a successful raid are best if the offer is in terms of
     cash, but even then its probability of success may not
     be too high. Of 83 contested cash bids between 1955 and
     1965 only 29 were successful; see Hayes and Taussig
     (1967).

4.   Hindley considers the relationship between net tangible
     assets and the market value of equity - a ratio which he
     calls R and which is the inverse of the valuation ratio.
     His estimate of a firm's average annual share price is
     taken as the price quoted on the last day of trading
     of the year in question. Since share price figures are
     highly volatile this approach introduces the possibility
     of serious measurement error. An alternative approach is
     used here though it too has its problems; the approach
     and its problems are discussed in the text.

5.   If $o < b < 1$ it also follows that on average companies
     with an above average valuation ratio in time period t-1
     will have an above average value, though less so, in
     period t. Although these firms are also subject to the
     discipline of the market our interest centres only on
     those with below average values in both time periods.

6.   It was noted above that estimates of equation (2.1) were
     affected by the atypical values of VR for Avon Products
     and it is of interest to know how the presence of this
     company affects the index. The equation obtained
     including this company is $\hat{VR}_{it} = 0.44 + 0.88\ VR_{it-1}$ while
     that obtained excluding it is $\hat{VR}_{it} = 0.54 + 0.82\ VR_{it-1}$.
     These two lines are shown diagramatically where the
     former is labelled A and the latter B. The two curves

intersect at approximately the point of intersection
of means for each line so that the approximate effect
of using equation A (rather than B) is to exclude from
the group of companies for which $VR_{it} < \hat{VR}_{it}$ a number
of firms which would be included in this group if
equation B were used instead. These firms would fall
in the shaded area shown though the number affected in
this way is fairly small.
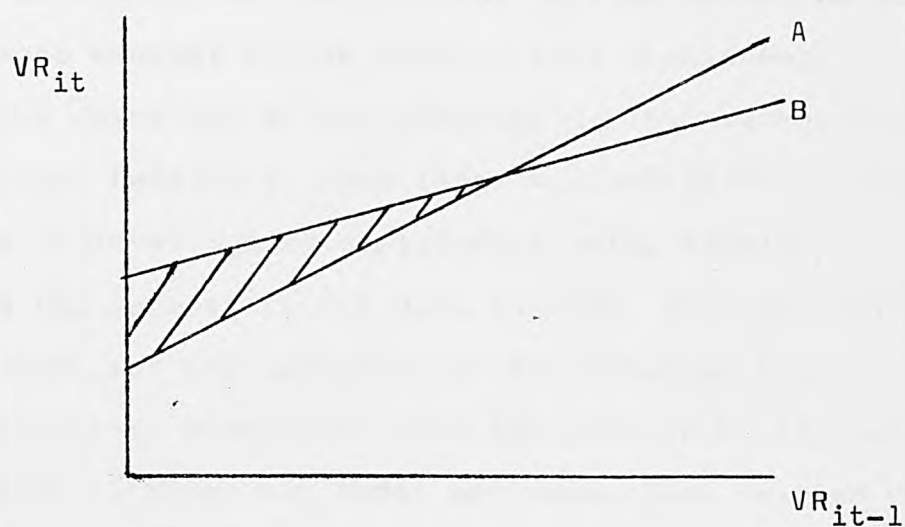
Chapter 6: Managerialism and Internal Capital Market

Constraints in U.K. Firms

6.1 Introduction

Having seen in the previous chapter that the relation-
ship between corporate control and performance is affected by
the efficiency of the external capital market we proceed in the
present chapter to ask whether this relationship is also affected
by the operation of the internal capital market which has become
a common feature of many large multidivisionally organised firms.
This is investigated empirically using samples of firms taken
from the largest in the U.K. in 1950, 1960 and 1970. Since the
argument for the operation of the internal capital market is
particularly associated with the work of Williamson the next
section outlines his model and summarises related empirical work.
After a discussion of the features of the firms in our sample
and the data used in section 3 the M form thesis of Williamson
is tested in two different ways in sections 4 and 5. Finally,
and crucially, the relationship between control type and
company performance is investigated within the context of the
operation of internal capital market constraints. The results
are summarised in section 7 .

6.2 The Williamson Model and Previous Empirical Work

The current interest among economists in the relationship between organisational structure and economic performance stems in large part from the intriguing study of corporate strategy and structure by Chandler (1962). Although his material was analysed from the viewpoint of the business historian it has been integrated into mainstream economics in the work of Williamson (1971, 1972, 1975). Starting with the firm that is organised in terms of functional divisions (U form) he considers the problems encountered as such a firm increases in size. The first major problem is that increased size leads to an increased number of hierarchical administrative levels causing cumulative control loss as the efficiency with which information moves up the organisation and orders move down it decreases. At the same time the office of the chief executive, no longer able to cope with the increased work load, is expanded to include management personnel from the separate functional divisions. Consequently, decisions concerning the overall strategy of the company and decisions concerning the daily operation of the individual functional divisions are no longer separated and are taken by the augmented chief executive office. To the extent that the utility function of the chief executive differs from those of the management personnel from the functional divisions corporate performance will be adversely affected. Thus the increased size of the functionally organised firm has led to internal inefficiency and to sub-goal pursuits.

The problems are overcome as the company shifts away from being functionally organised in favour of a multidivisional form (M form) of organisation. In such an organisation the functional

divisions are replaced by quasi autonomous operating divisions
each often being responsible for the entire production process
of a particular commodity. The co-ordination of these divisions
is to be found in a general office which is assisted by a group
of specialised advisers whose responsibility is limited to
general oversight of the company. In this way the separation
of the strategic and daily operational decisions has been
achieved.

Moreover various features of the general office enable it
to carry out functions previously in the domain of the external
capital market. First, the general office controls the top
appointments made at divisional level. Second, it is able to
introduce auditing procedures which allow the monitoring of
performance at the divisional level. Third, it is able to
allocate the funds ploughed back into the firm to divisions
on the basis of current and expected profit performance. These
three features of the activities of the general office means
in effect that it plays the role of a capital market which is
internal to the firm. In particular it is able to allocate
available funds on the basis of expected performance and any
discretionary behaviour on the part of management which might
otherwise have been possible is minimised. We therefore come
to the M form hypothesis which can be expressed as follows:
"The organisation and operation of the large enterprise along
the lines of the M form favours goal pursuit and least cost
behaviour more nearly associated with the neo-classical profits
maximising hypothesis than does the U form organisational
alternative" (Williamson, 1971 p. 367).

The results of tests of the above proposition are now

available for the U.S. (Rumelt, 1974; Armour and Teece, 1978; Teece, 1981) the U.K. (Grinyer, 1980; Steer and Cable, 1978; Thompson, 1981) and West Germany (Cable and Dirrheimer, 1983). Although Rumelt and Grinyer do not find significant differences in the profitability of divisionalised and non-divisionalised firms such differences are found in the other U.S. and U.K. studies. The very large differences reported by Steer and Cable are later modified by Thompson but statistical significance is maintained. A significant negative impact is reported for divisionalised firms in West Germany where, it is argued, the dominance of owner controlled firms in the economy limits the opportunity for discretionary behaviour thereby limiting the opportunity for observing efficiency gains resulting from the multidivisional innovation. The results to be presented here relating to large U.K. firms for the periods 1950, 1960 and 1970 are in line with the general picture which seems to be emerging. Support is found for the M form hypothesis contained in the above quotation although in some respects the results conflict with others reported for U.K. firms. A more refined version of the hypothesis is also tested and the support is found to be at best rather weak.

6.3 Firms in the Sample

The data used are taken from two separate sources. The
first is a study by Channon (1973)[1] which identifies the companies
in the initial sample and provides the qualitative variables
relating to strategy, structure and control type. The second is
a data bank containing the consolidated accounts of all quoted
U.K. manufacturing companies over the period 1948-76 which
provides the quantitative data to be discussed in detail below
(1978).

The starting point in Channon's study was the selection
of a sample of 100 British manufacturing companies taken from
the Times 500 list for 1969/70 the smallest company in the sample
in terms of sales being listed as number 147. A similar sample
was taken for 1949/50 and 1959/60 with the result that infor-
mation was available over the entire period for 92 companies.
Each company in each period was classified in terms of its
organisational structure. A firm was classified as being
functionally organised (F form)[2] if the production process of
the commodity it produces is arranged in terms of the functions
involved, for example, mining, refining, manufacturing, distri-
bution etc. The co-ordination of these various sub-units is
the responsibility of general management. Secondly, a company
is multidivisional (M form)[3] if it consists of a number of
separate and largely autonomous sub-divisions where each is
responsible for the entire production process of a given commodity.
While each division is independent of the others the progress of
the entire company is monitored by general management whose
overall policy activities are divorced from the operational
decisions taken within divisions. The final form of organisation

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is the holding company (H form) which consists of a collection

of sub-divisions which may or may not be related in some way.

The essential feature of this kind of structure is the absence

of overall policy co-ordination which is separated from daily

operational decision making.[4]

The study by Channon also provides data on the diversi-

fication strategy of each company in the sample along with its

classification of control type. A company's diversification

is measured in terms of the diversity of its output. A firm

is classified as being a single product firm if at least 95%

of its total sales is earned by producing one product line. A

dominant product firm is one in which a single product accounts

for the bulk of total sales but where supplementary products

contribute up to 30% of total sales. These secondary activities

may or may not be related to the primary activity. In a related

product company two or more products contribute significantly

to total sales such that both (or all) are related in terms of

technology required in the production process and no single

product contributes more than 70% of the total sales volume.

The final category of company strategy is unrelated product

where the products concerned are not related by technological

requirements and no single product line contributes more than

70% of the total sales volume.

Finally companies were classified according to control

type. A company is said to be owner-controlled if a family

member is the chief executive officer, if there has been at least

two generations of family control and if a minimum of 5 per

cent of the voting stock is held by a family or associated trust

interests.

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Given the data from the Channon study the starting point for the present work was the identification of each company in the data bank. At this stage of the analysis various companies had to be omitted either in part or completely. Some companies were not present on the data bank causing a loss of 24 observations while some, though present, provided information for only part of the period – a further 32 observations being lost in this way. By this time 10 companies remained whose diversification classification was unrelated product: this was too small a number for the statistical work reported below and these also had to be omitted. Finally 7 companies with negative profits and/or growth rates were omitted because of problems of interpretation where variables were subsequently normalised across time and industry. The initial sample of 288 observations was therefore reduced to 215 of which 180 related to 60 companies which continued in existence for the whole period providing information for all three sub periods. Details of the final sample are given in table 6.1.

The basic model to be tested is a linear equation in which

$$\pi = f(\log_{10} S, G, CT, OS)$$

The profits variable (π) chosen was the post tax rate of return on equity assets averaged over the five year periods 1949/53, 1957/61 and 1967/71. Growth (G) was calculated to be the average annual growth of net assets compounded over the same five year periods. Size (S) was calculated as aggregate net assets at the beginning of each period (1948, 1956, 1966). The exact details of how π, G and S were calculated are given in Chapter 2. The variables CT and OS are measures of control type and organisational structure. They appear in the analysis

	DIVERSIFICATION STRATEGY				ORGANISATION STRUCTURE			CONTROL TYPE		TOTAL
	S	D	R	U	F	M	HC	OC	MC	
1950	24 (31)	32 (38)	17 (21)	0 (2)	43 (52)	9 (12)	21 (28)	38 (49)	35 (43)	73 (92)
1960	10 (18)	32 (35)	32 (39)	0 (4)	19 (24)	22 (32)	33 (40)	32 (39)	42 (57)	74 (96)
1970	5 (6)	17 (34)	46 (54)	0 (6)	5 (7)	47 (72)	16 (21)	23 (30)	45 (70)	68 (100)
	39 (55)	81 (107)	95 (114)	0 (12)	67 (83)	78 (116)	70 (89)	93 (118)	122 (170)	215 (288)

Notes: S = Single Product

           D = Dominant Product

           R = Related Product

           U = Unrelated Product

           F = Functionally Organised

           M = Multidivisionally Organised

     HC = Holding Company

     OC = Owner Control

     MC = Management Control

Numbers in brackets are based on the original Channon Sample while numbers without brackets refer to companies available in this study.

TABLE 6.1 Classification of Companies 1950-70

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as dichotomous dummy variables, details of which will be given
later.

The companies in the final sample come from a very broad
cross section of manufacturing, wholesale and retail industries.
The number of company observations in each two digit S.I.C. group
for each year is given in table 6.2. Because of this broad
range of industrial activity it was necessary to remove the
effect of intra-industry variations. Moreover, at various times
at the estimation stage it was desirable to pool observations
for all time periods and this required removing industry varia-
tions across time. Each continuous variable ($\overline{\Pi}$, G, S) was
therefore normalised across time and across industry in a way
that has previously been described in detail in chapter 2. The
analysis was unfortunately complicated by the revisions made
to the S.I.C. numbering in 1958 and 1969. These revisions had
more effect on the classification of companies at the 3 digit
MLH level than on the 2 digit level thus intoducing greater
room for inaccuracies in the calculation with the former compared
with the latter. On the other hand the narrower definition of
an industry contained in the MLH classification is a priori
better than at the 2 digit level. It was finally decided to
normalise at the MLH level.[5]

S.I.C.	DESCRIPTION	Companies in 1950 1960 1970			TOTAL
21	Food	8	8	8	24
23	Drink	7	7	8	22
24	Tobacco	3	3	3	9
26	Chemicals & Allied	8	8	8	24
31	Metal Manufacture	4	3	3	10
33	Non-Electrical Engineering	5	6	5	16
36	Electrical Engineering	8	7	7	22
37	Shipbuilding and Marine	2	2	1	5
38	Vehicles	5	6	2	13
39	Metal Goods N.E.S.	4	4	4	12
41	Textiles	5	5	4	14
44	Clothing and Footwear	2	1	1	4
46	Bricks, pottery etc.	3	4	4	11
47	Timber, furniture etc.				
48	Paper, printing	6	6	5	17
49	Other Manufacturing	1	1	1	3
81	Wholesale Distribution	1	1	1	3
82	Retail Distribution	0	1	2	3
88	Miscellaneous Services	1	1	1	3
	All Industries	73	74	68	215

Table 6.2 Classification of Companies by S.I.C. Each Year

6.4 Testing the M Form Thesis: I

The Williamson analysis discussed above investigates
changing organisational structure within the context of
increasing firm size. But it is not only increasing firm size
that initiates corporate re-organisation. Chandler has argued
(1962) that changing organisational structure is the direct
response to changing diversification patterns. In their desire
to expand companies typically diversify and it is the tensions
and bottle-necks caused by this diversification that causes
companies to re-organise. If this is so a company that grows by
expanding its historically successful pattern of output, i.e.
one that does not diversify, may find that continuing to be
functionally organised is optimal even if it is large. Thus,
a straight comparison of the performance of functionally and
multidivisionally organised firms may not yield performance
differences if the functionally organised firms are predominantly
organised in an optimal way. Such a comparison will bias the
results in favour of acceptance of the null hypothesis of no
difference.

There are two ways of approaching this problem. The first
is to combine the diversification strategy of a firm and its
organisational structure so as to classify it as being either
optimally or non optimally organised and then compare performances
of the optimal group with the non optimal. This approach is
pursued in the next section.

The alternative approach previously followed by Armour and
Teece (1978), and pursued in this section, begins by seeing the
multidivsional form as an innovation whose adoption into the

corporate sector takes time to complete. When the M form of
organisation is first introduced the probability of observing
performance differences based on different organisational
structures in a sample of firms is very small. Similarly,
when the M form structure has been largely assimilated into
the corporate sector performance differences are again likely
to be absent because the U form firms have presumably remained
so organised because for them such an organisational form is
optimal. However, during the period of transition when the
M form of organisation is being adopted by the company sector
there are gains to be made by non optimally, functionally
organised firms changing to a multidivisional form of organ-
isation. It follows then that a test of the M form hypothesis
is best made during a period when the opportunity for gains
exists by changing to a divisionalised structure.

Evidence concerning the diffusion of the multidivisional
form of organisation amongst large British firms is contained
in table 6.1. From Channon's original sample the number of
M form firms increases from 13% in 1950 to 33% in 1960 to
72% in 1970. Clearly in 1950 the extent to which the M form
of organisation structure had permeated British corporate
structure was limited. However, changes were introduced at
a fairly rapid pace such that the M form structure was dominant
amongst large companies by 1970. The diffusion process clearly
took place during the two decades immediately after the Second
World War and the opportunity for observing the expected
performance differences is greatest in 1950 and 1960.

In the light of this we can begin to investigate the results presented in table 6.3. The variable OS1 is a dummy variable set equal to 1 if the company is multidivisional, zero otherwise while OS2 is set equal to 1 if a holding company and zero otherwise. The coefficient of OS1 therefore measures the difference in profits between multidivisional and functional companies while the coefficient of OS2 measures the difference in profits between holding companies and functional companies. The results are presented for each sub period separately, for the three periods combined and for the combined periods 1950 and 1960. It was occasionally found on inspection of the estimated residuals that the results for a particular equation were heavily affected by the presence of just one or two companies. The companies concerned were Massey Ferguson in period 2 (average normalised profits 1957/61 equal to 42%) and, in period 3, Rowntree (average normalised growth rate 1967/71 of 43%) and Rio Tito Zinc (average normalised growth rate of 53.3%). Results are presented both including and excluding these companies.[6] As predicted earlier the results for 1970 do not support the multidivisional hypothesis: the coefficient for OS1 has the expected positive sign but its value of 1.30 is not significant in equation 3.3. A similar conclusion follows from equation 3.3' which is not changed after Rowntree and RTZ are removed. One disturbing feature of the results for 1970 is that the size variable suddenly becomes insignificant and the overall fit of the equation generally worse.

For 1950 fairly strong support for the M form hypothesis is found in both 1.1 and 1.3, the estimated coefficient of OS1 in each case being significantly positive. In equation 1.3, for example, the normalised profits of M form firms are on average

	EQN. NO.	N	LOG S	G	CT	OS1	OS2	R²	F
1950	1.1	73	-1.20** (1.68)	0.34*** (5.48)		2.12** (2.16)		0.387	14.49***
	1.2	73	-1.01* (1.35)	0.35*** (5.34)			-0.18 (0.25)	0.345	12.14***
	1.3	73	-1.24* (1.65)	0.34*** (5.41)	0.12 (0.18)	2.24** (2.13)	0.25 (0.33)	0.388	8.48***
1960	2.1	74	-3.21*** (2.57)	0.13* (1.72)		0.10 (0.07)		0.171	4.82***
	2.2	74	-3.22*** (2.69)	0.13* (1.72)			0.30 (0.25)	0.172	4.85***
	2.3	74	-3.22*** (2.51)	0.13* (1.65)	-0.27 (0.22)	-0.21 (0.12)	-0.35 (0.24)	0.173	2.84**
	2.3'	73	-2.21*** (2.59)	0.19*** (3.56)	0.85 (1.02)	1.46* (1.29)	1.21 (1.23)	0.314	6.13***
1970	3.1	68	-1.43 (1.15)	0.11** (2.34)		0.10 (0.09)		0.131	3.21**
	3.2	68	-1.31 (1.07)	0.12*** (2.49)			0.47 (0.39)	0.133	3.26**
	3.3	68	-1.41 (1.12)	0.12*** (2.40)	0.29 (0.28)	1.30 (0.69)	1.60 (0.78)	0.140	2.02*
	3.3'	66	-1.44 (1.12)	0.14** (2.38)	0.27 (0.26)	1.38 (0.72)	1.73 (0.83)	0.133	1.85*
WHOLE PERIOD	4.1	215	-1.92*** (3.58)	0.16*** (4.73)		0.48 (0.74)		0.166	13.99***
	4.2	215	-1.74*** (3.61)	0.17*** (5.04)			0.09 (0.15)	0.164	13.78***
	4.3	215	-2.00*** (3.59)	0.16*** (4.69)	0.08 (0.13)	0.78 (0.99)	0.47 (0.67)	0.168	8.42***
	4.3'	212	-1.82*** (3.90)	0.19*** (6.08)	0.45 (0.93)	1.26** (1.91)	0.94* (1.58)	0.234	12.58***

contd...

		N							
	5.1	147	-2.18*** (3.18)	0.21*** (4.23)		0.76 (0.88)		0.196	11.62***
1950 AND 1960	5.2	147	-2.00*** (3.03)	0.21*** (4.28)			-0.08 (0.12)	0.192	11.30***
	5.3	147	-2.23*** (3.13)	0.21*** (4.16)	-0.04 (0.05)	0.87 (0.88)	0.23 (0.30)	0.197	6.90***
	5.3'	146	-1.20*** (3.70)	0.23*** (5.96)	0.54 (1.01)	1.47** (1.99)	0.72* (1.22)	0.312	12.69***

Notes: 1. Values of estimated intercept terms not presented

2. t ratios given in parentheses

3. * significant at 10% level one tail test

4. ** significant at 5% level one tail test

5. *** significant at 1% level one tail test

Table 6.3 Initial Estimates of Regression Equations

2.2 percentage points higher than for functional firms. Both the size and growth variables are significant with R^2 for 1.3 being 0.388. For the second period the results are clearly adversely affected by the presence of Massey Ferguson which has a marked effect on the coefficient of G, OS1, OS2 and the overall fit which increases from 0.17 in equation 2.3 to 0.31 in equation 2.3'. In particular the OS1 coefficient now becomes significant, albeit at a lower level of significance compared with 1950 and its value suggests that average profit-ability amongst M form firms is 1.5 percentage points higher than for functional firms. One surprising feature of the results is that they provide stronger support for the hypothesis in 1950 than for 1960. In the light of the considerable change that took place during the decade of the 50's with regard to structural change one would expect that, other things being equal, the opportunity for observing performance differences would have been greater in the 1960 sample than in the 1950 sample. When the separate samples are combined for the whole period and also for the first two periods the results are again disproportionately affected by the companies previously mentioned. When these companies are removed the OS1 variable is again found to be significantly positive.

The variable OS2 compares functional companies with holding companies. At no time is this variable significant for individual years but when samples are combined (and 'stray' companies are removed) this variable proves significant at the 10% level of significance. A priori it is not clear what expectations to make in the comparison of functional and holding companies and the role of both will be considered further in the next section.

The results so far are very similar to those previously
reported by Armour and Teece (1978) for U.S. firms. Their
equations were estimated for the periods 1955-1968 (defined
as a period of diffusion for the M form of organisation) and
1969-73 (by which time the diffusion process was almost complete)
with support for the M form hypothesis being found in the former
but not the latter. On the other hand the present results are
not in line with those published by Steer and Cable (1978) for
U.K. firms. Using a model and a sample similar to those used
here they also found support for the M form hypothesis but they
used data covering the period 1967-71 - the only period in the
present work for which support for the M form hypothesis was
not found. Probably the only way of reconciling this conflict
is to look more closely at the individual companies used in
both studies.

6.5 Testing the M Form Thesis: II

In the previous section it was argued that for some companies to be functionally organised is to be optimally organised in which case they may be able to maximise their profits. For this reason a straight comparison of functional and multidivisional firms may yield biased estimates of differences in average profits between the two groups if the former group contains companies that are optimally organised. In order to remove this possible source of bias it is necessary to distinguish between those companies that are optimally organised and those that are not. To this end we make use of Chandler's previously noted contention that 'structure follows strategy', that is, a firm will change the way it is organised in response to the new needs created by a changing diversification strategy. Empirical support for this has been found in the U.S. by Remelt (1974) and for the data used by Channon. Our starting point is the functionally organised single product firm akin to neo-classical theory. Such a firm will be said to be optimally organised. If the company diversifies (becoming either a dominant product or related product firm) and if it changes to a multidivisional structure it remains optimally organised. If, however, the diversification is not accompanied by a change in structure or if the subsequent change of structure is such that it becomes a holding company it is said to be non-optimally organised. For the data used here the two way classification of companies in terms of strategy and structure is given in table 6.4. As is to be expected this adjusted classification of companies will affect the results for 1950 (when there were 21 functional companies which were optimally organised) more than for 1960 and 1970 (where the numbers are 6 and 3 respectively).

STRATEGY / STRUCTURE	YEAR	SINGLE PRODUCT	DOMINANT PRODUCT	RELATED PRODUCT
FUNCTIONAL	1950	21	16	6
	1960	6	9	4
	1970	3	1	1
MULTI DIVISIONAL	1950	1	4	4
	1960	0	7	15
	1970	0	10	37
HOLDING COMPANY	1950	2	12	7
	1960	4	16	13
	1970	2	6	8

Table 6.4: Cross Classification of Strategy and

Structure by Year

It is therefore possible to estimate the linear function

$$\overline{\Pi} = f(Log_{10}S, G, CT, OPT)$$

where the variable OPT takes on the value 1 if the company is either multidivisional or functional and single product, zero otherwise. The results are given in table 6.5. The results clearly fail to provide any support for the multidivisional hypothesis. At no time is the variable OPT significant and except for 1950 there is a perverse negative sign for individual periods and combined periods.

There are three issues arising out of the results that require further discussion. The first concerns the classification of holding companies as being non-optimal. Could it be that in some circumstances such loose knit confederations of firms, which are quite numerous in each of the three years, might in fact be efficient? Hannah (1976b) provides evidence in favour of this suggestion citing the case of Lucas which in 1950 was classified in this study as a holding company and yet had many of the characteristics of an M form structure including head office control. Similarly, Alford (1976) suggests that Imperial Tobacco, formally a holding company in 1960 (though classified as M form in 1970), reaped the benefits of a multidivisional company. One way of analysing this is to re-estimate the equations in table 6.5 after omitting the HC firms. This cannot be done for 1970 as there would be too few observations available but it is possible for 1960 where 33 of the 46 non optimal companies are HC and for 1951 when 21 of the 43 non optimal companies are holding companies. We therefore introduce the variable OPT1 which takes on the value 1 if a company is M form or functional and single product but takes on the value 0

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YEAR	EQN. NO.	N	LOG S	G	CT	OPT	R²	F
1950	1.4	73	-1.01* (1.30)	0.35*** (5.39)	-0.18 (0.27)	0.30 (0.43)	0.348	9.05***
1960	2.4'	73	-1.95*** (2.33)	0.19*** (3.52)	0.69 (0.83)	-0.28 (0.33)	0.294	7.09***
1970	3.4'	66	-1.30 (1.02)	0.15** (2.37)	0.25 (0.24)	-0.43 (0.36)	0.125	2.18
WHOLE PERIOD	4.4'	212	-1.38*** (3.28)	0.20*** (6.42)	0.31 (0.65)	-0.23 (0.48)	0.220	14.58***
1950 and 1960	5.4'	146	-1.65*** (3.20)	0.23*** (5.99)	0.31 (0.58)	-0.162 (0.30)	0.292	14.55***

Notes: See Table 6.3

Table 6.5: Regression Results Using Optimal/Non Optimal Classification

if functional and not single product. The results are given in table 6.6 where the equations estimated are the same as for table 6.4 except that OPT1 replaces OPT. The results are remarkably similar with, for each period, the estimated co-efficient and associated t ratio for OPT1 being very close to its counterpart for OPT. Clearly, the results presented in table 6.4 are not biased by defining holding companies as non optimal. The examples given by Alford and Hannah are not representative of all holding companies in the sample.[7]

The second consideration follows from the fact that company structure as defined above has been measured at a particular point in time. It needs to be emphasised that the analysis of Williamson is developed in terms of long run equilibrium and that the periods prior to and subsequent to a time of structural re-organisation are likely to be characterised by disequilibrium until the adjustment and learning processes are complete. Given that our companies are classified at a point in time it is possible that some of the M form firms in the sample are in the process of change and are therefore in a disequilibrium phase rather than an equilibrium phase. If this is so it is clear that "some allowance for the difficulties of adjustment (is) needed if the performance consequences of such a change are to be accurately evaluated" (Williamson and Bhargava, 1972, p. 139). To assess this possibility the entire sample of M form companies for 1960 and 1970 was divided into two groups: group 1 contained those firms which were classified M form for two consecutive periods (1950 and 1960 or 1960 and 1970) while group 2 contained those M form firms which were not classified M form in the previous period. If the learning process discussed above biases the results in our sample it should be reflected in the

YEAR	EQN. NO	N	LOG S	G	CT	OPT1	R^2	F
1950	1.5'	52	-0.56 (0.57)	0.37*** (4.43)	-0.17 (0.19)	0.39 (0.41)	0.320	5.53***
1960	2.5'	40	-0.35 (0.40)	0.12** (2.33)	0.20 (0.22)	-0.34 (0.36)	0.169	1.78
WHOLE PERIOD	4.5'	142	-1.05** (2.12)	0.17*** (4.67)	0.04 (0.06)	-0.18 (0.27)	0.165	6.75***
1950 & 1960	5.5'	92	-0.93* (1.54)	0.20*** (4.18)	0.14 (0.21)	-0.18 (0.27)	0.209	5.75***

NOTES   See Table 6.3

Table 6.6   Regression Results Using Revised Definition of Optimal/Non

Optimal Firms

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profitability performance of the two groups. Average profits
for each group were calculated and the results are given below.

	Group 1	Group 2
$\overline{\pi}$:	10.31 (10.06)	10.14 (10.58)
N :	24 (17)	40 (25)

Notes

1. Figures in brackets are for 1970 while other figures
   are for 1960 and 1970 combined.

2. There are 5 observations where a company appeared for
   the first time in 1970 or appeared in 1960 but not in
   1970. This brought the number of available firms down
   from 69 to 64.

Taking the standard deviation of all M form firms in the sample
in 1960 and 1970 as an estimate of the population standard
deviation (σ = 2.34 with N = 69) the null hypothesis of no
difference between sample means gives a t ratio for 1970 of
0.71 and a ratio of 0.28 for 1960 and 1970 combined. The null
hypothesis of null difference is therefore accepted and with it
the conclusion that the results presented in earlier tables are
not biased by the presence of M form companies whose performance
is affected by the disequilibrium consequences of structural
transition.

Clearly, there is a definite change of emphasis between
the results of tables 6.3 and 6.5 and this centres around the
single product functionally organised firms. If, as argued above,
these represent the firms of the neoclassical model we would
expect the performance differences to increase as we go from

tables 6.3 to table 6.5. But the fact that instead of increasing the performance differences are removed suggests that the single product functionally organised firms in the present sample represent the inefficient U form firms of the Williamson model and therefore ought to be included with the other U form firms as in table 6.3.

Finally, we notice that at no time so far has the variable CT proved significant. This again is in marked contrast to the results presented by Steer and Cable (1978). Using a similar model, similar definitions of profits and organisation form and using a sample of firms which overlaps considerably with the 1970 sample used here they found that profits of OC firms were significantly higher than for MC firms by about 4-5 percentage points. We therefore turn in the final section to consider further the contribution of control type.

6.6   The M form Thesis and Control Type

In the empirical results presented in the last section
the variables control type (CT) and organisation structure (OS)
were introduced in a linear form in keeping with other empirical
studies and the effect of the former was found to be statis-
tically insignificant.   However, such a specification is not
adequate within the context of the Williamson model and it is
argued in this section that a correct specification should
incorporate interaction effects between the two variables.

We have seen in chapter 1 that the separation thesis of
Berle and Means introduces the possibility of discretionary
behaviour on the part of management and that such behaviour is
unpunished because the external capital market is inefficient.
The empirical evidence used to support this theory related to
the late 1920's.   But it was at about this time that General
Motors and DuPont were first introducing the multidivisional
form into the U.S. Corporate sector.   (Chandler, (1962, especially
chapters 2 and 3) and Williamson subsequently argued that the
M form of organisation minimises discretionary behaviour on the
part of management because the inefficient external capital
market is replaced by an efficient internal capital market.   In
the Williamson model these two features of twentieth century
business history (i.e. the separation of ownership from control
and the M form innovation) need to be investigated separately.
The separation thesis applies only to single product firms
organised along U form (functional) lines.   It is not applicable
to the large diversified firms which have adopted the M form
of organisation.

To pursue this matter further we need to refer to table 6.7. In the table $\overline{\pi}_{11}$ is average profits of all OC firms that are F form in structure, etc. The dot in the notation refers to the average across the indicated subscript, for example, $\overline{\pi}_{1.}$ is average profits of all OC firms. The tests so far have investigated whether or not control type affects profitability (comparing $\overline{\pi}_{1.}$ and $\overline{\pi}_{2.}$) and whether or not organisation structure affects profitability (comparing $\overline{\pi}_{.1}$ and $\overline{\pi}_{.2}$). The introduction of interaction effects between control type and structure means that we must now consider comparisons involving $\overline{\pi}_{11}$, $\overline{\pi}_{12}$, $\overline{\pi}_{21}$ and $\overline{\pi}_{22}$.

Appropriate interaction effects can be incorporated into our earlier model by specifying the following linear equation:

$$\overline{\pi} = f(\log_{10} S, G, Z_1, Z_4 \, Z_5)$$

where

$$Z_1 = 1 \text{ if owner controlled and F form}$$
$$= 0 \text{ otherwise}$$

$$Z_2 = 1 \text{ if owner controlled and M form}$$
$$= 0 \text{ otherwise}$$

$$Z_3 = 1 \text{ if management controlled and F form}$$
$$= 0 \text{ otherwise}$$

$$Z_4 = 1 \text{ if management controlled and M form}$$
$$= 0 \text{ otherwise}$$

$$Z_5 = Z_2 + Z_4$$

Other variables are as previously defined.

STRUCTURE CONTROL	F	M	ALL
OC	$\overline{\pi}_{11}$	$\overline{\pi}_{12}$	$\overline{\pi}_{1.}$
MC	$\overline{\pi}_{21}$	$\overline{\pi}_{22}$	$\overline{\pi}_{2.}$
ALL	$\overline{\pi}_{.1}$	$\overline{\pi}_{.2}$	$\overline{\pi}_{..}$

Table 6.7 Interaction Effects Involving Organisation

Structure and Control Type

Given this specification and assuming that slope co-efficients B_i are associated with variables Z_i we can formulate three testable propositions. First, amongst functional firms we expect those that are owner controlled to be more profitable than those that are management controlled (i.e. $\overline{\pi}_{11} > \overline{\pi}_{21}$: $B_1 > 0$). Second, if the M form of organisation restores capital market efficiency we would expect M form OC firms to be more profitable than functional MC firms (i.e. $\pi_{12} > \pi_{21}$: $B_5 > 0$). Third, there will be no difference in profitability between OC and MC amongst multidivisional firms (i.e. $\pi_{12} = \pi_{22}$: $B_4 = 0$).[8]

Before presenting the results it is necessary to discuss the firms to be included in our F form sample. At the heart of the Williamson analysis is the concept of control loss which makes possible discretionary behaviour amongst the functionally organised firms. Control loss is experienced when the flow of information, necessary for strategic decision making to be taken, is impaired and is an increasing function of size (as the number of administrative hierarchical levels increases) and the degree of diversification. Thus, it is to be expected that control loss is greater amongst functional related (and dominant) product firms than amongst functional single product firms. For this reason two F form samples are defined in the results below. In the first, all F form firms are included while in the second only those F form firms which are non single product are included. The results are as follows, where N_1 is the number of F form firms, N_2 is the number of M form firms and figures in brackets are t ratios.

Sample A: All F form firms

$$\hat{\Pi}_i = -1.54 \log_{10} S_i + 0.14 G_i + 1.10 Z_{1i} + 0.62 Z_{4i} + 1.16 Z_{5i}$$

$$\phantom{\hat{\Pi}_i = } (2.74) \qquad\quad (4.44) \quad\ (1.32) \qquad (0.73) \qquad (1.16)$$

$$N_1 = 66; \qquad N_2 = 78; \qquad R^2 = 0.191; \quad F = 6.51^{***}$$

Sample B: Non Single Product F form firms

$$\hat{\Pi}_i = -1.88 \log_{10} S_i + 0.13 G_i + 1.41 Z_{1i} + 0.67 Z_{4i} + 0.96 Z_{5i}$$

$$\phantom{\hat{\Pi}_i = } (2.74) \qquad\quad (3.54) \quad\ (1.22) \qquad (0.77) \qquad (0.82)$$

$$N_1 = 36; \qquad N_2 = 78; \qquad R^2 = 0.20; \quad F = 5.38^{***}$$

The results show some support for the refined version of the M form hypothesis. The values of $\hat{B}_1$ (1.10 and 1.41) are marginally significant at the 10% level indicating that discretionary behaviour is possible amongst functionally organised firms. When considering the role of internal capital markets amongst M form firms we need to take propositions two and three together. With $\hat{B}_4$ (0.67 and 0.62) clearly not different from zero proposition three is supported. The second proposition, however, is not supported by the evidence. The positive sign for $\hat{B}_5$ is a priori correct in each case but it is not significantly so for any reasonable degree of confidence.[9]

6.7   Summary and Conclusions

The empirical results presented in this chapter provide
considerable support for the M form thesis of Williamson.
Using a sample of large U.K. firms in 1950 it was found that
M form firms reported profits which were on average 2.2 percentage
points higher than U form firms. For 1960 the figure was 1.5
percentage points and in each case the observed difference was
found to be statistically significant. For 1970 a difference
of about 1.3 was found which proved   to be insignificant.
When observations for all three years were combined the
resulting difference in profits of 1.3 proved to be significant.

The analysis was then extended to consider the inter-
action between control type and orgnisation structure which
allowed us to investigate the effect of the latter on the
relationship between control type and company profitability.
The results were three fold. First, amongst U form firms
owner controlled firms were significantly more profitable than
management controlled firms (at the 10% level) to the extent
of between 1.1 and 1.4 percentage points. Second, M form
owner controlled firms were 1.0 percentage points more profitable
than U form management controlled firms though this was not
statistically significant. Third, M form management controlled
firms were equally as profitable as M form owner controlled firms.

Taken together these last three conclusions provide
support for one of the main themes pursued in this thesis
namely that discretionary behaviour resulting from the
separation of ownership and control is possible only amongst

firms with a U form of organisation. Moreover,in firms
with an M form of organisation in which an efficient
internal capital market operates,discretionary behaviour
is curtailed and management is constrained to pursue policies
designed to maximise returns to the owners. We therefore
conclude that the internal capital market which is a
characteristic of M form firms constitutesone of the
"checks on the use of power" referred to by Berle and Means
but not directly incorporated into their analysis of the
separation of ownership from control.

Footnotes to Chapter 6

1.   I am grateful to Professor Derek Channon of Manchester
Business School who kindly provided much of the data used in
this chapter.

2.   The functional form of Channon is the same as the
unitary form of Williamson so that the expressions 'F Form'
and 'U form' are used interchangably in the text.

3.   For his own purposes Channon classified companies into
the following eight groups: functional; multidivisional by
product; multidivisional by geography; multiproduct divisions
plus an international divisions; multidivisional by product
and geography; holding company; multinational subsidiary
company controlled by a non-British parent. In the present
study the first group was maintained (U form), the next four
were amalgamated (M form) the sixth group was maintained (H
form) and the last two were discarded as none of the companies
in the final sample fell into either one. For further details
see Channon (1973).

4.   This use of the term holding company differs from the
legal definition where the directors of the subsidiaries are
under the control of the parent company. The present use of
the term refers to the overall organisation of a company and
says nothing about its ownership.

5.   Results in the early stages were obtained using non-
normalised variables and both measures of normalised variables.

With the non normalised variables the results were markedly different across time periods and observations therefore could not be pooled. With both sets of normalised variables the structure changes across periods were found to be minimal. It was also found that results based on variables normalised at the two digit level were similar to those based on variables normalised at the MLH level.

6.   Massey Ferguson was classified M form in 1950 and 1970 but U form in 1960. This strange sequence is a reflection of a financial crisis which led to an entirely new organisation being introduced in the mid 1950's. For further details see Channon (1973 p. 109/10). In view of this considerable upheaval it is probably better to concentrate on the results with this company omitted. A similar decision was taken by Shapiro et alia (1983) in a study involving Canadian firms in which the presence of Massey Ferguson also had disturbing effects on the results obtained.

7.   An alternative argument is considered by Thompson (1981) who suggests that holding companies are frequently crisis orientated and that such a form of organisation is often a prelude to a change to M form. If these companies are included in the non optimal group they will bias its performance downwards. To test this he re-estimates the Steer-Cable equations using their sample of firms and finds that the large difference they report in favour of optimal firms is considerably reduced when the holding companies are left out of the analysis.

8.   In the above specification the group of firms which are both MC and F represent our reference point whose effect is contained in the intercept term B_0. Ignoring the continuous variables in the equation we therefore have:

$$\text{when } Z_1 = 1 \quad E(\overline{\pi}) = B_0 + B_1$$

$$\text{when } Z_2 = 1 \quad E(\overline{\pi}) = B_0 + B_5$$

$$\text{when } Z_4 = 1 \quad E(\overline{\pi}) = B_0 + B_4 + B_5$$

From this it follows that

B_1 measures the difference in profits between (MC + F) and (OC + F)

B_5 measures the difference in profits between (MC + F) and (OC + M)

B_4 measures the difference in profits between (OC + M) and (MC + M)

9.   It should be noted that the definition of OC used here is a somewhat narrow one and some of those classified MC may be OC. For example, in the study by Nyman and Silberston (1978) 15 of the 224 firms classified OC (family chairman or managing director but less than 5% shareholding by an individual or group) would here have been listed as MC. The effect of this is to increase the possibility of making a type II error, that is to say, it biases the results in favour of the null hypothesis. This is detrimental to the M form hypothesis with the first two propositions but to its advantage in the case of the third.

Chapter 7. Concluding Comments

7.1: Introduction

In the final chapter we shall draw together the main themes of the argument presented and the results obtained. The latter will be summarised in the next section which is followed by a brief discussion of the conclusions reached. In this section our main concern is with summarising the main a priori arguments that run throughout the work.

Managerial theories of the firm rest on the assumption of the separation of ownership from control popularised by Berle and Means. The ordinary shareholders legally own the firm but corporate management, who rarely own more than a very small proportion of the equity, controls the strategic decision making process. This separation, it is argued, introduces the possibility of conflict between the owners who seek to maximise company profits and managers who seek an alternative goal such as maximising sales or maximising growth subject to a satisfactory level of profits. Empirical studies to date have therefore concentrated on comparing the profit performance of owner controlled (OC) firms and management controlled (MC) firms. In general these have proved inconclusive with about one half finding significant differences and one half reporting differences which were not significant.

In this study it has been argued that the management of an MC firm is not necessarily free to pursue its own discretionary behaviour because it may be subject to various kinds of

constraints. In particular it may be subject to constraints imposed by capital markets internal and external to the firm.

The constraints imposed by an external capital market are associated with familiar arguments concerning takeovers and the fear of takeover. If discretionary behaviour results in a company becoming ripe for an unwanted takeover bid management has to decide whether or not to modify its actions and so come into line with the dictates of the market. Such modifications will result if the external capital market (the market for corporate control) is able to efficiently police the activities of management on behalf of the owners. If it is unable to do this there is room for the discretionary behaviour of management to go unpunished and for such firms to return below normal profits. An empirical test of the separation thesis should restrict its choice of MC firms to include only those which in some way are able to evade the discipline imposed by the market for corporate control.

The argument for the presence of internal capital market constraints is associated with Williamson. He argues that at the same time that the separation of ownership from control took hold in the U.S. the corporate sector began to develop the multidivision (M) form of organisation in which each division within the firm is responsible for the entire production of a given product replacing the standard unitary (U) form of organisation where production is organised in terms of functions necessary for the production process. Within the M form of organisation there developed a chief executive office whose responsibility it is to allocate funds

to divisions within the firm. The chief executive office therefore acts as an internal capital market and competition amongst divisions for funds means that discretionary behaviour on the part of divisional managers is curtailed. It follows then that discretionary behaviour is not possible for firms organised along M form lines and that an empirical test of the separation thesis should compare OC and MC firms that possess a U form of organisation i.e. firms whose behaviour is not affected by internal capital market forces.

The core of the study has centred around the empirical investigation of the effects of the external capital market on U.S. firms and the internal capital market on U.K. firms. The results obtained and presented in detail in earlier chapters are summarised in the following section.

7.2 Summary of Empirical Results

The empirical measurement of the separation of ownership and control has been a recurring theme in the industrial organisation literature since the pioneering work of Berle and Means. However, two features of their analysis have cast a shadow over subsequent empirical work. First, the predominant emphasis on the dispersal of common stock in their assessment of the location of control has tended to mask the fact that control can be exercised by owners even when such stock dispersal is apparent. The result has been a tendency to underestimate the degree of owner control. Our assessment in chapter 3 of the separation of ownership and control in large U.S. firms suggests that about 50% were owner controlled in 1937 and that this figure fell to about 38% in 1965. In large U.K. firms our re-working of previously published work showed that the amount of owner control declined between 1951 and 1975 from at least 64% to about 56% (53% if private companies are excluded). The decline in owner control occurred at approximately the same rate in both countries, namely from 4 to 5 percentage points of firms in the sample per decade. Such change, it was concluded, is better described as being evolutionary rather than revolutionary.

The second feature of the Berle and Means approach that has led to inaccurate results is the decision to classify all non owner controlled companies as being management controlled. Such a decision overlooks the importance of financial institutions in the control of industrial firms. Although little evidence was found of financial control in U.K. firms this was

not true of U.S. firms where it was found that the fall in owner control had been accompanied by a marginal rise in the extent of management control and a substantial rise in financial control.

In chapter 4 the performance of owner controlled firms was compared with the performance of management controlled firms for large U.K. companies using data for the period 1948-1960. At this stage of the analysis no attempt was made to bring internal or external capital market constraints into the picture. The method of discriminant analysis was used to compare the profits, growth, variation in profits and distribution ratio of both groups. Initial results showed significant differences between groups for growth rate and variation in profits but these differences disappeared after the removal of sample bias resulting from firms being chosen from different industries and different market structures. Finally, it was found that performance differences were absent even when those firms that appeared most obviously owner controlled were compared with those that appeared most obviously management controlled. Moreover, these results for U.K. firms were confirmed in chapter 6. Using a different set of firms, a different measure of control, a different measure of profits and different methodology it was found that on average all owner controlled firms in the sample performed no differently from all management controlled firms.

A similar pattern emerged in chapter 5 for large U.S. firms selected from the fortune 500 for 1965. The overall sample consisted of 343 firms with profitability chosen as the

sole performance indicator. Using regression analysis a straight comparison of owner controlled and management controlled firms showed a significant difference in the profits of both groups of firms but again the difference disappeared when companies were matched in terms of size and market structure.

Given this absence of performance differences in the sample of U.K. and U.S. firms used in this study the next step was the introduction of capital market constraints into the analysis. The theme of chapter 5 was the effect of external capital market constraints in the U.S. corporate sector. It was seen that the discipline exercised by the external capital market i.e. by the market for corporate control was both punitive (via the operation of the take-over mechanism) and corrective (via the fear of take-over). Concentrating on the latter it was found that the corrective discipline exercised by the market for corporate control was an effective policing agent though its efficiency declines as company size increases. When this was introduced into the relationship between control type and performance significant differences begin to emerge. In particular it was found that only those management controlled firms whose behaviour was not constrained by the corrective discipline exercised by the market for corporate control were able to report profits lower than owner controlled firms. The difference of 4% was found to be significant. It seems then that amongst management controlled companies the amount of managerial discretion is limited. Those subject to the discipline of the market for corporate control are constrained to pursue policies that result in a profits performance similar to that found for owner controlled firms.

In chapter 6 the focus of attention switched to the operation of internal capital market constraints in U.K. firms. It was argued that an effective internal capital market is a feature of M form firms but not U form firms and that this has an important bearing on the relationship between control type and company performance. It was found that amongst U form firms, where internal capital market constraints are absent, management controlled companies were significantly less profitable than owner controlled companies by about 1.1 to 1.4 percentage points. In addition to this it was found that amongst M form firms, where internal capital market constraints are present, the difference in profitability between owner controlled and management controlled firms was not statistically different. Both conclusions suggest quite strongly that managerial discretion is curtailed in those companies subject to internal capital market discipline. However, this is weakened somewhat by a third result obtained concerning the difference in profitability of M form owner controlled and U form management controlled firms. While the former group was more profitable as expected a priori the difference was not significant.

Our results therefore point to the general conclusion that the discipline exercised by capital market forces which are both internal and external to the firm limits the amount of managerial discretion and constrains management to pursue policies designed to maximise returns to owners.

7.3 Conclusions

A substantial part of this study has centred on the
empirical investigation of corporate activity at the micro
level. The results obtained and the discussion of these
results have all been cast in terms of the individual firm.
But any analysis of economic activity at the micro level will
ultimately have implications for activity at the macro level
and it is therefore fitting in this final section to discuss
very briefly the results we have obtained within the context
of the economic system as a whole.

It was shown in the opening chapter that the issue
of the separation of ownership and control is not only of
interest in the analysis of individual corporations but also
because of the effect it has on the nature of the economic
system of which they are a part. In the early days of the
modern free enterprise system[1] the individual who owned the firm
by providing the capital necessary for its operation also
controlled the firm by making the strategic decisions that
determined its destiny. Two important features were at the
heart of this system. First, the one who owned the firm was able
to pursue his own self interest which was usually expressed in
terms of a desire to maximise profits. Second, ownership of
the firm conferred on the individual the legal right to receive
the fruits of its activity. So long as ownership and control
were combined in the same person these two features together
ensured the efficient operation of the system as a whole.

Once the functions of owning the firm and controlling

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it start to part company, with the latter passing into the hands of non share owning management, the nature of the system, it is argued, begins to change. While management can be expected to pursue its own self interest it is not likely to be synonymous with the self interest of owners. Consequently, if maximum profits are not received by the owners funds are being diverted away from those who are legally entitled to receive them. With individual property rights attenuated in this way the fundamental nature of the economic system and the way in which it operates have been significantly altered.

Attacking the free enterprise system is not a new endeavour. Ever since church theologians reacted strongly against the practice of usury in the early mediaeval period the capitalist system has been the object of criticism and, sometimes, scorn. But, though continually under attack, it has proved to be a moving target[2] displaying a remarkable ability to adapt to changing conditions. Nowhere is this ability more apparent than in the response of the system to the attempt by corporate management to undermine its existence by the exercise of discretionary behaviour. This response has been two fold: first, via the development of well organised markets for company securities; second, via organisational changes within the firm.

To a large extent it was the development of well organised markets in company securities that made possible the increasing share dispersion which is at the heart of the separation of ownership from control. But a stock market is

one of the nearest practical approximations to the textbook
construct of a perfectly competitive market.[3] Through its
pricing of securities it is able to reflect the performance
of the management of a firm and indicate to buyers and sellers
alike the attractiveness of a possible takeover bid by a rival.
If the market operates efficiently management can only ignore
the market's evaluation of its performance at its peril. With
all stock markets in the economy operating in concert they act as
a "guardian of efficiency of operations" for the economy as a
whole.[4] This study has shown that through its pricing of
common stock the market for corporate control is able to exert
significant disciplinary pressure on those firms in which
ownership and control are separated. By doing this it limits
the discretionary behaviour of corporate management, upholds
the property rights of owners and promotes the operation of
the free enterprise system.

There is, however, a question mark over the role of
financial institutions. In the U.S. and, to a lesser extent,
the U.K. financial institutions have a considerable ownership
stake in many of the large firms in the industrial sector.
Because of this it is important to consider whether their
involvement in the corporate control market is active or passive.
Active involvement will increase the efficiency of the market
for corporate control and evidence of such involvement was
reported in both countries. But in those firms where this is
not so the efficiency of the market is impaired and the oppor-
tunity exists for management to pursue its own discretionary
behaviour.

In its attempt to exercise discipline on management controlled firms the market for corporate control has been assisted by organisational features associated with firms organised along multidivisional lines. In such firms there exists an internal capital market where funds are allocated between divisions on the basis of managerial performance. Since the M form of organisation was first introduced in the 1920's in the U.S., that is at about the same time that ownership and control began to part company, it is tempting to view this innovation as capitalism's response to the possibility of managerial discretion. Although the results of chapter 6 suggest that the effect of internal capital market discipline on management controlled firms is rather small it is nevertheless statistically significant. By 1970 the M form of organisation was by far the predominant type of organisation amongst large U.K. and U.S. firms suggesting that the effects on the economic system as a whole is, in each country, considerable.

Moreover, from the evidence presented it is clear that the external capital market and internal capital market complement each other. The efficiency of the external market varies inversely with the size of firm and is least effective amongst large companies. But it is amongst the large companies that the M form of organisation is most prevalent. The firms most likely to evade the discipline exercised by the external capital market are therefore the ones most likely to be subject to the discipline exercised by the internal capital market.

In all of this the message is clear. Amongst the large corporations that dominate the industrial landscape of

the U.K. and the U.S. there are capital market forces at work which are designed to limit the extent of managerial discretion. Although there is a limit to their effectiveness they nevertheless contribute towards maintaining the property rights of individuals thereby promoting the free enterprise form of economic organisation.

Footnotes to Chapter 7

1. The terms 'free enterprise' and 'capitalism' are here
   used interchangeably.
2. 'The Moving Target' is the subtitle of a collection of
   essays about the capitalist system edited by Silk (1974).
3. As cited, for example, by Leftwich (1973, p. 29).
4. This expression is due to Baumol (1965, p. 67).

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